Open Society Institute

Open Access Publishing

And

Scholarly Societies

A Guide

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They are ill discoverers that think there is no land, when they can see nothing but sea.

Sir Francis Bacon

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Introduction

This guide has a limited scope. It is meant to help scholarly societies – and small publishers – assess the options available to them for the future of their journal publishing programmes. Though the option of keeping the *status quo* of subscription-based journals is discussed, the focus is on conversion of existing journals to open access, either in one go, or via an intermediate managed transition phase.

This guide doesn't address issues to do with the conversion to electronic publishing, and neither those to do with basic business planning. The latter have been dealt with in an earlier publication by the Open Society Institute: *Guide to Business Planning for Converting a Subscription-based Journal to Open Access*, Edition 3, February 2004[1]. It is assumed that journals under consideration are currently operating with a satisfactory inflow of article submissions and also that they are either already available in electronic form, or that the choice is already taken to publish them electronically. Whilst electronic publishing is a *sine qua non* for open access, it is fast becoming a condition of being able to survive in journal publishing regardless of whether the journal is open access or operating on a subscription model.

This guide also doesn't address issues to do with library budget concerns other than in the context of the diminishing sustainability of the traditional subscription model of scholarly journal publishing.

Open Access

First, before discussing the options for societies, it is important to understand what 'Open Access' actually entails. The term 'Open Access' was first properly defined at a meeting in Budapest of a variety of open access advocates (even though at the time they didn't all use the term open access yet), brought together by the Open Society Institute in early December 2001. Out of that meeting came the so-called Budapest Open Access Initiative[2] and 'open access' was defined in that Initiative as follows:

> "By 'open access' to this literature [*primarily peer-reviewed journal articles, as mentioned earlier in the Initiative*], we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited."

1 http://www.soros.org/openaccess/oajguides/html/business_converting.htm; there is also a pdf-version available: http://www.soros.org/openaccess/oajguides/business_converting.pdf

2 http://www.soros.org/openaccess/index.shtml

The Budapest Open Access Initiative was followed up some fifteen months later by the Bethesda Statement[3], which came out of a one-day meeting of scientists, funding agencies, librarians, scientific societies and publishers, held in April 2003 at the headquarters of the Howard Hughes Medical Institute in Chevy Chase, Maryland (which is close enough to Bethesda to use the name of the latter; Chevy Chase could after all be confused with the name of a well-known bank or a deadpan comic film actor).

The Bethesda Statement defined open access as follows:

> An Open Access Publication[i] is one that meets the following two conditions:
>
> 1. The author(s) and copyright holder(s) grant(s) to all users a free, irrevocable, worldwide, perpetual right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship[ii], as well as the right to make small numbers of printed copies for their personal use.
>
> 2. A complete version of the work and all supplemental materials, including a copy of the permission as stated above, in a suitable standard electronic format is deposited immediately upon initial publication in at least one online repository that is supported by an academic institution, scholarly society, government agency, or other well-established organization that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving (for the biomedical sciences, PubMed Central is such a repository).
>
> Notes:
>
> i. Open access is a property of individual works, not necessarily journals or publishers.
> ii. Community standards, rather than copyright law, will continue to provide the mechanism for enforcement of proper attribution and responsible use of the published work, as they do now.

The essence of the definition in the Bethesda Statement is the same as the one in the Budapest Initiative, but it focuses more on actual legal and practical consequences. There is one phrase, though, that is more limiting than the Budapest Initiative: "…the right to make small numbers of printed copies for their personal use." This is not quite what is meant by "use them for any other lawful purpose" in the Budapest Initiative, but it does offer societies and publishers a useful option to avoid large scale use of the articles for commercial purposes, for instance by pharmaceutical companies for the promotion of their drugs, without the publisher being compensated. These companies are used to paying publishers for the privilege, and their money could be a welcome source of income for those societies who would like to keep the article processing charges for their journals down.

3 http://www.earlham.edu/~peters/fos/bethesda.htm

In October of the same year, 2003, the Max Planck Society in Germany convened a meeting on "Open Access to Knowledge in the Sciences and Humanities". This meeting widened the discussion to include the humanities and produced the Berlin Declaration on Open Access[4].

The Berlin Declaration defines open access as:

> Open access contributions must satisfy two conditions:
>
> 1. The author(s) and right holder(s) of such contributions grant(s) to all users a free, irrevocable, worldwide, right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship (community standards will continue to provide the mechanism for enforcement of proper attribution and responsible use of the published work, as they do now), as well as the right to make small numbers of printed copies for their personal use.
>
> 2. A complete version of the work and all supplemental materials, including a copy of the permission as stated above, in an appropriate standard electronic format is deposited (and thus published) in at least one online repository using suitable technical standards (such as the Open Archive definitions) that is supported and maintained by an academic institution, scholarly society, government agency, or other well-established organization that seeks to enable open access, unrestricted distribution, inter operability, and long-term archiving.

Again, this is substantially the same as the Bethesda Statement, just with some added detail.

On the basis of these statements and initiatives, let us look at the essence of 'open access' here. There are three main essentials: free accessibility, further distribution, and proper archiving. Open access is <u>real</u> open access if:

1. The article is universally and freely accessible, at no cost to the reader, via the Internet or otherwise, without embargo.
2. The author or copyright owner irrevocably grants to any third party, in advance and in perpetuity, the right to use, copy, or disseminate the article, provided that correct citation details are given.
3. The article is deposited, immediately, in full and in a suitable electronic form, in at least one widely and internationally recognized open access repository committed to open access and long-term preservation for posterity.

Defined like this, and using copyright as a means to ensure the widest possible dissemination rather than as a device to attach artificial scarcity to scientific papers in order to be able to sell them, open access results in at least the potential of maximum impact[5]. But apart from

4 http://www.zim.mpg.de/openaccess-berlin/berlindeclaration.html

5 Steve Lawrence, Nature, Volume 411, Number 6837, p. 521, 2001

increasing the visibility and impact of research results – a vitally important aspect for research scientists, but also for scholarly societies, one would think – there are other benefits.

Pat Brown of Stanford University, one of the initiators of the Public Library of Science, has said[6] "*Anyone who has an interest in the results of scientific inquiry, or who believes in making the latest advances in medical knowledge available to physicians and patients around the world, can recognise the importance of more equitable access to the scientific literature*." He then offers a few examples: "*When a woman learns she has breast cancer, she deserves to be able to read the results of research on her treatment options that her own tax dollars have funded. A physician in a public clinic in Uganda ought to have the same access to the latest discoveries about AIDS prevention as a professor at Harvard Medical School. And a precocious high school student in Gary, Indiana, who wants to read about the latest discoveries from NIH-sponsored research in cell biology shouldn't have to pay thousands of dollars for journal subscriptions*."

