The OA Interviews: Harvard's Stuart Shieber

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Stuart Shieber is the Welch Professor of Computer Science at Harvard University, [Faculty Co-Director](#) of the [Berkman Center for Internet and Society](#), Director of Harvard's Office for Scholarly Communication ([OSC](#)), and chief architect of the Harvard Open Access ([OA](#)) Policy — a 2008 initiative that has seen Harvard become a major force in the OA movement.

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When in 1989 Stuart Shieber became a Harvard faculty member he was, for reasons he never fully understood, appointed to a series of library committees. Whatever the reason for his appointment, it was to prove an educational experience: As he sat through the various committee meetings, Shieber began to see the world through the lens of the library, a perspective that led him to the inevitable conclusion that there was something amiss in the world of scholarly communication.

As he puts it, "[I]t became increasingly clear to me that some of the problems that libraries faced in dealing with providing access to the scholarly literature were not library problems per se, but rather, problems in how the scholarly communication systems are set up."

This is worth noting because when researchers face difficulties accessing scholarly journals they tend to assume that something has gone awry in the library, not that there is a fundamental flaw in the way research is communicated.

It was only in sitting through all those library committee meetings that Shieber came to realise the research community had a serious problem on its hands, a problem moreover that could only be expected to get worse unless action was taken. And it was clear to Shieber that researchers themselves would need to play their part in resolving the problem.

Stated simply, the problem is this: When researchers publish their papers, they routinely sign over the commercial exploitation rights in them to the publisher. The publisher then packages a bunch of papers together and sells them back to the research community in the form of a journal subscription. While publishers undoubtedly add some value to the end product, researchers do most of the work — not just in authoring the papers in the first place, but also in peer reviewing their colleagues' papers (without charge). Yet, as any librarian will tell you, subscription charges are inexcusably high, and getting higher each year.

In short, publishers are overcharging for scholarly journals. And since it is they who pay the bills, it was librarians who first sounded the alarm. However, since the costs do not come from their budgets, and journals are made available in institutions on a free-at-the-point-of-use basis, most researchers have been unaware of the seriousness of the problem. For their part, publishers have consistently [denied](#) that they are overcharging.

Why are journals so expensive? They are expensive for a number of reasons, but mainly because there is a disconnect in the scholarly journal market. That is, the people who pay journal subscriptions are not the people who use the journals. As we shall see, this means that there is no effective market mechanism to control prices.

And as the number of papers published continues to grow, and libraries face ever greater pressure on their budgets, so the struggle to provide faculty with access to all the papers they need has become ever more serious. This phenomenon is now generally referred to as the "[serials crisis](#)".

As I hope will become apparent, it helps to see the serials crisis as a double-headed problem. As libraries are forced to cancel more and more journals each year, researchers face a growing *accessibility* problem. However, this *accessibility* problem is merely a symptom of the deeper

problem — what one might call the *affordability* problem. The key challenge, of course, is to find a solution.

Open Access

Over the years various solutions to the serials crisis have been proposed. However, the one that has gained the greatest mindshare is Open Access (OA). And it is no surprise that librarians played a key role in the development of the OA movement — not least by co-founding the Scholarly Publishing and Academic Resources Coalition (SPARC) in 1998, and constantly promoting the merits of OA.

Essentially, advocates for OA argue that all published research can and should be made freely available on the Web, either by means of green OA, in which researchers continue to publish in subscription journals but then self-archive their papers in their institutional repository (usually after an embargo period so that publishers can recover their costs), or by means of gold OA, in which researchers (or more usually their funders) pay publishers an article-processing charge (APC) to ensure that their paper is made freely available on the Web at the time of publication. The latter can be achieved either by publishing in an OA journal (the entire contents of which are made freely available), or in a hybrid journal (a subscription journal in which individual papers can be made OA if the author pays an APC).

Concluding that Open Access offered a viable solution to the double-headed problem facing the research community, Shieber began to advocate for OA at Harvard.

It helped that in 2001 Harvard had appointed Steven Hyman as provost. Formerly Director of the US National Institute of Mental Health (NIMH), one of the 27 separate institutes, centres, and offices that form the National Institutes of Health (NIH), Hyman had been involved in the debate surrounding the Public Access Policy that the NIH eventually introduced in 2005. The NIH Policy requires that the output from all NIH-funded research is made freely available in the US National Library of Medicine's PubMed Central no later than 12 months after publication.

Informed about the issues, and sympathetic to the concept of Open Access, on his arrival at Harvard Hyman formed a committee on scholarly publishing, and appointed Shieber as Chair.

Two years later, in 2007, the Committee issued a report containing a number of recommendations, including the proposal that Harvard establish a policy promoting Open Access among Harvard faculty.

This saw Harvard embark on a series of OA initiatives that would see the University become a major force in the OA movement. And it was Shieber who was tasked with driving these initiatives.

The revolution began on 12th February 2008, when by unanimous decision Harvard's Faculty of Arts and Sciences (FAS) voted to introduce a green OA policy.

The news was immediately hailed by the OA movement as a major development — a sentiment that *Library Journal* summed up by describing the vote as "a shot heard 'round the academic world."

At the time OA advocate, and (currently) Director of the Harvard Open Access Project (HOAP), Peter Suber described the significance of the decision in this way: "Harvard's new OA policy is not the first university-level OA mandate, but it's the first in the US, the first to be adopted by faculty rather than administrators, the first adopted policy to focus on permissions rather than deposits, and the first to catch the worldwide attention of the press and blogosphere."

What Suber understood that many commentators did not was that the task Shieber had taken on was a herculean one, not least because it had been decided that, rather than try to impose OA on faculty from above, it would be better to persuade them to impose it on themselves — by voting for an OA policy. As such, Shieber's achievement in shepherding the proposal to a positive vote said a great deal about his patience, his persistence, and his persuasiveness.

Moreover, since Harvard has no central faculty group to represent the whole University, Shieber knew he would have to repeat the process for each of Harvard's eight other faculties.

Why was it decided to take such a difficult road to OA? Explaining the logic to SPARC in June 2008, the then Harvard University Librarian Sidney Verba said, "There are universities where the president says something and the faculty do it. At Harvard, the president says something and everyone screams and goes in different directions."

Or as Hyman put it, "If we created a top-down dictum, the faculty would appropriately rebel. In other words, it was felt that going faculty by faculty permitted open discussion and would likely increase compliance."

The challenge for Shieber, therefore, was to win hearts and minds by convincing his colleagues of the logic and the merits of OA. Since the concept was new to many of them, and fraught with misunderstanding and misinformation, it was a challenge indeed.

"[M]y philosophy," says Shieber, "has been to take the process slowly, making sure to provide ample time and opportunity for faculty to hear about the policy, come to understand the issues, air their quite legitimate concerns, and assuage them, before any vote occurs."

It is a testament to the wisdom of this approach, argue OA advocates, that three months after FAS had voted for an OA Policy, Harvard Law School followed suit with its own policy. And as Shieber proceeded from faculty to faculty so further successes followed. Today eight of Harvard's nine faculties have an OA policy in place, with the most recent one adopted on November 26th by Harvard School of Public Health.[1]

"Stuart is the chief architect of the Harvard OA policies, which I regard as the most careful and effective anywhere," says Suber. "He's also the chief architect of the faculty support for those policies, which is an even more difficult achievement. Of the eight Harvard schools with OA policies, three adopted their policies by unanimous faculty votes and the rest by significant supermajorities."

He adds, "Everyone who has tried to muster faculty votes for anything, even parking regulations, and everyone who has tried to dispel the fog of misunderstanding about OA, knows how remarkable those votes are."

Permissions

However, as Suber pointed out, the Harvard policy was novel not just in the way it was introduced. It also focuses on "permissions". That is, rather than simply requiring researchers to deposit their papers in an online repository (as the NIH requires), the Harvard Policy commits them to grant Harvard sufficient rights to enable the University to make their research papers freely available, and it does this in a way that ensures the rights are transferred automatically when a paper is created, and then remains regardless of any subsequent contract the author might sign with a publisher.

Thus while it was undoubtedly heavily influenced by the NIH Public Access Policy, Harvard's Policy is by no means a clone. And it made sense to adopt a different approach, since researchers have a different kind of relationship with their institution than they have with a funder.

Above all Harvard's approach was intended to make it easier for researchers to withstand the pressure that publishers put on them to sign away all their rights. When a publisher presents a contract to a researcher keen to have his or her paper published, after all, it is not an invitation to enter into negotiations prior to agreeing terms, but a simple take-it-or-leave-it offer from an actor who has practically all the power in an asymmetrical relationship.

This had become all too apparent when, in 2006, Michael Carroll, a professor of law at Villanova University and board member of Creative Commons, had developed an author's addendum designed

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[1] Readers should note that the interview with Shieber that follows was completed before the Harvard School of Public Health had adopted its OA Policy.

to assist scholars assert their right to self-archive their papers. The theory was that by attaching the addendum to the publisher's contract when signing it, a researcher would modify the terms of the contract such as to permit him or her to make their work OA.

This had not proved overly successful. As Carroll (whom Harvard consulted when drawing up its OA Policy) explained to SPARC in 2008, "The author addendum route leaves faculty out there on their own fighting one by one. It's better for them to get together and express their values collectively."

If one compares the way the Harvard OA Policy works with the way the NIH Public Access Policy works one begins to understand its potential. "The NIH Public Access policy requires as a condition of any grant that the grantee must reserve sufficient rights to satisfy the deposit and distribution aspect of the policy," explains Shieber. "But the policy does not in and of itself grant any rights. The rights are presumably granted to NIH when the article is deposited in PubMed Central by the author or publisher."

By contrast, he adds, the Harvard approach, "sets up rights retention from the moment copyright vests in the article, not when the article is deposited. The policies state 'Each Faculty member grants to ⟨the university⟩ permission to make available his or her scholarly articles and to exercise the copyright in those articles.' The operative word is 'grants', not 'will grant sometime in the future' as in the NIH policy."

