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Knowledge Unbound

Selected Writings on Open Access, 2002–2011

By: Peter Suber

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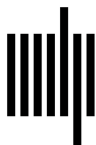
By: Peter Suber

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Open Access Policy Options for Funding Agencies and Universities

From “Open access policy options for funding agencies and universities,” SPARC Open Access Newsletter, February 2, 2009.

<http://dash.harvard.edu/handle/1/4322589>

Every research funding agency should have an OA policy, many already do, and most are probably thinking about it. Here's a guide to the major decisions which come up in framing a new policy, reviewing an older one, or thinking about policies elsewhere. I start with the choice-points facing funding agencies (1–12), and then look briefly at the choice-points which only arise for universities (13–18). I offer a recommendation for each.

(1) Request or require?

Will you require OA for the research you fund or merely request it? The original NIH policy, which took effect in May 2005, merely requested and encouraged OA. The agency strongly urged compliance, conducted many kinds of educational outreach for grantees, and was even joined, late in the game, by publishers who realized that their best hope of heading off an OA mandate was to make the voluntary policy succeed. But despite these efforts, the compliance rate barely broke double digits in two years. As soon as Congress ordered NIH to make the policy mandatory in December 2007, and even before NIH issued the new language in January 2008, compliance started to rise sharply. Three months after the mandatory version of the policy took effect the compliance rate was nearly five times greater than under the old policy, and is still climbing.

<http://www.libraryjournal.com/info/CA6581624.html?nid=2673#news1>

<http://www.earlham.edu/~peters/fos/2008/07/more-evidence-that-mandates-work.html>

Recommendation: If you're serious about achieving OA for the research you fund, you must require it.

The NIH experience proved the failure of requests and the success of mandates, for funding agencies. In a series of empirical studies Arthur Sale has offered the same dual proof, for universities.

<http://fcms.its.utas.edu.au/scieng/comp/project.asp?lProjectId=1830>

Institutions worried that mandates will face a barrier of resistance from researchers should look at the unanimous faculty votes for OA mandates (in #18 below). There's other evidence as well. Not only do the compliance rates steadily approach 100%, but even before the recent rise of mandates Alma Swan and Sheridan Brown found in surveys that 94% of researchers would comply with an OA mandate from their funder or employer, 81% of them willingly.

<http://cogprints.org/4385/>

Today there are 31 funder mandates in 14 countries, and 27 university mandates in 16 countries.

<http://www.eprints.org/openaccess/policysignup/>

(2) Green or gold?

Green OA is OA through repositories, and gold OA is OA through journals (regardless of the journal business models). If you want your research output to be OA, should you steer it toward OA repositories or OA journals?

Recommendation: If you decide to request and encourage OA, rather than a mandate it, then you can encourage submission to an OA journal and encourage deposit in an OA repository as well, especially when researchers publish in a toll access (TA) journal. But if you decide to mandate OA, then you should require deposit in an OA repository, and not require submission to an OA journal, even if you also encourage submission to an OA journal.

The green focus for OA mandates is supported by two independent considerations: preserving author freedom to submit work to the journals of their choice, and maximizing the chance of reaching OA for 100% of your research output.

Today only about 15% of peer-reviewed journals are OA. This fraction grows steadily, and one day there will be enough OA journals to justify a gold OA mandate (requiring submission to OA journals). But in the meantime, green OA mandates are compatible with author freedom to submit to the journals of their choice and gold OA mandates are not. Here's how I spelled out the argument in SOAN last April:

<http://www.earlham.edu/~peters/fos/newsletter/04-02-08.htm#principles>

If it weren't for [faculty freedom], universities could require faculty to submit their articles to OA journals rather than deposit them in an OA repository (a gold OA mandate rather than a

green OA mandate). But there aren't yet enough OA journals; there aren't yet first-rate OA journals in every research niche; and even one day when there are, a ... policy to rule out submission to a journal based solely on its business model would needlessly limit faculty freedom. Not even the urgent need for OA justifies that kind of restriction, as long as we can achieve OA through OA repositories. That's why all university and funder OA mandates focus on green OA (through OA repositories) rather than gold OA (through OA journals).

OA repositories can accept deposits on any topic, in any field. But today OA journals are a small minority of peer-reviewed journals and most of them focus on just one field. Green OA can apply to 100% of the literature today; but until all or most journals are OA, gold OA cannot.

Green OA is compatible with publishing in either OA or TA journals. Today about 63% of TA journals give blanket permission for their authors to self-archive in OA repositories, and essentially all OA journals do. While we work to raise the percentage of TA journals permitting green OA, there are already battle-tested strategies for securing permission for green OA to 100% of new literature, regardless of where it is published (see #10).

(3) Which repository?

From here, I'll assume that your policy will mandate green OA. Next question: if you want to require deposit in an OA repository, then which repository?

The NIH hosts its own repository, PubMed Central (PMC) and requires deposit in it. Eight UK medical funders band together and host a consortial repository, UK PubMed Central (UKPMC), and require deposit in it. Three Irish funders either give grantees a choice between central and distributed (institutional) repositories or prefer them to use their institutional repository. University policies uniformly direct deposits into the institutional repository, even if they are compatible with deposits in disciplinary repositories as well.

OAI interoperability makes the question somewhat moot: what is deposited in one repository can have at least its metadata harvested by other repositories. Mutual harvesting between institutional and disciplinary repositories is not routine, but it could greatly lower the stakes in the question where an OA mandate should require initial deposit.