Lack of access to the complete literature also has the effect of impeding advances in knowledge. Take bioinformatics, for example. Without free and easy access to all published papers the full power of computational analysis to reveal hidden information cannot be realized. Some examples of where access to the full literature made it possible to make the analyses that could reveal such hidden and hitherto unrealised links between data have already appeared at the European Molecular Biology Laboratory in Heidelberg. Peer Bork's group[7] was able to gain untold insights into signalling pathways and biochemical networks, revealing unappreciated links between proteins that can be verified by experimentation.

The benefits of open access for readers may be great; for authors, their funding bodies, their institutions, their professional organisations, and for society at large, the benefits are likely to be even greater. Widespread open access would make it easier to avoid duplication of research effort, and the resulting financial and time waste. Open access would increase the public accountability of science. Open access would make meta-analyses of results more easily possible. Open access de-fragments science literature, because it is making seamless, comprehensive searching possible. Open access would speed up understanding of outstanding scientific questions. Open access closes gaps in the access to knowledge, enabling every researcher to try and see the entire picture. Open access enables the building of databases and knowledge-bases, effectively and efficiently re-using published results in order to make trying to see the entire picture not just a 'mission impossible'. Open access would take science out of its ivory tower isolation by letting non-scientists in. Open access would engender and stimulate wider understanding of, and respect for, science.

The question of "why open access?" is largely answered. The currently prevalent model of subscription-based journals is not achieving the goal of optimising the return on the research investment that the world makes. Limited access means limited use, limited impact, and limited benefits for science and for society at large. Open Access removes those limitations, and satisfies the interests of science, including funding agencies, and society as a whole, which

6 www.publiclibraryofscience.org/PLoS_Moore_PressRelease_17Dec2002.pdf

7 http://coot.embl-heidelberg.de/PUB/bork_group_pub.shtml

are best served by the widest access to research results. That is why funding agencies are now more and more regarding publishing research articles – and the costs associated with it – as integral to the research effort itself. That solves a problem that open access publishing has struggled with: a mechanism to reverse the economics of publishing from paying for content, via subscriptions, to paying for the service of publishing, via article processing fees. The Wellcome Trust, for instance, in its position statement on open access[8], makes it clear that it *"therefore supports open and unrestricted access to the published output of research, including the open access model, as a fundamental part of its charitable mission and a public benefit to be encouraged wherever possible*. [The Trust will] … *meet the cost of publication charges including those for online-only journals for Trust-funded research by permitting Trust researchers to use contingency funds for this purpose."*

Why Scholarly Societies are 'natural' Open Access publishers

Societies are obvious key players. They are, and have long been, deeply involved in academic journal publishing and they are very close to the scholarly community.

"The Society shall be an organization the purpose of which is to further the science and practice of *nimportequoiology*". This is a more or less typical phrase in the constitution, mission, aims or byelaws that describes what the society in question actually stands for. Furthering the science and practice – or application – is a theme that recurs in one form or another in the public statement of almost any scholarly society listed on the web site of the Scholarly Societies Project[9], so one can assume that this is what scholarly societies are about, in the main.

One can further the science and practice of a subject area in many different ways, of course, and the whole spectrum is represented in the societies listed on the aforementioned web site. Often – in the vast majority of societies – it includes publishing or 'officially sponsoring' one or more journals. Sometimes the activities are described more generically, along the lines of "providing opportunities for sharing, disseminating, and archiving peer-reviewed results", but that seems to mean basically the same as publishing journals if one looks closer.

It is obvious that the dissemination of scientific research results is a main activity, or even the *raison d'être* of many scholarly societies. Publishing journals is one of the main avenues to furthering the science and practice of the chosen discipline or sub-discipline of such a society.

Society Journals

Society journals are among the best in the world. The commitment of society members, their expertise in the scientific discipline, the access and closeness to the scientific community, all work together to ensure the quality of society journals. Compared to other journals, society

8 http://www.wellcome.ac.uk/doc_wtd002766.html

9 Scholarly Societies Project: www.scholarly-societies.org

titles are, as a category, demonstrably better if one accepts the average citation count of published articles as a measure of quality. This is widely done, of course, as it is the basis of the Impact Factor. On that score, if one compares for any given year the share of the total of published articles that are published by societies with the share of the total of citations to articles published in society journals, the difference with non-society journals becomes clear. In the physical sciences alone, the Institute for Scientific Information (ISI) data from their Science Citation Index show that 46% of the articles are published by societies, but they attract more than 52% of all the citations.

Publishing journals is not only a way to fulfil a society's mission and to raise its profile, but it can also be profitable, although rare are the societies that have a profit orientation per se. Indeed, many hardly have a profit at all, as their journals either have a smallish circulation, due to the specialised and narrow nature of their discipline perhaps, or the societies try to provide their journals at prices that are as low as they think are possible, because their prime interest is the dissemination of the articles they publish, not the money they could conceivably make from publishing.

Some societies, though, make an appreciable amount of money from their publishing activities. Due to their non-profit status, they are not just morally, but also legally obliged to put that money to good use, and they invariably find ways to do that. Understandably, they would not like to see their income from journal publishing diminish. That would diminish their ability to support those causes that they feel are important for the furtherance of their discipline. The perception is, however, that moving to an open access model of publishing would do just that. This is a false perception. Later in this guide this is addressed further, in the chapter on financial consequences.

Open Access and Societies

It is the benefits of open access as described in the chapter Open Access – and more; the list there is far from complete – that determine the efficacy and efficiency of a scholarly society's efforts to promote its science. A society serious about furthering the science and practice in its chosen field is bound to consider these benefits and to look for ways of using them wherever possible for the attainment of its goals. By switching to open access publishing they will do much to further the widespread dissemination of knowledge in the area of science that they foster and promote.

All very well, but although the benefits of universal open access are clear, it is also immediately clear that this open access makes it impossible for journals to sell subscriptions. Who would buy them when all their content is freely available? Not that the societies would have to make a loss publishing their journals - new economic models are emerging that rely on payment at input (article processing charges) rather than at output (subscription or licence charges).

The difference between article processing charges and traditional page charges is that the latter don't pay for open access. That is more than anything a matter of semantics, of course. Once a

journal is basically online-only and abolishes print (perhaps just having a print edition available on demand, at an extra cost), there is no reason why traditional page charges cannot become article processing charges and pay for open access. This is because the marginal cost of dissemination to extra online readers is negligible, unlike extra print copies, which cost a fair amount to make and mail.

The economic case for open access publishing

The perception is, as mentioned earlier, that scientific societies as organisations are not necessarily among the prime beneficiaries of a move to open access publishing. Their members, in their role as active scientists, yes. But the perception is widespread that the societies benefit more from the traditional publishing model than they are ever likely to do from these new emerging input-paid models, at least if one looks at revenues. As said before, this is a false perception. For societies that make the choice for open access, this guide aims to provide practical help to reduce or even eliminate financial risks and make conversion of an existing journal into an open access one a smooth and professional process.