The key point, adds Shieber, is that, "[t]he immediate grant of the licence happens automatically; authors don't need to take any further action. And it predates and therefore survives any later transfer of rights".

Importantly, by passing the rights to the University (which then passes them back to the author), researchers are able to have a more symmetrical relationship with their publisher, since they now have the authority of the University at their back. In theory, Harvard researchers wanting to embrace OA no longer need each time they publish a paper to plead with the publisher to accept an author's addendum, but can simply remind it that their institution has placed a duty on them to make their work freely available.

(That is the potential. As we shall see, however, researchers are able to obtain an automatic waiver. In practice, therefore, subscription publishers are still able to call the shots if they choose to).

Another benefit of the approach pioneered by Harvard is that it allows for libre OA. That is, it removes not just price barriers, but permissions barriers (as noted). This means that in addition to being able to read articles freely (gratis OA), other researchers can reuse their content. As Shieber puts it, "One advantage of the Harvard-style open-access policies is that they retain by default very broad rights, which can be used to allow not only gratis use but libre reuse of the articles."

This is significant because researchers increasingly want to mine research papers (using software tools). As Shieber put it earlier this year to the Committee on Science, Space, and Technology Subcommittee on Investigations and Oversight of the US House of Representatives, "Opening access to the literature makes it available not only to human readers, but to computer processing as well. There are some million and a half scholarly articles published each year. No human can read them all or even the tiny fraction in a particular subfield, but computers can, and computer analysis of the text, known as text mining, has the potential not only to extract high-quality structured data from article databases but even to generate new research hypotheses."

But asserting the right of researchers to determine exactly what can be done with their papers, and by whom, is only to create the conditions for OA. What is also essential is to provide a technical platform that will allow those papers to be easily identified, and then freely accessed. To that end, in September 2009 Harvard launched an institutional repository (IR), which it named DASH, or Digital Access to Scholarship at Harvard. Once a paper is in DASH, it can be accessed by anyone in the worked with an Internet connection.

With DASH up and running Harvard could be confident that it had created the necessary infrastructure to solve the *accessibility* problem (to its own research at least). As an added bonus,

DASH would allow faculty to increase the impact of their research — by making it available to a much greater number of potential readers.

As we shall see, however, the final (and critical) piece of implementing an OA Policy is the hardest. Thus the real challenge for Harvard has lain in ensuring that all the papers produced by researchers subject to an OA policy are deposited in DASH.

To assist in this, in May 2008 Harvard established the Office for Scholarly Communication (OSC), to which Shieber was appointed Director. The mission of OSC is to spearhead "campus-wide initiatives to open, share, and preserve scholarship", and coordinate other University-wide open-access initiatives.

That same month Shieber launched his own blog (*The Occasional Pamphlet*) to help spread the word. And in May 2009 Peter Suber, the de facto leader of the OA movement, joined the University's Berkman Center for Internet & Society as a Faculty Fellow.

Leadership and plaudits

Although it had not been the intention, Harvard's decision to embrace OA was to act as a stimulus to other universities, especially those based in North America. Thus in June 2008, Stanford School of Education passed a Harvard-style OA policy. So too did MIT in March 2009; and so did Duke University in 2010. Today some 30 institutions have adopted the Harvard model for providing OA to their research.

"The adoption of an open access policy by the Harvard Faculty of Arts and Sciences was extremely important for latter efforts toward such policies, including at Duke," explains Kevin Smith, Director, Copyright and Scholarly Communication at Duke University. "I think it is fair to say that it was a *sine qua non* for many of us."

Echoing Smith, the Chair of the Open Access Working Group at MIT Richard Holton stresses the vital role that Shieber himself played. "I wasn't on the committee that drafted the MIT policy, but from what others say, Stuart's presence at one of the first meetings had a huge impact," he says. "He had already spent a couple of years working on these issues, and so we could simply take off from the point that he had reached."

Moreover, Holton adds, Shieber has continued to support and advise other universities. "In the last few years I have met with him frequently to share and coordinate ideas, and to learn from his vast experience; and he's been down to give advice to the working group", Holton explains. "I know that Ellen Duranceau[2] has also found him to be invaluable, especially in the early years of the policy. The libraries, who are actually implementing these policies, really benefit from having faculty voices working in support."

Long-standing OA advocate and self-styled archivangelist Stevan Harnad describes Shieber's contribution to OA in this way: "There's no question but that the two historic milestones on the road to Open Access in the US have been the NIH Green OA Policy (once it was upgraded from a request to a mandate) and the Harvard Green OA Policy, which is likewise a mandate, though self-imposed by a remarkable unanimous faculty consensus that was engineered by one brilliant OA advocate, Stuart Shieber, through two years of tireless work of informing and persuading."

Harnad adds, "The Harvard OA policy model has now been emulated many times over by US universities and has also done a great deal to help galvanize university support for OA worldwide."

In short, Shieber's dedicated advocacy has seen Harvard increasingly take a leadership role in the OA movement. It has also earned the University a great many plaudits and much praise.

In June 2008, for instance, SPARC named FAS a SPARC Innovator. And in June 2010 the OA publisher BioMed Central celebrated Harvard as "Open Access Institute of the Year".

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[2] MIT Program Manager for Scholarly Publishing and Licensing.

COPE

As the Harvard model started to propagate, Shieber began work on a new initiative. This was necessary, he felt, because green OA can only be viewed as the first step in a larger revolution. That is, he believes that green OA cannot provide a long-term solution. It is therefore also necessary to support and promote gold OA.

Shieber explains, "DASH and repositories like it at other universities are not sufficient in the long term to provide all of the functionality that journals provide. In particular, repositories don't provide peer review management, production services, and imprimatur. So while repositories can serve to shore up access in the short run, in the longer term some other mechanism will be needed to provide these services. Maybe that will be open-access journals, maybe something else."

This is an important point, both because it alerts us to the constant tension that exists between advocates of the two main forms of OA, while also reminding us of the dual nature of the problem OA is expected to solve.

The limitations of green OA, argue advocates of gold OA, is that it is parasitical on subscription journals. That is, since it is only feasible for so long as subscription journals continue to provide essential peer review services, it cannot provide a sustainable and durable solution. If subscription journals disappeared, so would green OA

Most green OA advocates disagree with this claim[3] but, if correct, it suggests that green OA can only ever solve the *accessibility* problem, not the underlying *affordability* problem — since it requires that libraries continue to pay the unsustainable cost of journal subscriptions.

Gold OA advocates argue that, by contrast, OA journals can solve both problems. Inherent to this claim, of course, is the assumption that gold OA can be a cheaper way of publishing research than subscription journals. This is what Shieber believes.

To understand this last claim we need to revisit the question of why subscription publishing is so expensive. The reason for this, says Shieber, is that it is not the users of subscription journals that pay for them, but intermediaries. This disconnect creates a moral hazard, because the users will have no interest in how much journals cost. As such, there is no market mechanism to control prices.

Explaining the problem in *PLoS Biology* in 2009, Shieber put it this way, "The 'consumers' of scholarly articles (the readers, typically faculty, students, and researchers at universities and other research institutions) are insulated from the cost of reading, that is, from the subscription fees paid by the institutions' research libraries. The expected result — inelasticity of demand and hyperinflation — can be amply seen in the statistics of serials costs paid by research libraries. As subscription fees hyperinflate, libraries with budgets that at best merely match inflation must inevitably drop subscriptions, reducing access to the scholarly literature."

In other words, the disconnect between the purchaser and the user creates an *affordability* problem, which in turn creates an *accessibility* problem.

Gold OA differs, argues Shieber, because it takes the buying decision away from the librarian and gives it to the author, who now acts on his or her own behalf (by paying to publish). Since authors will now care about the cost, the moral hazard characteristic of subscription publishing is avoided. In other words, the person buying the product (which is now a publishing *service*) will become sensitive to pricing (assuming the publication charges come from their own budget), and so shop around.

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[3] See for instance this statement: "The two OA publication models, just like the traditional conventional (non-OA) model (with financial, legal or technical barriers), are sustainable ways of not only making knowledge available, but also of conducting business activity."

Here we should add that since the content of any scholarly journal is unique, libraries cannot replace one journal with another. Authors, by contrast, generally have a choice when deciding in which journal to publish.

"[T]he market structure for the publication-fee revenue model does not exhibit the market dysfunction of the subscription revenue model", explains Shieber. "In particular, from the point of view of readers, multiple journals are economic complements, but from the point of view of authors, multiple journals are economic substitutes. Complementary goods do not compete in a marketplace, but substitutive goods do."

Importantly, therefore, argue gold OA advocates, unlike green, gold OA is sustainable. And it is for this reason they assume that it can solve both the *accessibility* and the *affordability* problems.

However, while Shieber had concluded that gold OA promised a more durable long-term solution than green OA, he had begun to worry about how the research community could transition to an OA publishing environment. With library budgets still fully committed to paying journal subscriptions, there would inevitably be difficulties funding gold OA, at least in the short-term.

True, some libraries have sought to help the development of gold OA by paying the various "membership" schemes that OA publishers have introduced, but their resources for doing this are extremely limited. Moreover, since it is librarians who pay these membership fees, the moral hazard of subscription publishing is simply replicated.

Shieber could see that the shortage of money to pay APCs put OA publishers at a considerable disadvantage to subscription publishers. It also meant that there were too few OA journals to enable the research community to embrace gold OA in a meaningful way.

As he explains, "[O]pen-access journals that support their operations based on author-side fees are at a systematic disadvantage in competing for articles as compared to journals that support their operations based on reader-side fees, because the universities and funding agencies of the world are underwriting the fees for the subscription journals, through library subscriptions paid on behalf of readers, but are not in general underwriting fees on behalf of authors. This leads to a 'chicken and egg' situation, where journals concerned, as they should be, about financial sustainability aren't willing to use a publication-fee revenue model, leading to an undersupply of open-access venues, which reduces interest in supporting the model."