But even then it would not moot the question completely. There are great advantages in having authors deposit in their own institutional repository. It helps institutions share, analyze, and evaluate their own research output. It adds local incentives to funder mandates to prod and reward author participation. It adds robustness to preservation, on the LOCKSS principle, by distributing the literature around a large network. It ensures that the system will scale with the growth of published research, simply from the fact that distributed networks are more capacious than any individual node. Above all, it nurtures local cultures of self-archiving at every university, which will benefit non-funded research and research funded by non-mandating funders. Funders who mandate

OA will have one kind of impact; funders who mandate OA and direct deposits to institutional repositories (where they exist) will magnify that impact by spreading the culture of OA to other researchers. In the age of OAI interoperability and repository crawling by most major search engines, distributed local deposits do not detract from searching. In the age of SWORD-automated deposits, double deposits are not necessary to put the same articles into cooperating central or disciplinary repositories.

On the other side, there's some evidence that repositories which attract researchers in their capacity as readers or searchers also attract researchers in their capacity as authors or depositors. When researchers visit a repository like arXiv or PubMed Central to hunt for new literature, they quickly understand the point of depositing there. And of course, disciplinary repositories attract more readers or researchers than institutional repositories precisely because they organize the literature by field, which is relevant to most searchers, rather than by author affiliation, which is irrelevant to most searchers. Both the reader preference for disciplinary repositories and (therefore) the author preference for reader-preferred repositories should dwindle as cross-repository search tools become more comprehensive, more powerful, and more popular. But for now the behavioral difference is real, and it's bolstered by the tendency of researchers identify more with their field than with their university. If you want to get your compliance rate up, it makes sense to swim with this tide rather than against it.

Recommendation: Because there are advantages to each type of repository, and because each provides bona fide OA, the stakes are low in the choice between them. That is, you can't go seriously wrong by preferring one to the other. One path, then, is simply to make a choice. Another is to support both types in ranked order, for example, requiring deposit in an institutional repository, when the grantee's institution has one, and otherwise requiring deposit in the funder's repository or in a designated disciplinary or multi-disciplinary repository. Another path is to shift the choice to authors. The 2006 version of FRPAA (Federal Research Public Access Act) allowed grantees to satisfy the OA mandate by depositing in any repository which met certain conditions of open access, interoperability, and long-term preservation.

In any case, the repository destination you choose should not be exclusive. After authors deposit in the repository you designate, they should be free to deposit elsewhere as well.

Funders with their own repositories will naturally have a procedure to process submissions. Long-term, it would be very helpful if they also developed a procedure to harvest selected manuscripts on deposit in other repositories. That would allow distributed deposits to facilitate central deposits as well. And it will probably turn out that harvesting an already-deposited manuscript is less expensive than processing a raw submission. Likewise, it would help if institutional repositories developed the same capacity, so that central deposits could facilitate distributed deposits. We all have an interest in harnessing the full power of repository interoperability.

As we approach that point, however, we don't approach complete neutrality on the choice between central and distributed repositories. On the contrary, if deposits anywhere could be harvested wherever they might also be desirable, that would strengthen the case for institutional deposits. Other things being equal, we should make the choice which will strengthen the culture of spontaneous self-archiving.

(4) Gratis or libre?

Gratis OA removes price barriers but not permission barriers. It makes content free of charge but not free of copyright or licensing restrictions. It gives users no more reuse rights than they already have through fair use or the local equivalent. Libre OA removes price barriers and at least some permission barriers. It loosens copyright and licensing restrictions and permits at least some uses beyond fair use.

<http://www.earlham.edu/~peters/fos/newsletter/08-02-08.htm#gratis-libre>

The BBB (Budapest-Bethesda-Berlin) definitions of OA all call for libre OA. But most of the research on deposit in OA repositories is merely gratis OA. While most TA journals permit OA archiving, nearly all of them limit their permission to gratis OA. If institutional policies required libre OA, they would increase the difficulty of publishing in nearly all TA journals, which would increase the difficulty of publishing in most peer-reviewed journals. They would even increase the difficulty of publishing in many OA journals, which still limit themselves to gratis OA. Hence, for now a libre OA mandate would hurt authors.

This will change as more TA journals convert to OA and as more OA journals themselves move from gratis to libre OA. It will also change as the number of funder and university policies grows; when there is a critical mass, resistant publishers will find it easier to accommodate the policies than to refuse to publish the work of affected authors. But it won't change quickly. In SOAN for December 2008, I put "libre green OA" as the 12th out of 12 cross-over points to expect in the future of the OA movement.

<http://www.earlham.edu/~peters/fos/newsletter/12-02-08.htm#predictions>

The Wellcome Trust, the UK Medical Research Council, and other funders in the UKPMC Funders Group (some public, some private) require libre OA when they pay part of the cost of publishing an article. I recommend that practice (#11). However, that libre OA is gold, not green, and the question doesn't come up for funders who subsidize research but not publishing. But when a funder pays some publishing costs, then it can demand libre OA, and it can do it now without boosting the rejection rates for its grantees. When a publisher receives an acceptable publication fee for an article, then it needn't be concerned to protect a future revenue stream from that article.

<http://www.earlham.edu/~peters/fos/2008/04/revision-to-oa-mandate-at-mrc.html>

<http://www.earlham.edu/~peters/fos/2007/10/funders-and-publishers-agree-to-remove.html>

Recommendation: For now, green OA mandates for funded research should require gratis OA. But when all or most journals provide libre OA, or when a libre OA mandate would elicit journal accommodation more often than refusals to publish, then funders can shift their demand from gratis to libre. Even now however, funders should demand libre OA when they pay for publication, not just for research.