When a society publishes its own journal(s), it is probably for a variety of reasons, but one important one is likely to be in order to generate income for activities other than publishing that the society deems important. Such income from journal publishing is something the society can ill afford to lose if it wants to maintain those activities. And most societies certainly do not want to make a loss on their publishing activities. Yet the income from traditional journal publishing is under threat. Unless measures are taken to safeguard those revenues, they will slowly whittle away – or not so slowly, as the case may be.

Publishing research journals is a commercial activity. That is the case even if it is only one journal and if it is done by a not-for-profit organization, such as a scholarly society. Whether one wants or needs to make a surplus or just to recoup costs, adherence to sound commercial practices will not only benefit the professional standing of the society and the journal or journals in question, but also of their financial position and robustness. Virtually no company escapes the need to react and adapt to changes in the business environment, and scholarly societies that publish journals are just like companies in that regard. They, too, will need to change with changing circumstances. And they have done. The biggest change in the last decade or so in the field of scholarly publishing has been the shift from print to electronic. Except that it hasn't really been a shift. It was more like the addition of an electronic version to a print version which, in most cases, continued to exist, with all the production machinery needed for it. Moving to open access publishing is a real shift.

Partly because the traditional print version continued to play a central role and the new electronic version was just an additional, though necessary, feature, the difficulties of making that change in the operation were relatively straightforward to deal with. No fundamental re-think was necessary. Business models could still remain as they had been for a very long time indeed. The essence – the publisher having the exclusive right to sell content or access to content in exchange for the investment made in publishing the journal – stayed intact. Albeit with some additional copyright management and protection headaches. So far so good. The

system seemed to have gone from one stable state into another stable state without too much disruption, and certainly without major anxieties of an existential kind.

It may have seemed a small change in the beginning: the maturing of the internet just provided the means for additional functionality of journals of the sort that was not possible with print. However, upon reflection, the change is as profound as the change inflicted on the planet Earth when the meteor struck that wiped out the Dinosaurs. What was never possible in the print world is now feasible at minuscule marginal cost: near-universal and near-instantaneous dissemination of any information, including, of course, research articles.

This has two consequences, a rather fundamental one and a practical one: a) it massively raises expectations with regard to access to research articles and b) it makes it virtually impossible to limit or restrict their dissemination without resorting to tortuous and difficult to police, even draconic, legal constructions.

Expectations are raised because, subconsciously perhaps, scholarly information has always been seen as belonging to the worldwide scholarly community, even mankind as a whole. The fact that universal dissemination and access were not possible when one had to rely on print alone was tacitly accepted as a fact of life, an inevitable shortcoming, not in any way as a desirability. The whole purpose of information is to be shared, as the purpose of bread is to be eaten.

The options

There are basically three scenarios for a society to consider with regard to open access for their journal:

1. Doing nothing and just continue to publish exclusively with the traditional subscription model

2. Going immediately to full open access

3. Embark on a transition with a view to eventually get to full open access, but giving the authors the choice

It is interesting to have a look at the risks associated with these scenarios. Risk assessment in this context is of course a judgement on the basis of observations of what's happening in the general scientific communication landscape, and not an exact science. The following figure schematically indicates that the highest level of risk is likely to be associated with staying with the traditional subscription model. It is a purely schematic figure and risk levels are not meant to be represented in any numerical way.

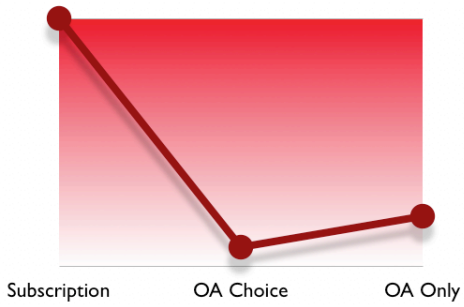

Figure 1

Counterintuitive though it may seem, there are good reasons to come to this judgement. First of all, there is widespread discontent with the subscription model amongst librarians. Their focus is the cost of journals, and although that is a rather narrow focus and most society journals are priced at the cheaper end of the scale, it does point to the general unsustainability of the model in the face of an ever-growing scientific activity and thus an ever-growing number of articles to be published. The fact that this growth is combined with shrinkage of most library budgets, at least in real terms, reinforces the idea of unsustainability. The increasing cost of subscribing to every journal that is relevant for a given institution means that very few are able to afford taking all the journals they need. It doesn't take the proverbial rocket science to see that this has all the hallmarks of an economic bubble. The observation that the growth of library budgets haven't kept pace with the growth of scientific activity is correct, but increasing those budgets doesn't solve the fundamental problem that the subscription model is neither designed, nor suitable, for the cost of the literature transparently to remain in step with research activity.

Secondly, the general societal demand for openness is growing. While the political demand for open, accountable government and the like doesn't seem to have a direct bearing on science publishing, it sets the tone for general expectations. Developments like Open Source software and Creative Commons, an initiative to free up intellectual property, do influence science and scientists. Just as nature abhors a vacuum, science abhors not looking at any given problem from different angles. The days that changes in science publishing seemed to be in the domain of the 'unlimited impossibilities' are over. Scientific data are already expected to be openly and freely available. Moreover, serious journals demand from their authors that the data underlying their articles are deposited in an open database, as a condition of publishing. In the Nature guide to authors[10], for instance, one reads this: *"Papers reporting protein or DNA sequences and molecular structures will not be accepted without an accession number to [an] appropriate, identified,* publicly available *database in general use in the field that gives* free access *to researchers from the date of publication"* (emphasis added). The step for the scientific community to demanding that research results as written up in scientific articles must also be freely available seems a relatively minor one in that context. Taxpayers are voicing

10 http://www.nature.com/nature/authors/policy/index.html#a6

their demands[11] for open access to (especially medical) journals, and some politicians [12] are on the case as well. Funding agencies such as the Wellcome Trust want the research that they fund to have the broadest possible impact[13], in the scientific community itself as well as in society at large. And so does the NIH (National Institutes of Health)[14].

Thirdly, due to the vast numbers involved, in many areas it has become impossible for researchers to actually read all the relevant papers that are being published in their field. In an editorial[15] in BMC Bioinformatics, Barend Mons gives the following example: *"Bioinformatics increasingly consists of computer-aided meta-analysis of dispersed articles and database records to assist researchers in the interpretation of massive datasets. Epidemiological studies and high throughput technologies such as micro-arrays nowadays often lead to sets of potentially relevant papers being identified that surpass human capability for reading, interpretation and synthesis. Aggregating information from many records, followed by logical association of the concepts represented in the full dataset is what I generally refer to here as meta-analysis"*. This means three things: 1) aggregating information from many articles from disparate sources is hampered tremendously by the access controls inherent in the subscription model; 2) circumventing these access controls, e.g. by depositing copies of the articles in open repositories, will become necessary (and if authors don't feel that need, their funders will); and 3) in the *publishing* of the article is where the addition of added value will be perceived, less so in the *reading* of it (for a journal, selling publishing services will be more important than selling access).