What would help, Shieber decided, would be for universities to make a commitment to paying article-processing fees where researchers had no alternative source of funding.

With this aim in mind, he co-founded the Compact for Open-Access Publishing Equity (COPE), and invited other universities to sign up to it.

Announcing the launch of COPE in 2009, Shieber explained, "I propose a simple, cost-effective remedy to this inequity that would put open-access publishing on a path to become a sustainable, efficient system, allowing the two journal publishing systems to compete on a more level playing field."

Institutions signing up to COPE are asked to commit to "the timely establishment of durable mechanisms for underwriting reasonable publication charges for articles written by its faculty and published in fee-based open-access journals and for which other institutions would not be expected to provide funds."

And to demonstrate that Harvard was prepared to walk the talk, in September 2009 Shieber announced the launch of the Harvard Open-Access Publishing Equity fund (HOPE) "Through HOPE, Harvard will reimburse eligible authors for open-access processing fees," promised Shieber on his blog.

It is important to note that authors wanting to publish in hybrid journals (i.e. subscription journals that provide OA on an article-by-article basis) are not eligible to apply for HOPE money.

Outlining why he believes that such journals should not be supported on his blog last year, Shieber said, "Willingness to pay hybrid fees provides an incentive for a publisher to maintain the subscription revenue model for a journal, because the publisher can acquire these funds without converting the journal as a whole to open access."

In other words, hybrid OA allows subscription publishers to embrace OA half-heartedly, since they can earn money from OA without making the effort to convert their journals. In addition, hybrid OA is a more expensive option for authors, while also allowing publishers to "double dip". In other words, hybrid journals can continue to earn subscription revenues *as well as* make money from APCs.

As was Harvard's green OA policy, COPE was received enthusiastically by OA advocates. "This announcement is big and dramatic," commented Jason Baird Jackson, chair of folklore and ethnomusicology at Indiana University at Bloomington. "As with the green OA mandates, it represents a step by some major universities to change the terms under which our publishing system works. It is a major move for OA. I like that."

What COPE underlined was that Shieber takes an ecumenical approach to OA. This is a rare quality in a movement often sharply divided between supporters of the various flavours of OA, and who therefore waste a lot of time sniping at each other from their respective bunkers.

In addition, the new initiative demonstrated that Shieber is both willing and able to initiate and manage practical OA measures, not simply vent his views.

Says Suber of Shieber, "He doesn't just support green and gold strategies at the same time. He's a leader in implementing effective green initiatives and a leader in implementing effective gold initiatives."

But how successful have these initiatives been?

Measuring success

To what extent, for instance, is the Harvard-style Policy succeeding in filling institutional repositories with peer-reviewed papers? This must surely be a key measure of success, since it is the *raison d'être* of any green OA policy.

As we noted earlier, under the Harvard OA Policy researchers can ask for an automatic waiver. As such, they do not *need* to comply if they do not wish to.

Unsurprisingly, therefore, concerns were expressed from the outset that many authors would simply opt out, a response that seemed all the more likely when it became apparent that some publishers — including Elsevier, PNAS, ACS and *Nature* — were insisting that authors covered by what Elsevier describes as "systematic posting mandates" must request a waiver as a condition of publication.

Critics argued that, contrary to the objective of introducing the policy, very few papers would be deposited in DASH. Has this proved to be the case? How many waivers do authors subject to the Policy request? More generally, how many papers are being deposited in the repositories of other universities that have a Harvard-style OA policy?

When I asked Shieber how many waivers were being requested at Harvard he replied, "We did a very rough back of the envelope calculation a while ago, and it seemed that for FAS faculty, the waiver rate was about 5% of articles. (It's undoubtedly much lower in other schools.)".

He added, "MIT has more accurate figures. I believe that they estimated their waiver rate at about 1.5%. So a safe estimate is low single digits."

In fact, says Holton, the waiver rate at MIT is closer to 4%. However, he adds, some of the papers for which waivers are requested can nevertheless be placed in the repository at a later date. "So for example, PNAS allows us under their policy to deposit the final published version of their

articles, 6 months after publication, even though they require MIT authors to opt out of the MIT Faculty Open Access Policy."

How do the waiver numbers at Harvard and MIT compare with those requested at Duke, another university with a Harvard-style OA policy? "The only 'waivers' we have had are where people do not send us a post-print," replies Smith. He adds, "I do not know the specific number, and it would not be very meaningful if I did."

Smith's answer points to the fact that papers deposited as a result of Harvard-style OA policies are frequently posted not by the authors themselves, but by intermediary librarians. Most of the material deposited at Duke, says Smith, "comes through automated harvesting of databases. Those citations are then examined and where we determine we can use the published version, we do so."

In the same vein, MIT has [reported](#) that, as of March 2011, around 88% of the papers deposited in the University's repository come from publishers.

Leaving aside for the moment the question of how papers get into institutional repositories, do not the low waiver rates suggest that most of the papers produced at Harvard, MIT and Duke *are* being deposited in their respective repositories — contrary to what critics predicted?

The only way of answering that question, presumably, would be to calculate how many papers subject to a particular university's OA policy are published each year, and then compare that figure with the number of papers deposited in the repository. Unfortunately, establishing the first figure appears not to be straightforward. Partly for that reason, perhaps, Harvard isn't currently tracking the data. Shieber concedes, however, that the deposit rate is "far less than 100%."

Could not the publication number be established by using [ISI](#) and [SCOPUS](#), I asked Shieber. "It's tricky to do, given that there are mismatches both directions," he replied. "Right now, there's so much headroom to work on that it hasn't been a high priority."

The water is further muddied at Harvard by the fact that not all its schools have yet introduced an OA policy. When I spoke to Shieber he estimated that around 77% of the circa 2,000 Harvard faculty are subject to an OA policy.[4] Currently, DASH contains around 9,600 items. However, we know (from the [breakdown of deposit numbers by faculty](#)) that over 2,000 of those 9,600 items were authored by researchers in the [Harvard Medical School](#), which has yet to introduce an OA Policy. We also know that the 9,600 figure includes theses, books and student papers as well as peer-reviewed papers.

What we do not know is how many papers Harvard faculty publish in any particular year, although we do know that a great many of the 9,600 papers in DASH were published prior to any of the Harvard OA policies being introduced (see [here](#), [here](#), and [here](#) for instance). It would also appear that some of the papers indexed are not available on an OA basis (e.g. [here](#), [here](#), [here](#) and [here](#)) — even, in some cases, where [the work](#) has been published as long as 20 years ago. (Presumably, these are papers for which the author has requested a waiver).

When I asked Shieber if he had expected more papers to have been deposited by now he replied, "I had no expectations one way or another. 9,000 deposits is 9,000 more than we had when we started."

The number of papers deposited in Duke's repository seems to be even lower, at just under [5,000](#) items. Again, that number appears to include theses and unpublished work as well as peer-reviewed papers.

I asked Smith how many of the papers covered by its OA policy were currently being deposited in the repository. He replied. "I am afraid that I just really do not know the answer to this, without doing a lot of research."

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[4] This number will be higher now (by perhaps another [150](#) researchers perhaps?), following a decision by the [Harvard School of Public Health](#) to [adopt](#) its own OA Policy (the vote was taken on 26th November).

He added, "My initial reaction is to agree that deposit rates are low, but then I want to qualify myself and ask 'low compared to what?'. This is uncharted territory for all of us, and any open access deposit at all is an advance over where we were only a few years ago."

Smith then offered a possible explanation for why the deposit numbers are low. "At Duke, we made it very clear that we would implement the policy very carefully and in ways that put little to no burden on faculty authors," he explained. "That means that the vast majority of articles in our repository were mediated by library staff. That contributes to a low deposit rate, but it also means, I think, that our faculty feel very good about their decision to endorse open access. Our first goal was to change the default for scholarship to open and to help our faculty authors think consistently in those terms."

What this tells us, presumably, is that, whatever its advantages, mediated deposit can be a difficult process. If the publisher permits its PDFs to be posted, a paper can be deposited automatically. But where the publisher does not allow it, it is necessary to track down the author's final manuscript — which can be both a time-consuming and an onerous task.

Meanwhile, MIT's deposit levels are somewhat more impressive than those at Harvard and Duke. Currently there are nearly 60,000 items in DSpace@MIT.

On closer inspection, however, we learn that only 7,500 of these have been posted as a consequence of MIT's OA policy. The others have were presumably collected over the ten-year life of the repository, which was created in 2002.

In addition to peer-reviewed articles, the DSpace@MIT collection includes "technical reports and conference papers from MIT labs and centers, and everything from data sets, databases and media clips to visualizations and simulations used in the classroom." No doubt much of this content is course material from MIT's ground-breaking OpenCourseWare project (MIT OCW), launched in October 2003.

But what perhaps most distinguishes MIT from Harvard and Duke is that it has a much clearer idea of compliance rates — which it calculates using licensed indexing tools (ISI and SCOPUS perhaps).

"We now have in the repository around 33% of MIT faculty articles published since the policy was implemented," reports Holton. "We're working to get that up, but we think it's a pretty good start. Negotiating agreements with publishers to give us the articles directly has been by far the most profitable way of doing this."

In passing we could note that, despite having no OA policy, the University of Michigan's repository Deep Blue contains over 72,000 items (One again, however, it is not clear exactly how many of these are peer-reviewed papers).

What seems clear is that universities with a Harvard-style OA policy generally have lower compliance levels than research funders like the NIH and Wellcome. The NIH, for instance, is now achieving a 75% compliance rate, while Wellcome's rate is 55%. Moreover, neither of these organisations is content with current levels: Both have this year announced new initiatives to increase compliance.