If a funder does want to mandate libre OA—for example, because it pays some of an article's publication costs—, what flavor of libre OA, or what license, should it demand? I recommend the CC-BY (Attribution) license or the equivalent. It imposes the fewest restrictions on users while preserving the author's right of attribution, and it's fully compatible with the BBB definitions of OA. For these reasons, it's also the license recommended by the Open Access Scholarly Publishers Association and the SPARC Europe seal of approval program.

<http://www.oaspa.org/>

<http://www.doaj.org/doaj?func=loadTempl&templ=080423>

(5) Deposit what?

Most funder and university OA policies today don't ask authors to deposit the published edition of an article, but merely the final version of the author's peer-reviewed manuscript. That's the version approved by peer review but not yet refined by copy editing or final formatting.

This is a working compromise. It gives users the benefit of the peer-reviewed language, and it doesn't ask more than most publishers are willing to give. If an embargo is a compromise by time, this is a compromise by version. Like any compromise, it's not as good as getting everything you want. But if (today) requiring authors to deposit the published edition would lead more publishers to refuse to publish their work, then (today) the compromise is more desirable than a stronger policy.

But the funder policy can also require deposit of data files. Data are uncopyrightable facts. Even in countries with a quasi-copyright "database right," the right belongs to the compiler, who is the researcher more often than the publisher. Hence, publishers rarely oppose OA for author data. It doesn't interfere with anything they're selling. In fact, many publishers who oppose OA for articles actually recommend or require OA for data. It facilitates research and enhances the value of what they're selling.

Recommendation: Require the deposit of the final version of the author's peer-reviewed manuscript, not the published version. For publishers who worry about circulation of multiple versions of the peer-reviewed text, offer the option to replace the author's manuscript in the repository with the published edition. Require the deposit of data generated by the funded research project. In medicine and the social sciences, where privacy is an issue, OA data should be anonymized.

A peer-reviewed manuscript in an OA repository should include a citation and link to the published edition. This practice helps authors by offering proof and provenance of peer review; it helps readers by allowing them to identify peer-reviewed works; and it helps publishers by spreading their brand and recognizing their standard of peer review. Does this rule belong in a funder policy, or is it for authors and repository managers? Either way, I recommend it.

<http://www.earlham.edu/~peters/fos/newsletter/05-02-05.htm#brand>

As time passes, and OA becomes the default for more and more kinds of research literature, it may be possible to require green OA for the published versions of articles without harming authors. Institutions should watch for that moment.

Likewise, institutions should adapt their OA policy to the evolving forms of quality-controlled research publications, which needn't remain confined to what today are called journals. The purpose of these recommendations is to maximize OA for peer-reviewed research, not to entrench journals against change.

If you want to mandate open data, then what license should you demand? I recommend the public domain rather than an open license. For the supporting argument and a full analysis of the issues, see the Science Commons Protocol for Implementing Open Access Data.

<http://sciencecommons.org/projects/publishing/open-access-data-protocol/>

Some policies require OA for conference presentations. That can be a desirable option, but it's not as essential as OA for data or peer-reviewed articles. For research resulting in books, see #8 below.

(6) Scope of policy?

Should you apply your OA mandate only to research for which you are the sole funder? Or should you apply it even when the researcher has funding from other sources as well?

It can't be the first, or publishers who want to derail an OA mandate only have to give researchers a penny of supplementary funding. But if partial funding is enough to trigger the policy, should there be a threshold?

The Public Access to Science Act, introduced in the US House of Representatives in June 2003, tried to set a threshold. It applied an OA mandate to all works "substantially funded" by the federal government. (The bill was the first anywhere that would have mandated OA; it never came up for a vote.)

<http://www.earlham.edu/~peters/fos/newsletter/07-04-03.htm#sabo>

The problem is that the substantiality threshold is vague. It's not obvious to researchers, who would therefore not know whether they were bound to comply. Nor is

it obvious to funding agencies, who would therefore not know whether to demand compliance. We could replace the vague threshold with a sharp one, for example, a specific percentage like 30%. But without a lot of complicated bookkeeping, researchers wouldn't know whether a particular grant exceeded 30% of their total funding, for example, if different grants kicked in at different times and covered different aspects of the project. Nor would funders know when their grant exceeded 30% of the grantee's total without examining the grantee's financial records.

Recommendation: For simplicity and enforceability, follow the example of most funding agencies: apply your OA policy to research you fund "in whole or in part."

This rule also has the benefit of making the policy clear when a research team has many members, or an article many co-authors, and only one of them is your grantee. Your interest in OA won't be held hostage by unfunded or differently-funded co-authors, whether they were good faith participants or added cynically to evade the policy. Grantees bear the responsibility of telling their co-authors that they are bound by the funder's OA policy.

What about the scope of the policy in time? I recommend following most agencies: make the policy prospective only, at least at first. It applies to all research funded on or after a certain date. Or use the NIH variation on this theme: the policy applies to all articles (based on funded research) accepted for publication on or after a certain date. I also recommend the second step pioneered by the Wellcome Trust: one year after mandating OA prospectively, mandate OA for the results of all previous grants still generating publications.

(7) What embargo?

All funder OA mandates allow delays between the publication of a work and its OA release to the public. The main reason is to give publishers a chance to recoup their expenses and relieve the pressure to refuse to publish works subject to OA policies.