Fourthly, the phenomenon of authors self-archiving their manuscripts in institutional or other repositories is growing. Indeed, it is being made compulsory by some funding agencies[16] and requested by others. Many publishers have felt that they had no choice but to agree to this (so-called 'green' publishers), and they do so in the belief (or hope?) that self-archiving will not substantially undermine their subscription model. So far it hasn't, but that fact cannot be seen as a guarantee that it won't in the future. The numbers are still small and the interoperability shaky, and many universities do not yet have an institutional repository. The signs are, though, that the idea is catching on and whole countries have now installed repositories in all their universities[17] , which will, when repeated elsewhere, greatly change the landscape. Also, interoperability is constantly improving[18]. The last line of defense, that the self-archived copies are not the 'real' and 'final' or 'official' versions of the articles seems rather fragile.

Fifthly, open access as a concept is really uncontested by now, even by the largest publishers. Arie Jongejan, then CEO of Elsevier Science Publishers, said at a meeting of the International Publishers Association in Berlin in June 2004, when talking about open access, "who could be

11 http://www.taxpayeraccess.org/

12 http://www.publications.parliament.uk/pa/cm200304/cmselect/cmsctech/399/39902.htm

13 http://www.wellcome.ac.uk/doc_WTX025191.html

14 http://grants.nih.gov/grants/guide/notice-files/NOT-OD-05-022.html

15 http://www.biomedcentral.com/1471-2105/6/142

16 The Wellcome Trust: http://www.wellcome.ac.uk/doc_wtx025191.html

17 The Netherlands, the 'Dare' project: http://www.darenet.nl/en/page/language.view/dare.watenwaarom

18 OAIster: http://oaister.umdl.umich.edu/o/oaister/

against?" In November of that year, the American Institute of Physics issued a press release[19] announcing 'Author Select', its open access initiative for three of their journals, which quotes Marc Brodsky, the AIP Executive Director and CEO as saying "we have no problem with Open Access per se." Meanwhile, in September, John Regazzi, an Elsevier executive in New York, hit the nail on the head in an interview reported by Washington Fax in September, "No one can argue against giving the public access to NIH information; it is in the public interest." So the question is not open access yea or nea, but rather, how?

Sixthly, the unmistakable trend in the direction of the use of usage metrics as a way of assessing the value of a journal for an institutional library. Prices will be regarded in relation to the total usage of a given journal. Currently, the link between usage and value is complex. The subscription model makes journals more suitable to be seen as 'just-in-case' provisions than as 'just-in-time' article delivery systems: not all articles in any given journal will be used or at least they won't be used to the same degree. The implicit 'article economy' in a usage-based value perception is bound to lead to an article's 'usage potential' becoming an irresistible element in the decision process of which article to publish and which not, where now peer review is the only, commercially neutral, method of deciding that, purely on the basis of an article's scientific merit. The two, scientific merit and commercial potential, don't always coincide.

Finally, open access is the best defence against the decline of a journal. Changing market conditions make the risk of maintaining the *status quo* simply too high. Revenues from subscription-based journals are increasingly difficult to sustain, and substantial growth is quickly becoming nigh impossible. For societies, usually with small or very small journal publishing programmes, this is exacerbated by the tendency of large publishers to bundle their journals. That has the effect that libraries, faced with budget limitations and the ever-growing proportion of it being taken up by such bundles, often have little choice than to cut subscriptions to small, independent journals first. The trend of institutions purchasing via consortia further favours these bundle-deals. In short: independent journals suffer disproportionately because finding budget relief by cancelling them is so much easier than negotiating cost reductions with large publishers.

Managed Transition to Open Access

Given that, of the three mentioned, this scenario is the most likely to carry the least risk of survival and of decreasing revenue levels (see above), it is appropriate to consider it first. Managed Transition to Open Access is not a static state of affairs, but rather a dynamic process during which a subscription-based journal will transform itself gradually to an open access journal, without loss of income attributable to open access. Loss of income is never ruled out completely, of course, as it can have other, unrelated, causes, such as the decline of the sub-discipline of the journal, or skyrocketing increases in staff costs or inflation. But it would be unrealistic to link those effects to open access. In fact, it is most likely that open access will be part of the defence against such environmental economic threats (see below).

19 http://www.aip.org/press_release/author_select.html

The period of Managed Transition to Open Access will depend on many factors, including the readiness of the sub-discipline for open access (particularly the funding bodies in the field), the status and reputation of the journal, publicity and promotion for the journal's transition policies, and the amounts charged for the publication of a research article. For a journal like Nuclear Acids Research (NAR), published by Oxford University Press, the transition lasted just one year, after which NAR was fully converted to an open access model.[20]

How does Managed Transition to Open Access work?

Managed Transition to Open Access is a form of what has become known as the Walker-Prosser model of scholarly publishing[21], after Thomas Walker, entomologist at the University of Florida who, in 1994, helped the Florida Entomological Society put its *Florida Entomologist* on line, and in 1998 described his model for a hybrid open access/toll access journal in *The American Scientist*, and David Prosser of SPARC Europe, who expanded on the idea. If there is a difference it is that Managed Transition to Open Access aims to achieve full open access, whereas the Walker-Prosser model could also be seen as a way to stabilise a hybrid journal indefinitely. In either case, though, authors are given a clear choice: they arrange for the payment of so-called 'article processing charges' and when they do, their articles will be immediately published with full open access, or they don't arrange payment, and their articles will be published in the traditional way, accessible only to subscribers of the journal.

The concept is straightforward. Publishing a journal costs money. Those costs, and sometimes a surplus to help fund a scholarly society's other activities, are covered by income from the journal the society publishes. It is not difficult to find out what amount of revenue is actually received per published research article. One just takes the total revenue received over a given year, not just subscription revenue, but including page charges (if any) and reprint sales (e.g. to pharmaceutical companies and to authors themselves), and divide that by the number of articles published in the same year. That should give an amount per published paper that, if it's covered by income other than from subscriptions, should fully cover the journal's costs and provide a necessary surplus.

Financial consequences

Let's consider the finances. We limit ourselves to revenues. The costs of journal publishing are not addressed (with one exception in the chapter on Immediate Full Open Access – p. 22). The reason is that the focus of this guide really is to demonstrate that open access is a viable option even with the current cost structure of a journal, provided that this current cost structure is covered by the current subscription income and does not make massive losses. If costs can be

20 http://www3.oup.co.uk/nar/announce_openaccess.html#open

21 Thomas Walker: http://www.americanscientist.org/template/AssetDetail/assetid/15595 (the article is not accessible to non-subscribers, but a more recent one, in Nature, is: http://tjwalker.ifas.ufl.edu/WalkerArticle.pdf); David Prosser: http://www.arl.org/newsltr/227/openaccess.html

reduced, this will help either to keep article processing fees down, or improve the surplus, or both, but it is not the subject of this guide. However, if the journal under consideration currently has an income per article higher than $3000, there is a need to reduce costs or develop supplementary income, because it seems that this amount is the maximum acceptable level for funding agencies to contribute to article processing charges.