However, we need to acknowledge that it is more difficult for universities to persuade researchers to comply with an OA policy than it is for funders. Our comparison may therefore not be entirely fair. As we pointed out earlier, researchers have a different kind of relationship with their institution than they have with a funder.

As Suber explains, funders "are in a better position than universities to turn the screws to increase compliance, for example, in the ways that the NIH and Wellcome have recently announced. Academic freedom, tenure, and the demands of simple comity constrain universities with mandatory policies to implement them — as I've often argued — solely through expectations, education, assistance, and incentives."

For this reason, Suber rejected my suggestion that those universities with a Harvard-style OA policy are doing too little to ensure compliance. While their compliance rates may be lower than those of funders, he said, they are nevertheless taking more steps more quickly than most funders ever did.

He may have a point. After Research Councils UK (RCUK) adopted a green OA mandate in 2006 it did very little (if anything) to increase deposits. This year it gave up and turned to a gold policy (as we shall see later), on the grounds that green OA had failed.

Suber likewise rejected my suggestion that universities with Harvard-style OA policies are inherently less interested in increasing compliance than funders, repeating that the higher deposit levels achieved by funding agencies are due almost entirely to the freedom of funders to take enforcement actions that universities could not realistically take.

"For example," he says, "no university is going to withhold salary from faculty who don't deposit their articles in the IR, and no university is going to fire tenured faculty for non-deposit.[5] The strongest step a university can take is probably the Liège step, which I strongly support and which is slowly spreading."

What is distinctive about the model adopted by the University of Liège is that researchers are told that only those papers that have been deposited in the University's institutional repository (ORBi) will be taken into consideration when they come up for tenure or promotion.

For this this reason, no doubt, ORBi currently contains 87,591 references, over 53,000 of which are full text, 44% of which are scholarly papers, and 7% book chapters.

When I asked Shieber if he could envisage the Liège model being introduced at Harvard. He replied, "I think it's worth considering, but we have to be sensitive to faculty views on the matter. Faculty voted the OA policies as a means to provide further access to their research, and explicitly not as a means to monitor faculty performance. There would likely be serious and understandable reservations if this were done in a heavy-handed manner."

No doubt that is true, but researchers already live under a "publish or perish" regime. Extending that to "deposit or perish" might not be such a big leap. Certainly a number of other research institutions have adopted the Liège approach too, including Edinburgh Napier University, China's National Science Library, the Chinese Academy of Sciences, India's International Center for Tropical Agriculture, and Canada's Institute for Research in Construction.

It is also surprising to me that (MIT aside) universities with Harvard-style OA policies appear to be doing little to monitor compliance. Actually getting papers into a repository clearly has to be the priority, but how can one know how successful a policy is proving if one cannot measure what *has* been done against what *needs* to be done. Some might suggest that only by measuring one's current performance against one's overall objective can one hope to reach that goal.

No doubt the creation of the Harvard Open Access Project (HOAP) at the end of last year is helping to focus minds, particularly as it was Suber who was appointed Director. The mission of HOAP is to, "foster OA within Harvard, foster OA beyond Harvard, undertake research and policy analysis on OA, and provide OA to timely and accurate information about OA itself."

Dilution

In considering the success of the Harvard OA Policy, we should perhaps draw attention to one further thing. That is, in the act of propagation the Policy has on occasion been weakened. When the University of Virginia and the University of Pennsylvania introduced their OA policies, for

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[5] Beginning next spring, for instance, NIH will delay funding for grants if the publications related to the award are not in compliance with its public-access policy. As Sally Rockey, director of the NIH Office of External Research put it on her blog last month, "[A]s of spring 2013 at the earliest, we will begin to hold processing of non-competing continuation awards if publications arising from grant awards are not in compliance with the public access policy."

instance, they both turned the notion of an opt-out policy on its head, making their policies opt-in instead.

On the surface this might appear to be a minor change. In reality, it undermines the policy at a fundamental level. As Verba, explained to SPARC in 2008, when Harvard was developing its first OA policy (for FAS) there had been a long discussion about the relative merits of opt-in versus opt-out. The conclusion: "If you make people positively opt out, people won't. If you make them opt in, you'll get nothing."

It is hard not to agree with this. The University of Virginia's repository currently has just 830 items deposited in it, suggesting that, however challenging it may be to fill an institutional repository using an opt-out policy, choosing an opt-in policy makes the task a whole lot harder.

True, the number of deposits at the University of Pennsylvania is much higher (over 17,000), but only 3,500 of these are peer-reviewed papers. Moreover, the number deposited as a result of the OA Policy is minute. "I think it is safe to say that very few of the peer reviewed papers can be tracked directly to the policy," says Shawn Martin, Scholarly Communication Librarian at Penn.

Nor does Penn have any formal process for monitoring compliance. "We are observing things informally rather than doing a formal study," explains Martin, "partially because the number of deposits due to the policy is so low."

Shieber concedes that dilution is a problem. For this reason he has developed a model OA policy. The aim is to provide held and guidance to other institutions drafting their own policy. "Sometimes the weakening is inadvertent, based on what the writers thought was a benign alteration," he explains. "I would hope such instances could be prevented by people using the model policy and understanding the basis for the wording."

Finally, we should note an irony: While the fact that the Harvard-style OA Policy was developed by one of the world's premier research institutions has encouraged some to develop their own policies, its provenance has acted as a disincentive for others. In other words, some institutions dismiss the Policy without even looking at the details — on the grounds that anything designed for a wealthy private university has little or no relevance to them.

This is a misperception, as evidenced by the fact that a number of far from wealthy (even indigent) institutions have adopted it; as have some liberal-arts colleges.

For instance, earlier this year Iceland's Bifröst University adopted a Harvard-style OA policy, as did two universities in Kenya — Jomo Kenyatta University of Agriculture and Technology (here) and Strathmore University (here).

Sprint or long-distance run?

Finally, let's consider how successful Harvard's gold OA initiatives, COPE and HOPE have been to date.

Here we need to record that COPE has attracted just 17 signatories since it was launched in 2009, even though many more universities have created gold OA funds. The Open Access Directory, for instance, currently lists 50 institutions with gold OA funds.

Why have so few universities joined COPE? Is it that it is viewed as a rich man's club? Is it that most universities simply do not feel able to make a high-profile public commitment in the way that COPE requires? Or could it be that few are yet convinced of the need for gold OA funds? Certainly it appears that at least one university that committed to COPE may be having second thoughts. Specifically, the University of Michigan, a founding co-signatory of COPE, seems unlikely to renew its gold OA fund.

It may also be that some see a contradiction at the heart of COPE. Consider, for instance, that its stated purpose is to make a financial commitment to gold OA in order to encourage publishers to make a "bold move" to an "open-access processing-fee business model". Yet Shieber has always

stressed that he expects the cost burden on signatories to be minimal, if anything. As such, COPE might appear to be more of a theoretical commitment than a promise to put hard cash on the table. As Shieber put it in 2010, "In essence, COPE is trying to establish a kind of safety net. Safety nets are useful *even when they are not used*."

Given the safety-new philosophy underlying it, it is unsurprising that Harvard's HOPE fund has paid for just nine papers to be published in the three years since it was created. The number of papers underwritten by MIT's fund (established in June 2010) is likewise nine. "It's a fund of 'last resort' for situations where grant funds can't be used for publication fees, so is intended to be used only rarely," explains Holton.

The number of papers sponsored by Duke University's fund (established in October 2010) is higher, at 41 articles. However, this is still no more than a drop in the ocean.

Nevertheless, Smith, is upbeat about COPE. "I believe our fund has been successful," he says. "The authors we have supported are very grateful for the help, we get better value for the money, in my opinion, than we do for traditional subscriptions, and the fund is widely viewed as concrete evidence of Duke's genuine commitment to open access."

He adds, "It is impossible, I think, to predict the future in this area, but I hope for two results. First, that faculty authors will begin to think first about open access publishing options and plan their research funds to make that possible. I believe we are seeing the beginnings of that transition. Second, I hope that COPE funds will help to move both publishers and universities toward a comprehensive new model for funding the dissemination of scholarship. That change is further down the road but is, I think, inevitable."

This is all fair enough, of course, but it must be doubted that any publisher will have been encouraged to make a bold move to embrace gold OA on the strength of what COPE has provided in the way of financial support, or seems likely to provide. It may therefore be that gold OA will have to be driven by funders rather than universities — which is perhaps what Shieber was signalling on his blog last year?

All that said, Smith is surely right to imply that getting the research community to embrace OA is as much a cultural issue as it is a business issue, and that progress will inevitably be slow. This is a point that OA advocate Jean-Claude Guédon made to me in 2009 (in an unpublished interview). "I am a historian", Guédon told me. "So I know that trying to change, and essentially to transform, the entrenched system that is the world of scientific and scholarly communication is going to take two or three generations."

And does it matter if it does take that long? Does it not make more sense to view the transition to OA as a long-distance run rather than a hell-for-leather sprint to the finishing line?

Maybe. But there are two clear dangers in taking a leisurely approach. First, the *affordability* problem afflicting the scholarly communication system might overwhelm the research community's ability to pay before OA became a reality.

Second, as a result of an understandable desire to prevent a systemic collapse of the scholarly publishing system (as publishers have repeatedly claimed could happen) by moving too quickly, funders and policy makers could discover that they have priced gold OA too high, or at least allowed publishers to do so. If this were to happen, gold OA could end up being no less expensive than subscription publishing, if not more expensive.

In such a scenario, the research community would have solved the *accessibility* problem, but not the underlying *affordability* problem.[6] And such an outcome would itself be likely to overwhelm the research community's ability to pay.

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[6] And this, of course, is a criticism that gold OA advocates make of green OA.

Recent developments in the UK are instructional here. Earlier this year the government-commissioned Finch Report recommended that a clear policy direction should be set towards supporting publication in open access or hybrid journals funded by APCs. This recommendation was subsequently adopted by Research Councils UK (RCUK).