The appropriate length of an embargo is a matter of dispute and experimentation. All medical funders with OA mandates use six month embargoes, except the NIH, which uses a 12 month embargo. The EU pilot project uses different embargo periods for different fields, ranging from 6 to 12 months. The European Research Council currently uses a six month embargo but says it is "keenly aware of the desirability to shorten" it. The publishing lobby generally wants longer embargoes than any of these, even though many individual publishers voluntarily provide OA to their publications after a 6–12 month delay, with no apparent harmful consequences.

The embargo periods built into OA mandates represent permissible delays, not mandatory delays. For example, the Wellcome Trust policy requires OA "as soon as possible and in any event within six months of the journal publisher's official date of final publication." No policy anywhere requires a mandatory delay.

An embargo in this sense is about when a work becomes OA, not when it is deposited (without OA) in a suitable repository. It's perfectly consistent, and even desirable, for OA policies to allow delays before deposits become OA, but not to allow delays for deposits themselves (see #9).

An OA mandate undercuts its own force if it allows an embargo but puts no upper limit on its duration. Without a deadline, grantees never need to make their work OA and there's no effective sense in which the policy is mandatory. For this purpose, vague deadlines ("within a reasonable time after publication") are equivalent to no deadlines.

Recommendation: Cap the permissible embargo at six months. Any embargo is a compromise with the public interest; even when they are justified compromises (and I've argued elsewhere that they are), the shorter they are, the better.

If publishers insist that a six month embargo will harm them, ask for evidence that the existing OA mandates with six month embargoes have harmed them. At least in your own mind, ask as well why an extra increment of revenue for publishers should justify an extra incursion on the public interest. If publishers insist that funders should not allow any embargoes shorter than those the publishers themselves allow, ask why you should put publisher interests ahead of your own interests. If publishers insist that a study is necessary before adopting the policy you have in mind, point out that many studies are already under way, including the natural experiment of monitoring the consequences of existing OA mandates. At most, offer to modify your embargo period in light of future evidence. But be clear that future evidence may show that shorter embargoes may achieve the same policy objectives as longer ones.

(8) What exceptions?

If your policy spells out the types of work to which it applies (see #5), then it usually needn't spell out the types to which it doesn't apply. The second is implied by the first. But you can reassure anxious researchers by enumerating some of the exceptions anyway. That's why the 2006 version of FRPAA explicitly exempted work not intended for publication (such as lab notes, phone records, preliminary data and analyses, drafts), work rejected by publishers, and work that is only published in royalty-producing forms like books. Enumerating the exceptions can also disarm lobbies ready to pounce, which is why FRPAA explicitly exempted patentable discoveries and classified research.

Recommendation: Exempt private notes and records not intended for publication. Exempt classified research. Either exempt patentable discoveries or allow an embargo long enough for the researcher to apply for a patent. (This could be a special embargo not allowed to other research.) And unless you fund research which often results in royalty-producing books, exempt royalty-producing books.

There's no need to make a permanent exemption for patentable research. Since your policy applies to work that grantees have chosen to publish, it does not force their hands or compel disclosures they are unwilling to make.

Books are hard cases for funder policies. One principle requires funded work to be OA, especially when the funds flow from taxpayers. But another principle limits OA to works, like journal articles, which authors publish without expectation of payment. Despite this tension, I've defended the possibility of OA mandates for books, even royalty-producing books.

<http://www.earlham.edu/~peters/fos/2008/01/very-idea-of-funder-oa-mandate-for.html>

<http://www.earlham.edu/~peters/fos/2008/01/more-on-possibility-of-funder-oa.html>

The critical condition is author consent. Researchers must know when applying for a grant that the funder's OA policy will apply to books based on the funded research, not just journal articles. While author consent suffices (under the principle, *injury non fit volenti*), two other considerations support the justification and even facilitate author consent. First, for nearly all research monographs, the benefits of OA outweigh the value of royalties. Why? Because, for nearly all research monographs, royalties range from meager to zero, and the negligible royalties do not diminish the value of OA in an enlarged audience and increased impact. Second, a growing body of evidence shows that, for monographs, an OA edition boosts sales of the priced, print edition.

<http://ur1.ca/14hz>

(9) What timetable?

Most repository software now allows deposits to be open or closed, at the author's choice. Submissions are not OA just because they are on deposit; they are OA because they are on deposit and the author has chosen to make them OA. If a work is initially "dark," the author or repository manager may switch it to OA at a later date.

This feature allows us to distinguish the timing of deposit from the timing of OA release. Publisher objections to OA do not apply to dark deposits. So even when a publisher requires an embargo before OA, authors may deposit their postprints much earlier and switch them to OA when the embargo runs. The advantage of early deposit is that authors or repository managers don't have to hunt down the manuscript 6–12 months later, let alone scan or rekey it. Nor do authors have to interrupt a new research project to tie up a loose end on an old one.

At repositories like PubMed Central, which put submissions into a common format and add links and other features, immediate deposit gives the funder time to do the needed processing and still release the OA version at the end of the embargo period. If the deposit isn't made until the embargo period ends, then the processing delays the OA release even further.

Recommendation: Require deposit of the full text and metadata at the time an article is accepted for publication. Require OA for the metadata from the time of deposit, even if the full text must initially be dark. Require OA for the full text as soon as the publisher embargo runs, or as soon as your own deadline arrives, whichever comes first.