Income from alternative sources, such as (cross-)subsidies, sponsorships, and the like, are not considered, out of caution. Even advertising and offprint and reprint sales are only factored in modestly. Such income may well exist, but experience has shown that not many journals would be able to count on appreciable revenues from those sources, and that kind of income often proves quite fickle.

We will use as an example the revenues of a small journal that publishes 40 articles a year (4 issues of 10 articles each) and that is available in print as well as electronically on the internet. Internet access is for subscribers only. The following numbers are hypothetical, and there will be large differences from journal to journal and from society to society, but the overall picture is realistic for a modest journal and it should be easy to customise the figures for any given journal. A simple Excel spreadsheet can be downloaded from the OSI web site in order to customise some of the modelling of journal revenues:
http://www.soros.org/openaccess/xls/oap_model_for_transition.xls

JONAS, the Journal of Nature and Science *(fictional title)*

Number of subscriptions	375	
Net subscription price ($250 minus 5% agency discounts)	$237.50	
Subscription income		$89,063
Reprint sales		$5,000
Page charge/colour plate income		$3,000
Other income (e.g. advertising)		$2,000
Total revenues		**$99,063**
Number of papers published	40	
Revenue per published article		**$2,476.56**

So that's what has to be achieved for all risks to be removed: 40 articles with a yield of $2,476.56 per article.

We assume that the current revenues for *JONAS* are sufficient to cover the costs of publishing the journal and that there is a reasonable surplus for the society that publishes it. We also assume for the moment that the number of articles published will not change when the journal will start offering authors the Open Access choice when they pay article processing charges (this assumption can be changed in the downloadable spreadsheet mentioned). Lastly, we

assume that the number of subscriptions will not decrease with an increased uptake of OA by authors, just the subscription price.

Let's see what happens if 50% of authors choose Open Access and arrange a payment of $2,476.56 for the privilege (let's round that up to $2,500 for the sake of simplicity). About half (a little more, $50,000, due to the rounding up) of the total revenues of $99,063 will then already have been paid for, from article processing charges, and the other income streams (subscriptions, page charges, reprint sales, advertising) just need to yield the other half, amounting to only $49,063, to arrive at the same overall revenue of $99,063. If we assume, just to be cautious, that income from reprint sales, page charges and advertising are halved, in proportion with the authors' uptake – to a total of $5,000 instead of the $10,000 it used to be –, the actual subscriptions now have to yield only $44,063. That's a net yield of $117.50 per subscription, or, taking into account agency discounts of 5%, an actual subscription price of $125 (rounded up; it's $123.68). But this is too simple. There are a few details that should not be overlooked.

Subscription attrition

Many journals experience an annual subscription attrition. It is not uncommon for that to be in the order of 5% per year. Indeed, subscription growth has become rather rare. However, with the possibility that the Open Access choice offers for reducing the subscription price, it is not entirely unlikely that attrition is stemmed. It may even be reversed. So attrition may not be the biggest problem. Let us for the moment assume that there is none.

If there is no attrition, the subscription price of $250 can decrease depending on that authors' take up of the Open Access choice (after all, they've paid their share) as follows:

20% take up, 20% decrease, subscription price becomes $200
50% take up, 50% decrease, subscription price becomes $125
80% take up, 80% decrease, subscription price becomes $50

If this line of reasoning were followed, a 100% take up would mean a subscription price of zero. Of course, if there were a 100% take up, the total revenues would be $100,000, which was enough in the old model to send 375 subscribers their print copies, so it should be sufficient in the Open Access model. And it is, if the journal is online only. But it won't be if the number of print subscribers grows.

Growth of print subscriptions

So the reasoning above doesn't quite wash when there is print involved. So let's do the calculation again, but now assuming an irreducible cost of print, per subscription, of $50 (20% of the original subscription price). Consequently, the decrease in subscription price is only possible for 80% of the original subscription price, and not for the remaining 20%, the $50 irreducible price of print. This amount would pay for the marginal cost of every extra print copy and cover print, distribution and fulfilment. It is an 'insurance policy' against any possible growth in the number of print subscriptions becoming financially unsupported.

The figures now become:

20% take up: subscription price becomes $210 (16% reduction on $250)
50% take up: subscription price becomes $150 (40% reduction on $250)
80% take up: subscription price becomes $90 (64% reduction on $250)
100% take up: subscription price becomes $50 (80% reduction on $250)
This way it never becomes zero. Even if 100% of the articles are open access and paid for with article processing fees, there is a price for print that covers its cost.

If we look at the situation above, where we assumed a 50% take up (20 authors having paid), and we further assume no change in the number of subscribers, the figures are as follows:

Number of subscriptions	375	
Net subscription price ($150 minus 5% agency discounts)	$142.50	
Subscription income		$53,438
Reprint sales (halved)		$2,500
Page charge/color plate income (halved)		$1,500
Other income (e.g. advertising) (halved)		$1,000
Article Processing charges (20 articles)		$50,000
Total revenues		**$108,438**

Total revenues are actually up ($108,438 vs. $99,063), a difference of $9,375, which compensates for an attrition of about 65 subscriptions or 17%, should that be needed (with a subscription price reduced to $150, that's not all that likely and certainly not a 17% attrition). Alternatively, it could compensate for almost four waivers of article processing charges, or 20% of the number of open access articles.

The situation is still better than that, however. Because it will not be known at the start of a subscription year what the authors' uptake will be, it is quite acceptable that reductions in subscription price are only put into effect the following year. If that is done, in year 1, with an authors' uptake of 50% (which is of course only established by the end of the year), the figures look like this:

Year 1

Number of subscriptions	375	
Net subscription price ($250 minus 5% agency discounts)	$237.50	
Subscription income		$89,063
Reprint sales (halved)		$2,500
Page charge/colour plate income (halved)		$1,500
Other income (e.g. advertising) (halved)		$1,000
Article Processing charges (20 articles)		$50,000
Total revenues		**$144,063**

An upside of $45,000 relative to the current situation. It is assumed that income from reprint sales, page charges, and advertising does decrease to half, as a result of 50% of authors choosing open access, so they will not buy off-prints or pay page charges. Halving advertising income is debatable, but cautious.

Of course, this upside is a one-time windfall, the size of which depends on the authors' uptake, although it can be repeated (in a smaller way, most likely) if the uptake increases. If we look at year 2, for instance, with an assumed uptake of 80%, the picture is thus:

Year 2

Number of subscriptions	375	
Net subscription price ($150 minus 5% agency discounts*)	$142.50	
Subscription income		$53,438
Reprint sales (reduced by 80%)		$1,000
Page charge/color plate income (reduced by 80%)		$600
Other income (e.g. advertising) (reduced by 80%)		$400
Article Processing charges (32 articles)		$80,000
Total revenues		**$135,438**

*the price with a 50% author uptake; it must be remembered that the price reduction related to the 80% uptake of this year only comes into effect in year 3.