Yet although on the surface RCUK's new policy seems to deliver exactly what the OA movement has been calling for, it has attracted considerable criticism and opprobrium, not least because no attempt has been made to cap APC costs. Moreover, RCUK appears to have accepted Finch's recommendation that institutional repositories (i.e. green OA) should be relegated to the role of bit player, merely providing access to "research data and to grey literature" and assisting in digital preservation. This, despite RCUK having had a green OA mandate in place since 2006 (as noted earlier).

While RCUK has subsequently backtracked a little, the wording of its OA policy has not been changed. As a result, Harnad has warned, subscription publishers may decide that there is no need to convert their journals to gold OA, but simply offer hybrid OA. As a result, researchers would have to pay higher APC rates. In addition, publishers would be able to earn subscriptions in addition to APCs — i.e. they would double dip.

In short, Finch/RCUK could allow publishers to migrate their inflated profits to the new publishing environment, and thus port the *affordability* problem to the brave new world of OA

Shieber acknowledges that this is a danger. As he says, "An unintended consequence of poorly designed OA policies could be that the costs of disseminating research rise, absolutely. That's why it behoves us to support well-designed policies and models, and call out poorly designed ones."

He adds, "The problem is not with OA per se, but with particular policies designed to achieve the goal."

Shieber is, however, confident that poorly designed policies that like the one introduced by RCUK can do no more than slow progress, not prevent it. He also remains convinced that OA will eventually solve the *affordability* problem. Explaining his thinking here he says, "First, the affordability problem that this kind of policy induces is experienced by a new set of stakeholders, the funders, who have in the past been insulated from seeing the problem first-hand. We can hope that they'd be less likely to be willing to put up with excessive costs indefinitely. If so, they'll be able to easily repair the incentive structure when they put their minds to it.

"Second, since not all articles will be funded by funders with this kind of open-wallet policy, publishers may still have to moderate their publication fees to attract the rest of the author pool.

"Finally, once the funders do learn their lesson and reintroduce market mechanisms to their policies, competition can take over to mitigate the problem."

Shieber may indeed be right. As with all revolutions, short-term setbacks are par for the course in the struggle to achieve OA, and OA advocates are unlikely to be deflected from their goal as a result. Currently, their hopes are pinned on developments in Europe and Australia, which they anticipate will get OA back on track.

There is certainly no sign that Shieber plans to abandon his advocacy. As Holton points out, he continues to play "a huge role in implementing the policy at Harvard, speaking at conferences, conferring with leaders on many campuses and working on the model language and the recent guide to good practices." And doubtless the recent vote to introduce an OA policy in the Harvard School of Public Health owes much to Shieber's on-going advocacy.

Whatever the future holds for the movement, OA is surely inevitable. And Shieber can be pretty confident that he has earned himself a place in the OA history book.

A detailed Q&A with Shieber follows on the next page.

Stuart Shieber

The interview begins …

RP: You are a professor of computer science. Can you say something briefly about your specific area of research, and why you chose it?

SS: My primary research area is computational linguistics, the study of human language from a computer science perspective, and often with computational applications in mind. These applications are increasingly part of the technology world we all inhabit — systems for information retrieval from text corpora, machine translation, speech recognition, text analysis, and the like.

My path into the field was more or less accidental. After college, I got a programming job at the [Artificial Intelligence Center at SRI International](), a large research firm in California, where I was placed on some projects in natural-language processing, and got intrigued by the field.

While at SRI, I spent a year as a nonmatriculated student at Stanford in linguistics, then a PhD in computer science. After completing my degree, I took a job on the faculty at Harvard.

Since I came to Harvard, I've also worked in other areas of computer science and a bit into theoretical linguistics, computer-human interaction, automated graphic design, the philosophy of artificial intelligence, computer privacy and security, and computational biology. But computational linguistics and natural-language processing are still my main research areas.

RP: When and why did you become an advocate for open access?

SS: When I joined the Harvard faculty in 1989, I was, for reasons that are still unclear to me, put on a series of library committees. Over a period of years learning about how Harvard's library system and academic research libraries in general work, it became increasingly clear to me that some of the problems that libraries faced in dealing with providing access to the scholarly literature were not library problems per se, but rather, problems in how the scholarly communication systems are set up.

It seemed to me that open access in its various forms had the potential to mitigate these problems. I started thinking about ways that the university could promote greater access to our own scholarship, and eventually was appointed by the provost to chair an ad hoc committee on scholarly publishing to make concrete recommendations.

RP: There are different views on how to define OA. How do you define it?

SS: I think the [Budapest Open Access Initiative]() statement is a good one, if a bit wordy: "the 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."

It gets across the idea that the creators of scholarly articles have no incentive to limit in any way the use of those articles and that the internet provides a matching frictionless mechanism for providing that unlimited use.

Green Open Access

RP: There are also different types of OA. Since 2008 you have persuaded a number of Harvard faculties to introduce OA policies. These policies require members of the faculties concerned to post their published papers in Harvard's institutional repository (DASH) — a practice known as green OA, or self-archiving. When the first of these policies was agreed by the Faculty of Arts and Sciences (FAS) OA advocate Peter Suber commented, "Harvard's new OA policy is not the first university-level OA mandate, but it's the first in the US, the first to be adopted by faculty rather than administrators, the first adopted policy to focus on permissions rather than deposits, and the first to catch the worldwide attention of the press and blogosphere." Would you agree with that description? Would you add anything to it, or want to clarify anything?

SS: Peter knows far more than I about the history and status of OA, so if he says so, I believe it.

RP: Would I be right in thinking that Suber helped to draft the initial Harvard OA policy document?

SS: I don't think that I met Peter until after we drafted the initial report of the provost's ad hoc committee on scholarly publishing, which already included the proposed Harvard OA policy language, though we had had sporadic email on other issues.

However, as we began to work with the Faculty of Arts and Sciences over the two-year period between drafting the policy and the FAS vote in February 2008, I certainly recall speaking with Peter in detail about various OA issues. His advice was and continues to be extremely helpful.

In fact, we are privileged to have him now at Harvard as a Berkman Fellow, special adviser to the Office for Scholarly Communication, and director of the Harvard Open-Access Project.

RP: How difficult was it to persuade your colleagues to agree to introduce an OA policy? Was there a particular argument that eventually won them round?

SS: The process of passing an OA policy has been a long one at each of the schools at Harvard that I've worked with. Harvard faculty are smart, engaged, and, let's face it, a bit disputatious. They aren't going to roll over and vote for a policy if they have unanswered concerns. Consequently, my philosophy has been to take the process slowly, making sure to provide ample time and opportunity for faculty to hear about the policy, come to understand the issues, air their quite legitimate concerns, and assuage them, before any vote occurs.

Having said that, it's important to note that I have never heard a faculty member express any principled objection to the underlying premise of the OA policy, that scholarly articles should be available as broadly as possible. Rather, concerns centred on the best methods to reach the goal of broad access or on unintended consequences of a particular approach.

Of course, the process got easier as we proceeded school by school to pass these policies, first, because faculty at one school could see that the process was going reasonably at the other schools and that the sky hadn't fallen, second, because of the increasing support from excellent colleagues, and third, because I got plenty of practice.

RP: When Suber described the [Harvard policy](#) as being the first to "focus on permissions rather than deposits" I take it he is talking about the copyright reservation component of the policy. Can you explain this? Does it work in the same way as the [NIH Public Access Policy](#)?

SS: The Harvard mechanism is slightly different from the NIH mechanism for handling rights. The NIH Public Access policy requires as a condition of any grant that the grantee must reserve sufficient rights to satisfy the deposit and distribution aspect of the policy. But the policy does not in and of itself grant any rights. The rights are presumably granted to NIH when the article is deposited in PubMed Central by the author or publisher.

This means that the author must be careful to make sure that any publication agreement provides for sufficient rights retention to make good on the NIH policy. Otherwise, the author may not be able to grant the proper licence when submitting to PMC.

In general, this rights retention is unproblematic, because so many publishers now include appropriate rights retention language in their publication agreements. But not all do, and some require the author to explicitly mention if an article is covered by the NIH policy in order to retain rights to comply with it. In those cases, authors who forget to check the box or amend the agreement may not have the rights to comply with the NIH policy.

The Harvard policy, by contrast, sets up rights retention from the moment copyright vests in the article, not when the article is deposited. The policies state "Each Faculty member grants to 〈the university〉 permission to make available his or her scholarly articles and to exercise the copyright in those articles." The operative word is "grants", not "will grant sometime in the future" as in the NIH policy.

The immediate grant of the licence happens automatically; authors don't need to take any further action. And it predates and therefore survives any later transfer of rights.

This is a tremendous advantage of the Harvard-style policies. They leverage author inaction. Once enacted, the rights retention occurs automatically, regardless of the wording of publication agreements or of actions by the author (except for their directing that a waiver be granted).

RP: How would you characterise the pros and cons of the Harvard model? I wonder, for instance, if one downside might be that there is no one university-wide policy, but [seven separate faculty policies](#)[7] — a model that OA advocate [Arthur Sale](#) has called a "[Patchwork Mandate](#)".

SS: The patchwork aspect is not a property of the Harvard model per se, and is neither pro nor con. Universities that do have a university faculty body — such as MIT and Duke — are able to have a university-wide policy. But there is in fact no faculty body at Harvard for the university as a whole; the schools that make up Harvard University are quite separate. So it wasn't possible to have a faculty-initiated policy covering the entire university at Harvard.

The advantage of the Harvard policy is that it places the defaults in the right way. By virtue of the policy, Harvard faculty grant a nonexclusive transferable licence to the university in all our scholarly articles.

Since this licence occurs as soon as copyright vests in the article it predates and therefore dominates any later transfer of copyright to a publisher. And as the policy licence is transferable, the university can and does transfer it back to the author, so the author automatically retains rights in each article, without having to take any further action.