I call this the dual deposit/release strategy and Stevan Harnad calls it immediate deposit / optional access. It insures that the article is in the repository and ready to be switched to OA, that the metadata are making the article visible to search engines and potential users, and that the article is switched to OA, sometimes automatically, at the earliest possible moment.

<http://www.earlham.edu/~peters/fos/newsletter/08-02-06.htm#dual>

<http://openaccess.eprints.org/index.php?/archives/71-guid.html>

EPrints and DSpace repositories support an “email request button” allowing users to request an email copy of an article on dark deposit. The request is automatically routed to the author, who only needs to click “yes” to send the text on its way. As long as we have to live with embargoes, we can mitigate the damage with early deposits, OA metadata, and email circulation.

(10) Source of permission?

There are two basic ways for you to secure the needed permissions for OA and steer clear of copyright infringement.

First, you could get the permissions from publishers, after authors transfer their rights. In practice, mandates of this type require OA to a certain version on a certain timetable except when the grantee’s publisher won’t allow it. The funder policy defers to publisher policies. For example, the UK Economic & Social Research Council (ESRC) requires OA “where this is permitted by publishers’ licensing or copyright arrangements.” The Canadian Institutes of Health Research (CIHR) requires OA “where allowable and in accordance with publisher policies.”

Second, you could close this loophole and get the permissions from authors before authors transfer any rights to publishers. Mandates of this type take advantage of the fact that funders are upstream from publishers and their funding contracts bind researchers long before those researchers sign copyright transfer agreements with publishers. Your funding contract can require grantees to retain the right to authorize OA on your terms. When a given publisher will not allow OA on your terms, you can require the grantee to look for another publisher. This approach was pioneered by the Wellcome Trust in 2004 and subsequently adopted by the Arthritis Research Campaign (ARC, UK), Cancer Research UK (CR-UK), Department of Health (UK), Howard Hughes Medical Institute (HHMI, US), Joint Information Systems Committee (JISC, UK), Medical Research Council (MRC, UK), and the National Institutes of Health (NIH, US).

The first method removes all the teeth from the mandate and puts publisher interests ahead of funder interests. It makes permission depend on publishers, who will often withhold it. The second method mandates OA to all the funder's research, not just a subset of it, and replaces contingent publisher permission with assured author permission. If the second method triggered more publisher refusals than accommodation, then it would hurt authors and limit their freedom to submit to the journals of their choice. But in fact publisher refusals are very rare, and publishers look for ways to accommodate these policies. It helps that this method is now adopted by some very large funders, including the NIH, the largest funder of non-classified research in the world.

Recommendation: If you're serious about wanting OA for the research you fund, close the loophole and adopt the second strategy. If you decided (back in #1) to require OA rather than request it, then this recommendation follows directly from your earlier decision. Policies with loopholes for unwilling publishers may use mandatory language, but they function like requests and cannot provide the needed permissions for 100% of your research until 100% of your grantees' publishers agree to play along. The second method shows that you don't have to leave this decision up to publishers.

In the US, two federal regulations give federal funding agencies "a royalty-free, non-exclusive and irrevocable right to reproduce, publish, or otherwise use the work for Federal purposes, and to authorize others to do so." One regulation, 45 CFR 74.36(a) (2003) applies to all agencies within the Department of Health and Human Services, including the NIH. The other, 2 CFR 215.36(a) (2005) applies to all federal agencies, not just to those within HHS.

<https://www.law.cornell.edu/cfr/text/45/74.36>

<https://www.law.cornell.edu/cfr/text/2/215.36>

In countries with such standing licenses, it should be unnecessary to rely on publisher consent and unnecessary to ask grantees to retain any rights. For example, the 2006 version of FRPAA relied on the second of these licenses. However, the method used by the NIH policy now has the advantage of being battle-tested. If it permitted any copyright infringement, publishers who bitterly oppose the policy would be in court suing to stop it. But because the policy doesn't allow any infringement, and has survived this kind of "hostile scrutiny," the publishing lobby must turn to Congress instead and ask it to amend US copyright law.

<http://www.earlham.edu/~peters/fos/newsletter/10-02-08.htm#nih>

(11) Pay publication fees?

When your grantees want to publish in a fee-based OA journal, will you help them pay the fees? You could allow them to use grant funds for this purpose, letting them decide its priority relative to other research needs. Or you could allow them to request

supplemental funding specifically for the fees. Some funders do one, some the other, and some don't offer to pay the fees at all.

The main reason to pay these fees, when you can, is to support gold OA alongside green OA. There are many reasons to do this, but the main one is to cultivate peer-reviewed OA journals in case the growing volume of green OA causes the decline or demise of TA peer-reviewed journals. (Note that paying these fees only supports the fee-based OA journals, and most OA journals charge no fees.) Will green OA actually cause the decline or demise of TA journals? Nobody knows yet; currently the evidence suggests not, but that may change as the volume of OA rises in many different fields.

<http://www.earlham.edu/~peters/fos/newsletter/09-02-07.htm#peerreview>

Recommendation: If you can afford it, offer to pay the fees. If you can, offer supplemental funds for the purpose. When journal publication fees must compete with equipment, assistants, and supplies, grantees may have a disincentive to publish in OA journals, which is the opposite of what's intended. But if you can't offer supplemental funds, allowing grantees to use grant funds is better than nothing. Whenever you pay publication fees, then demand that the journal provide libre OA (#4).