This represents an upside of $36,375 relative to the current situation, which although somewhat less than in year 1, is still sizeable. The windfall stops by the time uptake has reached 100%. (There is a – small – risk of a decrease in revenues should the proportion of authors choosing to pay for Open Access fall.)

But this is not where the benefits stop. A journal can grow in terms of articles published. If the inflow of good quality submissions increases, growth will be most beneficial for the journal's status and reputation. Yet it is becoming very difficult to accommodate any growth in the subscription model, if that growth is substantial. Suppose it is 25% in a given year. From 40 to 50 articles in our example. Perhaps going to 5 or 6 issues instead of 4. In the traditional subscription model the price would go up by a similar, or just slightly smaller percentage. That would be from $250 to, say, between $300 (an increase of 20%) and $310 (an increase of 24%). Should there also be attrition (say 5%), then the increase would have to be in the order of 25 to 30% in order to compensate for that as well. And this is all before inflation, of course, adding perhaps another 3-5% to the price. This is not a message with which to approach university libraries nowadays.

In contrast, in an open access model, financed mainly from article processing charges, the only thing to deal with is inflation. Growth has become not only good for the journal, but also without many of the difficulties that concomitant price rises are causing. And income will be directly proportional with any growth.

On top of the advantages highlighted, there are even more advantages of offering authors an Open Access choice:

- The journal will be seen and judged as moving with the times, to the benefit of science;
- The journal will not be left standing as others move to open access;
- The journal will likely see an increase in dissemination of the open access articles[22], and with that an increase in citations, which will improve its impact factor.

Operational consequences

Much of the operation remains the same when an open access choice is introduced. Three areas need attention. Payment, copyright and 'labelling' of the article, and promotion.

Payment

The channels and systems that are used for subscription sales are not the same as the ones needed for cashing the article processing fees. Subscription sales are typically annually renewable, and many institutional ones may come via subscription agents. But systems to deal with one-off payments such as off-prints, page charges, colour charges and the like may exist, and article processing fees should be a straightforward extension of those.

There may be a need for waivers for authors who can't pay, such as authors from developing countries, or for whom exceptions are made, such as Editorial Board Members. Clear criteria need to be formulated for granting waivers, for procedures for requesting waivers, and for granting them – judging if the criteria are being met needs to be transparent, at least to the author. An example of a waiver plan is here: http://www3.oup.co.uk/jnls/devel/

It is also worth considering to give discounts to special customers, for instance to the authors from institutions who maintain a print subscription, which may ensure their loyalty. An example is the institutional 'member' plan of Oxford University Press for the journal Nucleic Acids Research[23]. Members of the society may also be considered as a category entitled to discounts.

Copyright

The spirit in which copyright was originally conceived was one of protecting both creators and the public. In science, it is in the interest of both to have the widest possible readership. In the traditional, subscription-based publishing model, copyright is used to make articles artificially scarce, so that money can be made selling them, or selling access to them. In the print world that was a necessity – how else could a publisher recoup his investment? Although charging

22 Nicholas Cozzarelli, Editor-in-Chief of the Proceedings of the National Academy of Sciences, was quoted as saying that "So far, on average, the articles that are open access immediately are read 50% more than the other articles". In: Chemical & Engineering News, May 16, 2005, Volume 83, Number 20, pp. 40-44. URL: http://pubs.acs.org/cen/coverstory/83/8320openaccess.html

23 http://www3.oup.co.uk/nar/announce_openaccess.html#open

authors to cover some of the costs was – and is – done (page charges), the income from such charges could only ever cover part of the expenses, as a fixed amount at the input side of the process could never finance a potentially unlimited number of print copies.

This argument is no longer valid in the world we live in today, where the internet makes the electronic dissemination of articles possible without hardly any marginal cost to the publisher. So, finally, copyright can be used for what it is meant to in science, not to make the articles artificially scarce and in the process restrict their distribution, but instead, to ensure that their potential for maximum possible dissemination can be realised.
From a trader in copyrights, the publisher becomes a provider of publishing services. This requires a change of mindset more than anything else. When the publication of an article is paid for by article processing charges, there is no longer any need to use copyright to secure recouping investment. Consequently, to ask authors to transfer copyright is not needed and no longer justified by economic necessity. That doesn't mean that copyright has become irrelevant. But its function now is to guarantee that any restrictions on dissemination are lifted, and authors get the recognition they deserve. Its new focus is more on moral rights than on economic rights.

In practice, authors, as copyright holders, need to assert and agree that their articles are published with open access and made universally and freely available. The legal code for such an agreement has been developed by the Creative Commons, and in particular their 'attribution license' is written specifically for the purpose. This licence is currently being used by open access publishers such as the Public Library of Science, BioMed Central, and others.
When offering an open access choice, this (or a similar) attribution licence is only applicable to the open access articles. For other articles, not paid for by article processing charges and consequently not open access, asking the author to transfer copyright is justified.

Some open access publishers also ask the author to explicitly license them to publish the article. This is in a way redundant, because if an author licenses the entire world to use the article and redistribute it, that automatically includes the publisher. However, lawyers sometimes disagree and to be safe, advise the publisher to require such a licence. Obviously, there is no harm in that other than some increased administration and red tape.

Labelling and metadata

It is assumed that the journals considered for transition to open access are already available electronically. That means that the articles published in them will already have metadata tags. It is important, however, to make sure that the open access articles are labelled as such, including in their metadata. A metadata format that is OAI-compliant[24] makes that possible, and it ensures that the articles are interoperable, i.e. can be 'harvested' by indexing services, search engines, and the like. It is also important clearly to indicate in the article itself, especially a PDF-version that can be printed, that the article is open access. After all, when it is

24 OAI-compliant means that the article metadata (the title, authors, keywords etc) are available in the format prescribed by the Open Archives Initiative Protocol for Metadata Harvesting (OAIPMH: http://www.openarchives.org/OAI/openarchivesprotocol.html) . Search engines can harvest the metadata from all archives making their metadata visible in this form, and present it to users in an appropriate way, e.g. OAIster: http://oaister.umdl.umich.edu/o/oaister/

printed any active web links don't work. But the article can still be freely photocopied, for instance, so showing its 'status' is important.