Prior to passing the policy, faculty had to take overt action — negotiating publication agreements — in order to retain rights. With the policy in force, authors retain rights *unless* they take overt action — by directing that a waiver be granted.

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[7] This figure is now out of date: On 26th November the [Harvard School of Public Health](#) [adopted](#) its own OA Policy. Therefore, eight Harvard faculties now have OA policies.

RP: I wonder if you could clarify how this works in practice. From what you say, I assume that individual researchers do not sign anything. Is it then that once a Harvard-style mandate is introduced it becomes a condition of employment for faculty members? Or does it work in some other way? In other words, how exactly is copyright transferred from the creator to the institution in a legal sense?

SS: Harvard faculty are subject to various policies as part of their employment. They agree to be bound by these policies upon being hired and at the time of promotions. Upon enaction by the faculty, the OA policy became one of those policies.

We also provide for individual faculty members to affirm the policy in various places, for instance, in our research participation agreements that all Harvard researchers agree to, in the DASH deposit process, and in the assistance authorization form that allows for mediated deposits.

RP: If I understand correctly, there is a two-stage copyright transfer process, from the individual to the institution, and then from the institution back to the individual? The logic here is to protect the individual researcher from being pressured by publishers to sign over exclusive rights is it? Harvard acts as guardian and protector perhaps?

SS: Yes, the rights take this loop through the university, which acts as a kind of way station, and back to the author.

Policy not mandate

RP: As you mentioned, the Harvard policy allows any member of faculty to ask for an automatic waiver. As you [pointed out](#) in June 2009, it is therefore not strictly speaking a mandate. As you explained, "[T]he Harvard open-access policy could not be, should not be, and is not a mandate. I've tried to be very careful never to refer to it as a mandate (though I can't promise I've never slipped up)." I guess you are happy with that, but what was the thinking behind not making it mandatory? Or was it just not possible to get agreement on a compulsory arrangement?

SS: It's not that we *didn't* make it mandatory, it's that you *can't* make it mandatory.

The reason that the Harvard policy is not mandatory is not because of the explicit waiver provision. It is because of the implicit waiver provision of any faculty-directed policy. As [I've written at my blog](#), [The Occasional Pamphlet](#),

> As any dean will tell you, there is no such thing as a mandate on faculty. One could stipulate a policy that all faculty must **wear crimson** at monthly faculty meetings; the only result would be benign neglect of the requirement by most faculty and assiduous **wearing of blue** by a small group interested in tweaking the administration. Trust me.

> Try the following thought experiment. Suppose a policy on faculty were established that granted to the university a licence in faculty articles but did not explicitly provide for a waiver of the licence. Now imagine that a faculty member has an article accepted by a highly prestigious journal that does not allow for author distribution and will not accept an amendment of its copyright transfer policy. Perhaps the author is a junior faculty member soon up for tenure, whose promotion case will be considerably weakened without the publication in question. The author might naturally want to have the licence waived even though no waiver is explicitly provided for. The faculty member is likely to storm into the dean's office, howling about the unconscionable practice of taking rights even when it harms the faculty member. Is the university going to distribute the article anyway against the express wishes of the faculty member? Be serious. The dean says "Fine, we won't make use of the licence for this article." Voilà, a waiver. So much for university rights retention mandates.

> Now suppose the policy "mandated" that every article be deposited into the repository. In practice, the deposit can only occur with the cooperation of the author. No one is going to rifle

through faculty members' files or hard drives looking for copies of manuscripts to distribute. If a faculty member refuses to cooperate, no deposit occurs, and a waiver of the deposit requirement has been obtained by default. So much for university deposit mandates. In summary, whether a waiver procedure is expressly provided for or not, it exists, whether a waiver of a licence or of a deposit requirement.

I go on to explain why we included the explicit waiver provision:

> Given that a policy has a waiver option whether expressly provided for or not, it makes great sense to take the high road and provide for the waiver possibility explicitly. This has multiple benefits. First, it acknowledges reality. Second, it explicitly preserves the freedom of the author. Third, it enables much broader acceptance of the policy. Meanwhile, the policy, by specifying rights retention and deposit for those cases where a waiver does not occur, places the defaults in a better place. Such changes in default are known to have dramatic effect on participation rates for activities ranging from **401K participation** to **organ donation**.

In fact, this prediction of low waiver rates has been borne out. Of the many thousands of articles that Harvard faculty have written since the policies were voted, only a few hundred waivers have been issued.

RP: We should perhaps note that the Harvard model has two components: a copyright reservation clause and a deposit clause. OA advocate Stevan Harnad has argued that this is potentially confusing. Researchers who opt-out, he said, will assume that they are opting out of both the copyright reservation component and the deposit component. He implied that this was not the intention. Is he right? Is it only the copyright reservation component that faculty can opt-out of, or both components? If both, should not the deposit element be mandatory?

SS: I give our faculty a bit more credit than that. They can entertain two ideas at one time. There's the rights retention bit and the commitment to deposit. And the rights retention bit they don't even need to do anything about; it works automatically. Is that so complicated?

As to whether they will be confused about what gets waived when, it's a non-issue. The earlier Harvard policies technically speaking allowed opt-out of both parts of the policy, later ones the licence but not the deposit.

But in fact, there's a de facto waiver of both. As I argued earlier, regardless of how you state the policy, they can waive either part of it through their actions or lack thereof.

If they don't want the university to distribute the article, they can just not give us a copy. We're not going to rifle through their office drawers whether real or virtual.

RP: From what you say, I conclude that not all the OA policies introduced in Harvard schools are the same. If that is right, is the only difference the way in which waivers are dealt with?

SS: There are extremely minor variations in wording among the schools, but nothing particularly substantive. As we worked with various faculty, we tweaked the language to eliminate confusions or connotations that people noticed.

For instance, in the waiver provision, the first policy (FAS) reads "The Dean or the Dean's designate will waive application of the policy for a particular article upon written request by a Faculty member explaining the need." The word "request" bothered some people as it carried the connotation that the request might be denied. To further emphasize the complete control of the author in the waiver process, we changed the language to read "upon express direction". The author "directs" that a waiver be granted, rather than "requests".

As we see ways to improve the language in these ways, either in working with schools at Harvard or looking at changes other universities have made that seem like good ideas, we've been maintaining a model policy agreement, annotated with details about why the exact wording was chosen, and base new policies on that language.

We make the model agreement [available at the OSC web site](#), and several other universities have used it to base their own policies on.

RP: Looking back to 2008 (when the first Harvard mandate was introduced), what in your view has been the real significance of the Harvard OA initiative? It has, after all, become a model policy, and it has been replicated in a number of other universities, including [MIT](#), [Princeton](#) and [Stanford](#)?

SS: The original intention behind the policy was to make the research results of Harvard faculty more broadly accessible through open online availability founded on broader rights retention. In a sense, it was a parochial effort of self-interest by the faculty. To my mind, that is still the most important impact of the policy.

But it also had the effect of normalizing the idea of university open-access policies and in getting other institutions to think about the possibilities. By now, almost thirty institutions have Harvard-style open-access policies, most recently [University of California, San Francisco](#). These were certainly added bonuses.

RP: Of those thirty institutions to adopt Harvard-style OA policies, not all are as strong as the Harvard policy I think. For instance, both the [University of Virginia](#) and the [University of Pennsylvania](#) weakened the Harvard opt-out into an opt-in, encouragement only policy. Is there a danger that the Harvard model could be weakened as it is propagated?

SS: Well, "danger" might be a strong word, but dilution of the policy is certainly a problem. Sometimes the weakening is inadvertent, based on what the writers thought was a benign alteration. I would hope such instances could be prevented by people using the model policy and understanding the basis for the wording.

Other times the policy is weakened on purpose in the face of opposition to its passage. In these cases, I'd rather they just hold off on a policy until the faculty are ready for a substantive policy, not necessarily a Harvard-style policy, but something that has a real effect.

RP: Ok, so the aim of publishing the Harvard [Model Open Access Policy](#) you mentioned — which comes with extensive explanatory notes to help those working on their own policies get the wording right — is to prevent new policies from being too weak, or worded too ambiguously?

SS: That's right. It was intended to help prevent inadvertent weakenings of the policy.

RP: Harvard is a private university. I am wondering why a privately funded university should have become a leader in a movement whose main rallying cry is "public access to taxpayer-funded research". Is there any contradiction here?

SS: Harvard's activities toward openness are based on the mission of all universities, both public and private, to disseminate knowledge.

This leads us to provide access to taxpayer-funded research and non-taxpayer-funded research alike, as well as other knowledge sources, like [library metadata](#) and [course materials](#).

Some numbers

RP: Let's look at some numbers. I believe there are ten Harvard faculties. What percentage of the total number of Harvard researchers are currently covered by an OA policy (and thus how many of the 2,000 plus faculty members at Harvard are expected to self-archive their papers today)?

SS: There are actually nine faculties for which an open-access policy would be appropriate, of which seven have already voted the policy.[8] We're working with the remaining two — the [Harvard Medical School](#) and the [Harvard School of Public Health](#).

I'm not sure why the percentage of total Harvard faculty covered by an OA policy would be an interesting statistic. Frankly, I've never thought about it before, and it is problematic to gauge. But since you asked, I poked around some university statistics — the latest were [from 2010](#) — to see if we can approximate it.

There are multiple definitions one might have of faculty, and notions differ between and even within a school. Most confusing is the Medical School, which has some 541 core faculty but another 10,963 faculty in the affiliated hospitals. This dwarfs the faculty count in the remaining schools, so the coverage is wildly different depending on whether or not you count them. Since these faculty are not Harvard employees — they are employed by area hospitals — they might more appropriately be covered under an OA policy of their employers. The Medical School would presumably determine that.