Do not offer to pay publication fees at hybrid OA journals using the "double-charge" business model: charging publication fees for OA articles without reducing subscription fees in proportion to the number of OA articles they publish. Paying their fees simply enriches cynical publishers at the expense of funders and libraries. Note that not all hybrid OA journals use the double-charge model, and there's no reason to shun those, like Oxford and Springer, which cut subscription prices roughly in proportion to author uptake of their OA option. Last November, ETH Zürich became the first institution otherwise willing to pay publication fees to draw the line at double-charging hybrid journals. Its rule should become the norm.

A willingness to pay publication fees will give one more answer to TA journals worried that green OA will force them to convert to OA. This policy tells them that if they do convert, funders will help pay the costs of publication. At some agencies, this is as important to the funder as it is to the publisher. Many funders who mandate green OA want to know that if green OA does undermine TA journal subscriptions, then a new generation of OA peer-review providers will be ready to take their place.

NIH is willing to pay the fees, but it does not allocate new funds for them, it puts a reasonableness condition on them, and offers to pay reasonable fees at both OA and TA journals (for example, publication fees at OA journals, page and color charges at TA journals).

<http://publicaccess.nih.gov/FAQ.htm#810>

I support the reasonableness condition. There's no need to pay whatever fee a journal chooses to charge. But while the parity between OA and TA journals seems even-handed and fair, I don't think it's justified. On the contrary, I believe that public funding agencies like the NIH have an obligation to put an OA condition on their largesse. If they pay page or color charges at a TA journal, they should demand that the article be OA (indeed, libre OA, #4).

(12) What sanctions?

What if your grantees don't comply with your policy? How will you nudge them toward compliance? If need be, how will you enforce the policy?

OA mandates put an OA condition on a research grant, which implies that if the condition is not met, the funding may be withheld. No funder policy anywhere imposes a penalty beyond that, such as forcing grantees to repay funds already disbursed. Most policies, including all of the RCUK policies and FRPAA, are silent on sanctions. The NIH doesn't even take past compliance into account when evaluating new applications, but it does say that "non-compliance will be addressed administratively, and may delay or prevent awarding of funds."

<http://publicaccess.nih.gov/FAQ.htm#763>

In September 2008, the NIH sent a letter to grantees, reminding them of their obligation under the funding agreement.

<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-08-119.html>

<http://www.earlham.edu/~peters/fos/2008/09/more-on-how-nih-encourages-and-monitors.html>

The reminder was very effective in nudging non-compliant grantees toward compliance. Earlier in the year Science Magazine described what options the agency had up its sleeve. "Other possible ways of forcing scofflaws to comply range from having a program director call with a reminder to 'the most extreme: suspending funds,' says NIH Deputy Director for Extramural Research Norka Ruiz Bravo."

<http://www.sciencemag.org/cgi/content/full/319/5861/266>

<http://www.earlham.edu/~peters/fos/2008/01/more-on-nih-oa-mandate.html>

Just last month the Wellcome Trust took began issuing similar reminders in what it called a compliance audit.

<http://www.earlham.edu/~peters/fos/2009/01/compliance-audit-for-wellcome-trust-oa.html>

Both the NIH and the Wellcome Trust send their compliance reminders to a grantee's institution, not just the grantee. This is a gentle and effective way to give universities their own interest in grantee compliance. The NIH laid the groundwork for this step by making clear in its policy that "institutions and investigators are responsible for ensuring that any publishing or copyright agreements concerning submitted articles fully comply with this Policy."

<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-08-033.html>

<http://www.earlham.edu/~peters/fos/2008/01/nih-releases-its-new-oa-policy.html>

The University of Minho has another way to spread around the interest in grantee compliance, although it's easier for universities to apply than funders. It provides a "financial supplement" to departmental budgets in proportion to the departmental compliance rate. This creates an incentive for departments to create their own incentives, and to help faculty understand the policy and deposit their articles.

<https://mx2.arl.org/Lists/SPARC-OAForum/Message/2807.html>

<http://www.earlham.edu/~peters/fos/2006/03/encouraging-oa-archiving-at-minho.html>

The NIH policy also requires grantees to use the "Manuscript Submission reference number" in any future progress reports or funding applications "when citing applicable articles that arise from their NIH funded research." Since grantees obtain the needed reference numbers only when they deposit their work in PMC, enforcement is seamlessly blended into the routine.

Recommendation: There's a lot of wisdom evolving on ways to ensure compliance without cracking the whip. Start gently with reminders. Involve the grantee's institution, and make clear that both parties are responsible for compliance. Be prepared to delay or withhold funds. Require proof of deposit in progress reports and future funding applications.

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Additional questions for universities

In most respects universities should follow the recommendations for funding agencies, replacing "grantees" with "faculty" and "research you fund" with "research produced at your institution." But here are some areas where their different circumstances raise different policy questions.

(13) Where deposit?

Funders may be agnostic about the OA repositories in which grantees deposit their work (#3), but universities should require faculty to deposit their work in the institutional repository. All the advantages of depositing in their IR listed in #3 still apply of course. But when the policy-maker is the university itself, there are new advantages to take into account. In particular, universities should recognize their interest in showcasing the work done at the university and their interest in helping researchers elsewhere benefit from it.

Recommendation: Launch an institutional repository, staff it adequately, and require faculty to deposit their peer-reviewed postprints in it. Remember the lessons of #1 above: launching a repository and requesting and encouraging deposits are not enough. The hard part of achieving OA, and not just endorsing it, is the policy to fill the repository. When the repository is your own, you're in an especially good position to set policy, monitor compliance, educate users, and provide incentives and assistance. For more on one the most powerful incentives, see #16.