Promotion

It may be self-evident, but it is important that the choice of open access, if given to authors, is prominently displayed on any of the journal's or society's web sites and promotion material. If not, limited uptake will be a self-fulfilling prophecy. The choice needs to be formulated very clearly. The following wording, adapted from the Blackwell Publishing web site[25], may give some idea of how it could be done:

> […] offers authors who wish to publish their research in our journal the opportunity to ensure that their article is immediately made freely available for all to access online. This pay-to-publish option is an important part of our response to the increasing need for open access and our commitment to viable high quality publishing.
>
> Open Access will be available from [date] on the basis of the author's choice; authors of accepted peer-reviewed articles may choose to pay a fee ('article processing fee') in order for their published article to be made freely accessible to all via the internet. For [period, e.g. the year 2006] the Open Access fee will be set at […] (plus VAT where applicable). The article processing fee will be charged on acceptance of the article and should be paid within 30 days by credit card by the author or other funding agency. However, a firm commitment to pay the article processing fee in the event of the article being accepted for publication after peer review, must be given at the time of submission.
>
> Any author(s) wishing to take the Open Access choice will be asked to sign a copy of the Attribution Licence. Authors can obtain this from the editorial office of the journal or download it from the journal's website.

Publishing through a commercial publisher

The reasoning above applies to journals published by the society itself, but what to do if the society journal is published through a commercial publisher? The essence of the story remains the same, of course, but not all commercial publishers like to move to an open access transition model. They can be persuaded, though, and some do embrace the concept. Nature Publishing Group has been persuaded by the European Molecular Biology Organisation (EMBO) to publish their new journal *Molecular Systems Biology* with open access. Some major, reputable publishers are now, slowly but steadily, coming around to open access publishing. Oxford University Press offers Oxford Open[26], their transitional authors' choice open access model; Blackwell Publishing offers a similar scheme, called Online Open[27], and Springer offers Open Choice'[28]. Other publishers may now, or in the near future, offer a similar choice. If the journal is published with these companies, there is every reason to believe that they can accommodate the society's wish to go to open access. If it is published with a company that doesn't offer

25 http://www.blackwellpublishing.com/static/onlineopen.asp?site=1

26 http://www3.oup.co.uk/jnls/press/2005/05/04/index.html

27 http://www.blackwellpublishing.com/static/onlineopen.asp?site=1

28 http://www.springeronline.com/sgw/cda/frontpage/0,11855,1-40359-0-0-0,00.html

such choice, it may well be worth to make this point a prominent issue for negotiation when the term of contract expires.

Immediate full open access

Though the prospects for the majority of authors (and their funding agencies) opting for open access – and thus the prospects for moving the journal from an entirely subscription-based model to an entirely open access model – are good (in the case of Nucleic Acids Research it took only one year), the best option from a standpoint of open access is of course to move to an entirely open access model without a transition period. However, it does entail a higher risk than a transition model, as indicated in figure 1. And although immediate full open access may be better than a transition period, 'better' may be the worst enemy of 'good', in that focussing on currently unrealistic goals that are too far off may actually slow down the progress that can be achieved now.

For some societies immediate full open access is not a move too far. Particularly not if they are online only and have a high reputation. Being online only means that sometimes awkward issues of print don't have to be dealt with, and a high reputation ensures that authors are likely to stay loyal to the journal. The reputation of the journal is even likely to improve, as mentioned earlier, because increased exposure is bound to result in more citations, jacking up the journal's impact factor. But the risk that submissions of articles to the journal might decline, even if just in the short term, shouldn't be ruled out altogether. That said, in disciplines that are well funded and where funding bodies are generally well disposed to open access and willing to pay reasonable fees, that risk may be worth taking.

Submission fees

A potential difficulty arises when the rejection rate of the journal is very high, and the article processing fee is charged for published articles only. In those cases it may be an option to introduce submission fees. Those fees would be charged to every article on submission, whether or not it will eventually be published. They would not be refundable, and pay for the costs associated with organising peer review. For accepted articles a further publication fee would be charged. The effect of having submission fees may of course be a reduction in the number of submissions. But as it is likely to affect the lower quality submissions more than the ones of high quality that stand a good chance of being accepted, that may not be such a bad thing. Authors very often know that they are aiming just a little too high when they choose a journal to send their articles to, on the off-chance of being accepted. They are less likely to do that if they have to pay a submission charge that is not refundable, even if their article is rejected. The Wellcome Trust, and perhaps other funding agencies as well, support the idea of submission charges.

Hosting

If the decision is made to opt for immediate full open access, there may be possibilities for savings on some of the costs, particularly the cost of hosting the journal. In the areas of life

sciences and medicine, the possibility should be considered to deposit the entire journal's content (including back issues) in PubMed Central at no or little cost to the journal. Should that path be chosen, the need – and costs – for the journal to maintain a content site on its own disappears. For that option to be feasible, the journal and its content must comply with certain standards and criteria as laid down by PubMed Central, but for any serious journal these criteria are not onerous. More information can be found on the PubMed Central site[29]. The UKPMC (PubMed Central 'mirror' in the UK) is in preparation at the time of writing.

29 http://www.pubmedcentral.nih.gov/about/pubinfo.html

Strengths – Weaknesses – Opportunities – Threats

	Toll Access (TA) publishing model	**Hybrid (choice) model (OA mixed with TA)**	**Open Access (OA) publishing model**
Strengths of model	Long history; Still the prevailing model in Scholarly publishing; It is what scientists are used to	Controlled change; May be stable in its own right in the long run; Leaves the choice to the scientific community; Does not impose anything on anybody; No extra uncertainty re submission inflow; Scales well	Offers science what it needs; Maximum dissemination and visibility; Transparent; Costs proportional to research activity; Development of price/quality relationship likely; Scales well
Weaknesses of model	Longer term sustainability; May face 'sudden death'; Not transparent; No price/quality relationship; Cost to Academia not proportional to research activity; Curtails dissemination; Strong reliance on copyright compliance	Some potential for confusion (what's open and what's not); Some reliance on copyright compliance (for TA content)	Imposes OA; Does not sit well with unfunded research; Submission inflow uncertain

'Business' Opportunities	'Slash and burn' (rake in profits now – if potential quick demise is part of the 'plan')	Relatively 'painless' transition to open access; Offers some impact gains; Offers growth potential; 'Tipping point' in favour of OA; Differential pricing opportunities (for OA content)	Offers impact gains; Offers growth potential; 'Tipping point' in favour of OA; Differential pricing opportunities charges
'Business' Threats	Ongoing, accelerating, subscription attrition; Increased downward price pressure; No differential pricing opportunities without potential 'seepage' of content; File-sharing and 'Self-archiving'; 'Tipping point' in favour of OA	Level of article charges that's acceptable now may face downward pressure	Level of article charges that's acceptable now may face downward pressure
Costs (out of pocket)	Need for ever increasing marketing, lobbying, PR	Additional admin	-
Success Factors (…it is a success if…)	The model is able materially to delay OA	The model is able steadily to increase the OA/TA ratio of a journal; It is economically viable	The model is able to establish a journal's credibility in terms of quality as well as of economic sustainability

Frequently Asked Questions

Should one charge a flat fee rather than one based on page numbers?