Making things more complicated, Harvard tracks the number of faculty per school in various categories: tenured, pre-tenure ladder, core non-ladder, and other non-ladder. The pertinent notion for coverage of the OA policies is whatever constitutes the voting faculty of the particular school, since it is voting faculty who would potentially be covered by a voted policy. This typically corresponds to tenured and pre-tenure ladder faculty, perhaps with the addition of some of the core non-ladder faculty, and differs among schools.

Furthermore, some faculty have positions in more than one school, but I am using head count figures, so there will be some double counting. (Is this confusing enough?)

The total number of ladder faculty in the nine schools (according to the 2010 statistics) is 1,534, of which 1,192 (78%) are at the seven schools with OA policies. If we include HMS affiliate ladder faculty, the figures are 1,192 covered/5,349 total (22%). Including core non-ladder faculty, the percentages are 1817/2361=77% or 1817/11060=16% depending on whether HMS affiliates are included. If I had to give just one number for "Harvard faculty covered by OA policies", I'd go with the 77% number as the most reasonable.[9]

And of course, many Harvard-affiliated researchers generating many articles are not covered by the OA policies: students, postdocs, research fellows, research staff, non-core non-ladder faculty, and the like. With all of this variability, are these useful numbers?

RP: I see your point! You talked earlier of "mediated deposit". Can researchers deposit their papers directly in DASH, or is the work always done by an intermediary?

SS: Researchers can deposit directly into DASH, and we also provide a number of other mechanisms for getting their papers into the repository: a "quick submit" form, email submission, ingest from other repositories. We have a small number of student "Open Access Fellows" who we deploy to work with faculty to help them get their papers in as well.

Some schools have other mechanisms for the process, for instance, leveraging existing processes for tracking faculty writings to get articles into DASH. We're trying to make the process as easy as possible for the faculty.

RP: Is it always the full-text that is deposited in DASH, or are there times when only abstracts and/or links to papers located at a publisher's site are posted?

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[8] As noted, this figure is now out of date: On 26th November the [Harvard School of Public Health](#) [adopted](#) its own OA Policy. Therefore, eight Harvard faculties now have OA policies.

[9] As above: these figures are now out of date.

SS: All deposits in the DASH repository are of full-text articles. We of course also provide abstracts and other metadata as well as links to other versions including the version of record at the publisher's site if available.

RP: Currently, the Registry of Open Access Repositories (ROAR) indicates that DASH has 9,438 items deposited in it, putting it in 394th place worldwide by number of deposits (ROAR lists 2,994 repositories). DASH itself indicates that the number is 9,655. Is this figure higher or lower than you might have expected to achieve by now?

SS: I had no expectations one way or another. 9,000 deposits is 9,000 more than we had when we started.

RP: You said earlier that there have been a few hundred requests for waivers of the different Harvard OA policies. Can you be more specific? And can you say what percentage of authors at Harvard have asked for a waiver since 2008.

SS: I assume you're really interested in the percentage of *articles* that have waivers, not *authors*. The waiver rate is quite low, though calculating an exact number is difficult. We know the numerator — the number of waivers we've issued — quite accurately, but the denominator — the number of articles our faculty publish — is much harder to gauge.

We did a very rough back of the envelope calculation a while ago, and it seemed that for FAS faculty, the waiver rate was about 5% of articles. (It's undoubtedly much lower in other schools.)

MIT has more accurate figures. I believe that they estimated their waiver rate at about 1.5%. So a safe estimate is low single digits.[10]

RP: Can you say whether the number of waivers being requested annually is rising or falling?

SS: The number of waivers that we're seeing over time seems to be quite stable. There's no evidence of a dramatic change up or down, and the numbers are too small to detect small variations over time.

The numbers are so small in fact (far fewer than one per day on average), that we didn't even bother to automate the process for the first couple of years.

RP: What about deposit rates? I understand what you say about calculating faculty numbers, but do you have any sense of the percentage of the potential population of papers covered by the Harvard OA policies that is currently being deposited, and whether this figure is rising or falling?

SS: We haven't tracked that either, though it's safe to say that it's far less than 100%. As with any repository, there's an on-going process in getting authors used to putting articles into the repository and simplifying the process to the extent that we can.

The most important point about the repository is that it is available for those who take advantage of it, which these days includes over half of the FAS faculty along with many other members of the Harvard community.

RP: I am told that it is possible to estimate deposit rates by using ISI and SCOPUS to determine the total ISI-indexed output for a given year (not too long ago, but not the current year either) and then check what percentage of it is in an institution's repository and when it was deposited. Is that something that Harvard might consider doing?

SS: It's tricky to do, given that there are mismatches both directions. Right now, there's so much headroom to work on that it hasn't been a high priority.

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[10] Chair of the Open Access Working Group at MIT Richard Holton reports that the current waiver rate at MIT is 4%.

RP: As you will know, the University of Liège has adopted a different approach to Harvard. Their researchers are incentivised to deposit by being told that it is the only mechanism by which they are able to submit papers for performance review. As the Rector of the University, Bernard Rentier put it to me last year: "[W]hen we make decisions about promoting a researcher, or awarding a grant, we can only take into consideration those publications that the researcher has deposited in ORBi. All staff are told that publications submitted by any means (hard copy, disk, email, etc.) other than depositing them in the repository can no longer be processed in our new system, so they can no longer be taken into consideration." This approach appears to have been very successful: Fourteen months after the mandate was introduced the university's repository had collected 87,000 items, and nearly 53,000 full text documents (44% of which are scholarly papers). Is this an approach that you could envisage working at Harvard?

SS: I think it's worth considering, but we have to be sensitive to faculty views on the matter. Faculty voted the OA policies as a means to provide further access to their research, and explicitly not as a means to monitor faculty performance. There would likely be serious and understandable reservations if this were done in a heavy-handed manner.

RP: One of the more controversial issues associated with green OA is that of embargoes. I assume that by its very nature the Harvard policy does not allow for embargoes,[11] and I note that the Harvard OSTP submission states, "Embargoes should be as short as possible. If federal policy initially allows embargoes, then it should reduce their maximum permissible length over time, eventually to zero. We could support a plan to do this gradually rather than suddenly in order to give publishers time to prepare." Is the logic here that Harvard believes publishers should be forced to migrate to OA? Or is it simply that the university believes it has a right to do this and publishers must work around it? (I.e. Harvard takes no interest in publishers' complaints that green OA threatens their financial viability, and thus the viability of scholarly publishing)?

SS: I should make it clear that I'm not speaking, here or elsewhere, on behalf of Harvard University as the phrasing of your question might imply. The Harvard statement that you quote was distributed over the signature of our provost, who does speak for the university.

Personally, I don't think publishers should be forced to do anything. They shouldn't be forced to change their revenue model to one consistent with gold OA, as I take your question to mean.

They are not forced to allow archiving in PubMed Central; they can refrain from publishing NIH-funded articles. They are not forced to allow Harvard to have a licence to the articles published by its faculty; they can require waivers if they feel sufficiently strongly, and a tiny number do.

Certainly Harvard doesn't have these licences by right, but by faculty vote. The statement in the OSTP response is simply an expression of what is desirable: short, and ideally no, embargoes.

RP: You have said, "The Harvard approach to rights retention and open-access provision for articles is not a silver bullet to solve all problems in scholarly publishing. It has a limited goal: to provide an alternate venue for openly disseminating our articles and to retain the rights to do so." Can you explain this? I assume you do not mean as an alternative to publishing in a scholarly journal.

SS: Right. The use of the word "alternate" was probably not ideal. I tend to use the word "supplementary" these days. The point is that we provide a venue where articles can be made openly available, supplementing the gated access from the journals themselves, and provide a rights retention mechanism to simplify such distribution.

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[11] In an interview with the Scientific Data Sharing Project in January Shieber commented, "If the publisher requires an embargo of six months or a year, say, we put them in the repository and when the embargo period runs out, the system automatically allows the article to be shared."

RP: You don't think DASH could eventually prove to be all that is needed to provide Open Access to research?

SS: DASH and repositories like it at other universities are not sufficient in the long term to provide all of the functionality that journals provide. In particular, repositories don't provide peer review management, production services, and imprimatur.

So while repositories can serve to shore up access in the short run, in the longer term some other mechanism will be needed to provide these services. Maybe that will be open-access journals, maybe something else.

Gold Open Access

RP: As you indicate, there are two primary ways of providing OA. So far we have mainly been discussing green OA. Can we now talk about gold OA, or OA publishing? First, can you say whether you favour gold or green OA?

SS: The two are consistent with each other, so there is no reason to choose between the two; I support both.

In the long term, I'd like to see the bulk of the scholarly journal literature distributed through open-access journals — or whatever successor archival publishing venues replace journals — but in the short term, supplemental open access through repositories can satisfy some of the demand for access to the literature.

It's impossible to predict the trajectory of scholarly publishing, so attempting to pick a single route to open access or where exactly we'll end up is a fool's errand.

RP: You have also taken gold OA initiatives. For instance, you were instrumental in the formation of the Compact for Open-Access Publishing Equity (COPE), an initiative focused on OA publishing. What was the reasoning behind COPE, and why was it felt necessary?

SS: I proposed the idea underlying COPE to "put open-access publishing on a path to become a sustainable, efficient system, allowing the two journal publishing systems to compete on a more level playing field" in a *PLoS Biology* piece.

The premise is that open-access journals that support their operations based on author-side fees are at a systematic disadvantage in competing for articles as compared to journals that support their operations based on reader-side fees, because the universities and funding agencies of the world are underwriting the fees for the subscription journals, through library subscriptions paid on behalf of readers, but are not in general underwriting fees on behalf of authors.

This leads to a "chicken and egg" situation, where journals concerned, as they should be, about financial sustainability aren't willing to use a publication-fee revenue model, leading to an undersupply of open-access venues, which reduces interest in supporting the model.

The obvious solution is for each university and funding agency to do its fair share in underwriting the publication-fee open access revenue model. That's what COPE calls for and what the signatories have committed to: breaking the chicken and egg cycle by saying we'll pay reasonable OA publication fees on behalf of authors whose research we're underwriting.