Of course, depositing in the IR does not prevent faculty from depositing in their disciplinary repository as well, if they like. If the IR is willing, it could even use SWORD to automate those deposits and save faculty the trouble of making double deposits.

<http://www.ukoln.ac.uk/repositories/digirep/index/SWORD>

(14) What may be deposited?

Apart from what must be deposited (#5), what may be deposited?

Even when funding agencies host their own repositories, they tend not to allow grantees to deposit work they are not required to deposit. But if a university requires the deposit of peer-reviewed postprints, it may allow, and even encourage, the deposit of much else.

Recommendation: Allow the deposit of unrefereed preprints, previous journal articles, conference presentations (slides, text, audio, video), book manuscripts, book metadata (especially when the author cannot or will not deposit the full-text), and the contents of journals edited or published on campus. The more categories you allow, the more you cultivate a culture of self-archiving.

I'm only listing the research-related types of work that authors might deposit. But the university itself could consider other categories as well, such as open courseware, administrative records, and digitization projects from the library. For theses and dissertations, see #17.

(15) Allow faculty to opt-out?

While you should not allow publisher opt-outs (#10), faculty opt-outs are quite different. If you require faculty to provide OA to their peer-reviewed manuscripts, without

exception, they may sometimes be unable to publish an otherwise acceptable article in the journal of their choice.

If you allow opt-outs, then you allow faculty to publish in any journal where their work is accepted, an important kind of faculty freedom. If your opt-outs only apply to OA, not to deposits, then you continue to respect that freedom but still collect all the articles in the repository. If your opt-outs are always temporary, like embargo policies, then all peer-reviewed manuscript on dark deposit will eventually be switched to OA.

A mandate with this kind of opt-out is not a contradiction in terms. It still does the important work of shifting the default from non-OA to OA. Faculty who don't want their manuscripts to be OA on the usual timetable must go to the trouble of requesting a waiver. That's not a heavy burden. In fact, it's about as light as self-archiving itself. But we know that the light burden of self-archiving has deterred many faculty from doing it, and it's likely that the light burden of requesting a waiver will deter many faculty from doing so. Changing the default can change behavior on a large scale.

Recommendation: Allow faculty to opt-out. But make the opt-outs apply only to OA, not to deposits—that is, require deposit of all faculty peer-reviewed postprints, even if some deposits are initially dark. And make the opt-outs temporary, so that all dark deposits can eventually be switched to OA. Harvard adds a nice touch: don't allow faculty to request opt-outs for all their works at once; require separate requests for separate articles.

As more TA journals convert to OA, and more accommodate university OA mandates, and as more universities adopt OA mandates, then universities may safely strengthen the policy by phasing out opt-outs or increasing the difficulty of obtaining them. If publishers accommodate university OA mandates, then opt-outs will not be necessary in order to protect faculty freedom to publish in the journals of their choice. When enough universities adopt OA mandates, we'll be there. But until then opt-outs preserve faculty freedom without reducing repository deposits or OA.

(16) Internal use?

You might think that an OA mandate has nothing to gain from incentives. But all OA mandates use some combination of mandatory language, clear expectations, encouragement, education, assistance, and incentives. Your OA mandate will cause compliance to edge toward 100%. But incentives can accelerate the process and remove some friction from the system.

Recommendation: Whenever the institution reviews faculty publications for promotion, tenure, funding, or any other internal purpose, limit the review of journal publications to those on deposit in the IR. This powerful incentive was adopted last year at Napier University and the University of Liege. Use your repository for internal evaluations of research, not just for external showcasing of research. Review the articles

faculty want you to review, as before, but require that they be on deposit in the repository. Stop circulating stacks of paper to promotion and tenure committees and start circulating URLs to OA editions of the same work.

This recommendation will not lower standards for promotion and tenure—a common worry when anyone proposes a tweak to the process. It's not about P&T standards at all. It's about what faculty do with the articles on which they wish to be judged, not how they select those articles or how the committee evaluates them.

This a policy that will get faculty attention without lowering institutional standards, limiting faculty freedom, or increasing their rejection rate at journals. It's a way of saying: "Yes, we will evaluate your work on its merits, looking for quality. But we also care about access. The point of doing good research is to make it available to others who can build on it. This isn't an irrelevant bureaucratic requirement. It's a guarantee that your work will be as useful as possible. Our mission is not merely to encourage good work, but to make good work available to the world."

(17) Apply to ETDs?

Should your OA mandate also apply to electronic theses and dissertations (ETDs)? These are not peer-reviewed publications, or even preprints in the usual sense of the term. But they are careful works of scholarship, vetted over a longer time with more care than peer-reviewed journal articles. When approved, your faculty are saying that they are original and significant. Those are exactly the kinds of works that ought to be available to others. Even when dissertations are for sale from services like ProQuest, there's rarely a way to preview them for relevance before spending your money. Most libraries don't buy dissertations and only hold the ones written and approved at the institution. In an article a few years ago, I called them the most invisible form of useful literature and the most useful form of invisible literature. In the same article I argued that an OA requirement would actually elicit better work by asking students to write for a real audience beyond their committee.

<http://www.earlham.edu/~peters/fos/newsletter/07-02-06.htm#etds>

Recommendation: Extend your OA mandate to apply to ETDs. The fact that they are not publications means there is no publisher to demand payment or permission. Moreover, you start to cultivate the habit of self-archiving in the next generation of scholars. You send the message that green OA should be the default for significant works of scholarship.