The size of an article is a poor indicator of the actual amount of work involved in obtaining peer reviews and in preparing the article for publication. A more useful discriminator might be the state an article is in when submitted, and its complexity, but the lack of objective tools to measure these leads to the conclusion that a flat fee is probably the fairest approach at this stage. Should the range of article sizes be particularly large, a basic fee plus extra charges for outsized articles could be considered. Similarly if the number and size of illustrations varies materially.

At what point does one charge authors for open access?

There are two appropriate points in the process:

Option 1: require a commitment from the author at submission that he/she will pay the amount upon acceptance, in case his/her article is accepted after peer-review; this could be done in a full OA model or in a hybrid model for the OA articles. *Con*: choosing this option may invoke the suspicion, though spurious, that paying gets an article published – a form of vanity publishing – and so undermining the credibility of the peer-review procedure. In reality, any temptation to accept unworthy articles just because the authors pay would be suicidal for a serious journal.

Option 2: offer the open access choice after the article has been accepted; this is more suited to a hybrid model in which all articles need to be seen to get exactly the same treatment in the peer-review procedure and thus avoid any potential criticism of a bias to accept articles that are paid for. *Con*: choosing this option may cause a loss of valuable time to publication, as articles cannot be published immediately upon acceptance due to the time inevitably involved in establishing the authors' choice.

The decision of which option to choose will depend on the individual journal and its scientific discipline.

Who should be required to arrange the payment?

It is administratively easiest if the corresponding author is required to arrange the payment.

Is it appropriate to continue to levy colour charges and/or charges for excess pages?

As long as there is a print version, colour and extra pages may amount to material costs which may not be absorbed by the OA article charges. In such cases it is appropriate to charge extra.

What about copyright?

For the OA articles, it is important that the copyright arrangements are clear. There are two options:

Option 1: require that the author transfer copyright to the publisher *for the sole reason* of streamlining the granting of an open access attribution licence (such as those drafted by the Creative Commons - http://creativecommons.org/licenses/). After all, only the copyright holder can grant an open access licence and if the copyright holder is the publisher, he can do that as part of the publishing procedure. The case can be made that this option is particularly appropriate for hybrid journals, as it will reduce any confusion and the administrative burden of managing different copyright procedures for OA articles and traditional ones.

Option 2: allow the author to retain copyright, but require that he/she, as copyright holder, grant an open access attribution licence.

Which of the Creative Commons licences should one choose?

The main difference between the two attribution licences that are appropriate has to do with commercial re-use. The straightforward attribution licence (*by*) ensures that, as a condition of any re-use, proper acknowledgement is given to the author and, provided that condition is met, allows all legitimate re-use and redistribution (http://creativecommons.org/licenses/by/2.5/).

The attribution but no commercial re-use licence (*by-nc*) also has the condition that acknowledgement is given to the author and that legitimate re-use and redistribution are allowed; however it forbids any re-use for commercial purposes (http://creativecommons.org/licenses/by-nc/2.5/).

In case the publisher can expect a large number of reprint sales to e.g. the pharmaceutical industry for their marketing purposes, the *by-nc* licence may be the preferred one. If no material commercial re-use is expected, there is little point in reserving those rights and the *by* version should suffice.

Why should one use the Creative Commons Licences?

One could of course make one's one licences, but that would be re-inventing the wheel. The Creative Commons ones have been put together by leading lawyers in a major international co-operation, and they are available in generic form and also specifically for many jurisdictions. They are also available in a growing number of languages.

In what format should one publish OA articles?

In order to provide the best functionality for reading online, text and data mining, and printing, articles should be available in both HTML and PDF. If the articles are properly XML-coded, both formats can be generated from the same XML-file.

How should one indicate which articles are OA (in a hybrid journal)?

It is important that the OA status of an article is clearly indicated in the online version as well as in any print version (after all, for print versions it means that the usual restrictions on photocopying do not apply). In the print and PDF-versions, it is advisable to repeat the OA status and the article's bibliographic details (authors' names and the way it should be cited) on every page.

Does one need to promote the OA choice given?

Of course. It makes the journal/society stand out as forward looking and it will help the journal's reputation.

The Open Society Institute

The Open Society Institute is a private operating and grant-making foundation that develops and implements a range of programs in civil society, education, media, public health and human and women's rights, as well as social, legal, and economic reform. OSI is at the center of an informal network of foundations and organizations active in more than 50 countries worldwide that supports a range of programs. Established in 1993 by investor and philanthropist George Soros, OSI operates network-wide programs, grant-making activities, and other international initiatives.

The main office of the Open Society Institute is at 400 West 59th Street, New York, NY 10019. Telephone: 212-548-0600 or 212-757-2323. Telecopier: 212-548-4679 or 212-548-4600. The Budapest office of the Open Society Institute is at Oktober 6. u. 12, 1051 Budapest, Hungary. Telephone: +36-1-327-3100. Telecopier: +36-1-327-3042. OSI also has offices in Baltimore, Brussels, London and Paris. For further information, please visit: http://www.soros.org or go directly to http://www.soros.org/osi.html.

The OSI Information Program oversees and coordinates the network's activities in areas such as Internet policy, library and publishing support, and access to information.
For further information, please contact: Darius Cuplinskas, Director, OSI Information Program (London), email cuplinsk@osi.hu or Melissa Hagemann, Program Manager, Open Access Project, OSI, Information Program, email mhagemann@sorosny.org.

The OSI Information Program has committed funding of US $1,000,000 annually for three years in support of Open Access projects. Funding will include support for: the development of business models and plans for sustainable self-archiving and Open Access publishing; use of library networks to mobilize support for Open Access globally; support for researchers in low and middle income countries to publish in open-access journals which charge up front fees; development of software tools and templates for Open Access publishing, self-archiving, indexing and navigation; and promotion of the Open Access philosophy among foundations and donors, science and research funding agencies, libraries and universities, as well as governments, policymakers and international organizations worldwide. OSI may also provide direct seed funding to certain other types of Open Access and self-archiving initiatives.

About the author

Johannes (Jan) Velterop was engaged by OSI to develop a practical guide to Open Access for scholarly societies.

Originally a marine geologist, Jan has worked in the publishing industry for nearly 30 years and has a wealth of experience, especially with scientific journal publishing.

Until recently he was the publisher of BioMed Central Group, the pre-eminent open access publisher. Throughout the '90s, he was the Managing Director of Academic Press Limited.

He has also held high profile positions at Macmillan Publishers where he was the Publishing Director of Nature Publishing Group and President of Nature Inc, and at the Dutch Media Group, Wegener, where he was the Managing Director of one of their newspaper titles.

Following his postgraduate study in marine geology, he started his publishing career at Elsevier in Amsterdam as Acquisitions Editor responsible for a number of Books & Journals publishing programmes in various disciplines.

In addition to the above he has worked as a consultant within the scientific publishing and information industries, and he is now consulting again, with a particular focus on open access publishing and on the issue of dealing with the information overload.

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