Contrary to student fears, sometimes fed by faculty advisors, the evidence shows that OA dissertations do not reduce the author's ability to publish revised chapters as journal articles. But when a student has a reasonable fear, a dean could grant a temporary delay to the OA requirement. The whole work should be deposited as soon as it is approved, but the affected chapters could be left dark for a time. Similar temporary

exemptions could be granted to students who have previously published a chapter as a journal article, and transferred copyright to a publisher, and students who made a patentable discovery and need time to apply for a patent.

A widely discussed controversy at the University of Iowa last year suggests that the period of dark deposit should be longer for creative writings, submitted for fine arts degrees, than research theses and dissertations submitted to other departments.

<http://www.earlham.edu/~peters/fos/2008/03/controversy-over-oa-for-fine-arts.html>

(18) Who decides?

Until 2008, university OA mandates were all adopted by administrators and one might well have wondered whether they were welcomed or resented by faculty. In February 2008 we saw the first faculty vote on an OA mandate, at the Harvard Faculty of Arts and Sciences. The faculty approved it unanimously. Soon the faculty at Harvard Law School also adopted an OA mandate by a unanimous vote, as did the faculty at the Stanford School of Education and Macquarie University.

It's too early to call this a trend. But if we look only at the 10 university mandates adopted in 2008, five were adopted by faculty themselves (Harvard FAS, Harvard Law, Stanford Education, Macquarie, and Stirling), and most of those were adopted unanimously (all but Stirling). The other half were adopted by administrators (Charles Stuart, Helsinki, Glasgow, Queen Margaret, and Southampton). As a tiebreaker, I can point out that the European University Association voted unanimously to recommend university-level OA mandates for its 791 institutional members in 46 countries.

Recommendation: Let the faculty decide. This method requires time for faculty entrepreneurs to educate their colleagues—sometimes a lot of time. But the result is more secure, more inspiring to faculty elsewhere, and more revealing of faculty attitudes (e.g., that low participation in self-archiving is more about lack of familiarity than informed opposition). However, a good policy adopted by administrators is still a good policy, and a lot better than no policy.

Conclusion

Here's a summary of the concessions to TA publishers built in to the policies I've recommended. The policy requires green OA and may encourage gold OA, but it doesn't require gold OA (#2). It requires gratis OA and may encourage libre OA, but it doesn't require libre OA (#4). It requires immediate deposit, but it doesn't require immediate OA (#7). It requires OA to the final version of the author's peer-reviewed manuscript, not to the published edition (#5). It gives publishers the option to replace the author's manuscript in the repository with the published edition (#5). It puts a citation and link to the published edition in the OA repository copy (#5). It offers to pay publication fees

at fee-based OA journals, at least when the funder can afford to do so, directly helping OA publishers and creating a safety net for TA publishers (#11).

Note that many of the recommendations are time sensitive. Some stronger provisions which could backfire today will be wise and justified later. The case for compromise is not fixed and permanent. The balance of considerations will change over time.

Even when authors retain the right to authorize OA, giving publishers no legal ground to block it, publishers retain the right to refuse to publish any work for any reason. If the goal is to maximize OA to peer-reviewed literature, then a good policy depends on accommodation from peer-reviewed journals, and would be undermined by publisher refusals to publish work subject to an OA policy. But publisher accommodation doesn't depend only on the terms of a given policy; it also depends on the number and strength of other policies. If a publisher can refuse to publish work subject to a strong OA policy, and still find enough other good work to publish, then it might do so. But this will change as more institutions adopt OA policies and more new work is subject to them. Likewise, as more TA journals convert to OA, and as more TA journals adapt to OA mandates without converting, then funders can strengthen their OA policies without increasing the rejection rates for authors.

Funders and universities should watch the shifting balance of power and seize opportunities to strengthen their policies. But the moments of opportunity will not be obvious and may not even be limned by objective evidence. The reason is that there is some self-fulfilling leadership at work here. Assess the climate created by existing policies and existing journals, but also assess the likely effects of your own action. Every strong, new policy increases the likelihood of publisher accommodation. Hence, every strong, new policy creates some of the conditions of its own success. Policies elsewhere don't just cover research elsewhere; they are implicit invitations to common action for a common purpose. View your own policy not only as a way to bring about OA for the research you control, but as a way to make the way easier for other institutions behind you.

Here are the major points on which the policy I recommend could be strengthened as circumstances change. It's now a green OA mandate but could become a gold OA mandate (#2). It's now a gratis OA mandate but could become a libre OA mandate (#4). It's now limited to the author's peer-reviewed manuscript but could later apply to the published edition (#5).

Postscript

For earlier versions of some of these thoughts, see:

Three principles for university open access policies, SOAN for April 2, 2008

<http://www.earlham.edu/~peters/fos/newsletter/04-02-08.htm#principles>

Ten lessons from the funding agency open access policies, SOAN for August 2, 2006

<http://www.earlham.edu/~peters/fos/newsletter/08-02-06.htm#lessons>

While the present article represents my current thinking, I stand by most of what I said in the older articles and they contain more detail on many of the points they cover.

In #18, I said it was too early to call unanimous faculty votes for university OA policies a trend. But now I can call it a trend. I wrote a follow-up essay in June 2010 enumerating 27 cases of unanimous faculty votes. After publishing the essay, I moved to the list to the Open Access Directory (a wiki), where users updated it further. The list now covers 50 policies.

<http://www.earlham.edu/~peters/fos/newsletter/06-02-10.htm#votes>

http://oad.simmons.edu/oadwiki/Unanimous_faculty_votes

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