RP: Three years after it was launched I believe there are still only 17 COPE signatories, including Harvard. That is a very small percentage of the thousands of research universities around the world. Why so few? Has there been a problem in recruiting universities to COPE?

SS: I think we've got a good start on a set of well-regarded universities signing on to the Compact's principles, as well as an illustrious set of individual and institutional supporters. In addition, there are non-signatory institutions that have set up funds essentially in accord with COPE, some of whom we are now listing at the COPE website.

But of course more needs to be done in getting institutions to sign on, and I'm happy to accept help in performing more of the outreach that needs to get done.

RP: We should also mention [hybrid OA](), where researchers are able to make their papers OA even when publishing in a subscription journal — so long as they pay an article-processing charge ([APC]()). And I wanted to ask about the likely costs to a university of running a gold OA fund. At the time COPE was launched in 2009 you [wrote](), "By design, the overall cost to a university of implementing the compact, in the short term, would be quite small. Hybrid open-access fees are explicitly eschewed, and true open-access fees tend to be found at present in just those areas of scholarship where grant support is most prevalent, reducing the underwriting load on the university substantially. Rough estimates based on the experience of the [Berkeley Research Impact Initiative]() fall in the range of tens of dollars per faculty member per year." A year later you [said]() that gold OA funds should only be envisaged as "safety nets", and added, "Safety nets are useful even when they are not used". When I spoke to the program manager at Harvard's Office for Scholarly Communication Sue Kriegsman last August, she told me that Harvard had paid for just three OA papers via its [HOPE fund]() since it was [established in 2009](). Can you explain the thinking behind the safety net argument? Is it that you believe research funders should really be paying these costs, rather than universities?

SS: The premise is that each institution needs to cover the publication costs for the research it supports. For grant-funded research, the funding agency should cover the fees. But much university research is not grant funded; it is implicitly being funded by the university itself.

Thus the university should be on the hook to pay for the open dissemination of that research. That's exactly what HOPE does. It covers the publication fees for Harvard-authored research in a way that satisfies a Kantian categorical imperative. If every institution — university and funding agency — had a fund like HOPE, then all articles would be covered and each institution would be doing its fair share, no less and no more.

By the way, in such a hypothetical situation, the market structure of the system would function much better as well, [as I've argued elsewhere]().

RP: As noted, COPE does not permit signatories to pay for hybrid OA. I assume this is connected with the fact that you [do not agree]() with the Wellcome Trust's decision to pay researchers to publish in hybrid OA journals? But can you explain your thinking here?

SS: COPE does not forbid signatories paying hybrid fees. Indeed, it doesn't prescribe anything at all for signatory institutions beyond "the [timely establishment]() of [durable mechanisms]() for [underwriting]() [reasonable]() [publication charges]() for articles written by its [faculty]() and published in [fee-based]() [open-access journals]() and [for which other institutions would not be expected to provide funds]()." Signatories can, if they wish, also underwrite open-access fees in non-open-access journals (that is, hybrid fees) or fees for articles that were grant-funded; it's their money.

All the COPE documentation says on the matter of hybrid journals is that "journals that require a supplemental payment for open access on an article-by-article basis, so-called hybrid open access journals, would not be *expected* to be eligible." [Emphasis added.] A very few signatories do support hybrid fees, sometimes with additional restrictions.

However, I personally find the hybrid model unworthy of support because it doesn't provide a reasonable mechanism for a transition to open access. I've [written about this]() mechanism design issue in some detail. In particular, to the extent that we are willing to pay hybrid fees, publishers will have incentive *not* to switch to an open-access publication fee model; underwriting hybrid fees is thus counterproductive of the goals of open-access funds, which is to provide the "enabling environment" (as [Bernard Schütz]() says) for journals to switch to an OA model.

For that reason — and because we already have a method for open dissemination of articles in hybrid journals, namely, the DASH repository based on the OA policy licence — paying hybrid fees strikes me as a waste of money.

Conversely, when people talk about gold OA being a waste of money, what they're typically referring to is hybrid fees. But it's inappropriate to lump true gold OA journals and hybrids in the same bucket; the economics are quite different.

RP: How should we interpret the fact that Harvard paid for only three papers in two years from its HOPE fund? Are very few researchers at Harvard publishing in OA journals? Are they funding the costs by other means? Are they perhaps paying with their own money?

SS: Actually, we've funded nine articles. That's still a very small number, but not unexpected. As you noted, I predicted this low cost in my original article.

Demand is low in large part because the number of high quality open-access journals is modest and of those that do exist, the vast majority either charge no publication fees or are in fields like the life sciences where grant funding is widespread and there is long precedent for paying publication fees from grants even for subscription journals.

This state of affairs in turn is the result of there being little support for a sustainable revenue model for OA journals. That's exactly the problem that pre-emptive establishment of open-access funds is intended to solve.

So the solution to the low uptake for open-access funds in the short term is to expand the coverage of open-access funds to reach critical mass. Especially important would be for major research funders to establish policies to pay open-access publication fees as incremental payments on their existing grants.

RP: Aside from green, gold, and hybrid OA, there is also a distinction made nowadays between libre OA and gratis OA. I assume this is related to the argument about open data. Indeed, some argue that OA makes no sense unless research data is also freely available (which I think implies libre OA). Do you take an interest in the libre vs. gratis debate? If so, what do you believe are the key issues?

SS: I think the libre/gratis issue is actually quite separate from open data. Of course, the broader the use and reuse rights the better. One advantage of the Harvard-style open-access policies is that they retain by default very broad rights, which can be used to allow not only gratis use but libre reuse of the articles. The DASH terms of use take advantage of this, by authorizing DASH users to text mine the texts of articles falling under the OA policy for instance. At least one colleague has already taken advantage of this possibility.

I agree with the premise of the Budapest Open Access Initiative that the goal should be the broadest possible use rights, libre OA in the current terminology. Nonetheless, gratis OA is definitely better than no OA at all; there's no reason to allow the best to be the enemy of the good. The claim that OA makes no sense unless research data is also freely available is patently ridiculous.

RP: The topic of open data has gained a lot of mindshare in the past year or so? Do you take an interest in this topic? Is open data relevant to all disciplines?

SS: The question of open data is of course much more fraught than the question of open article access, because authors have essentially no motivation to restrict access to their articles, but have quite substantial motivations to restrict data access.

So it's not a no-brainer like open access. I myself support open data, try to make data from my research available, and am participating in some larger experiments along these lines. But open data has separate issues from open access and should be developed accordingly.

At Harvard, our Institute for Quantitative Social Sciences has been a leader in providing access to data through the Harvard-MIT Data Center and in providing tools to make data storage and distribution efficient and effective through the Dataverse Network.

Publishers

RP: Clearly publishers are key to when and how OA is provided. And they are often charged with seeking to hold back progress, especially in their resistance to the NIH Open Access Policy. But I guess the issue is whether they can do anything about it in the end. In its OSTP submission Harvard wrote of the NIH policy, "Some publishers dislike the policy because they would like to acquire the right that NIH funded authors retain. But not even those publishers believe that the policy infringes any rights that publishers acquire. If they did, they would go to court. Instead they have gone to the legislature, and backed the so-called Fair Copyright in Research Works Act (H.R. 6845 in the 110th Congress and H.R. 801 in the 111th Congress), which would amend U.S. copyright law precisely to block the NIH policy and to prevent other federal agencies from following its lead. This is an acknowledgment that the NIH policy is lawful under current copyright law". When I raised this issue with Elsevier's Alicia Wise in February she said Elsevier's lawyers take the following view: "It is the author we have an agreement with, not NIH. NIH's policy procedure asserts itself into the grant mechanisms prior to the creation of the article, and thus before the creation of copyright in the first place. However, the NIH policy (and the policy of some other funders and employers) is intended to place a 'lien' on the ultimate intellectual property that is produced, and thus undermines the general principles of copyright. Other funders and employers attempt to override existing agreements through various means." What is your view of the above argument? Does it have legs? Might it yet form the basis of a legal challenge to the NIH Policy, or even the Harvard Policy?

SS: I'm not a lawyer, but it doesn't make any sense to me. Contractual provisions affecting future intellectual property rights — I suppose you could call them "liens" — happen all the time.

For instance, as an employee of Harvard, I'm under a contractual provision that any inventions I make must be assigned to the university under a royalty-sharing program. Federal grant recipients have long been under provisions that they provide a use licence for any intellectual property they generate under the grant.

These "liens" don't seem to undermine the general principles of copyright or patent law as far as I can tell.

I'm not sure that even Elsevier believes this. At an American Bar Association event on Public Access To Federally Funded Research: Copyright And Other Issues in June, Peter Suber asked Mark Seeley, Elsevier's General Counsel, specifically about whether the NIH policy infringes copyright. Here's the pertinent interchange:

> **Suber:** Since many publishers have said that the NIH policy is inconsistent with copyright law, I'd like to clarify what Elsevier's position is. Elsevier has not said that the NIH policy infringes copyright. And if it doesn't infringe then we can talk about what inconsistency amounts to. But first I want to find out whether it does infringe in your opinion Mark. Does the NIH policy, by asking authors to retain rights, certain rights, and use those rights to authorize open access, infringe copyright?

> **Seeley:** So in general I think the NIH had a number of avenues by which they could proceed down to this question of complying with copyright law. This is one method that they've chosen. I don't think it's a wise method. But I concede that it probably does not violate US copyright law. I'm less sure about the treaty question — and the exceptions and limitations — but that's also a more difficult issue, and indeed more difficult to challenge it because you have to challenge it in an international context.

I suppose nothing stops publishers starting a legal challenge against the NIH policy on copyright grounds, but it doesn't seem like a winning strategy.

RP: You mentioned that some publishers now require authors subject to Harvard-style OA policies to request a waiver of their obligation to deposit, presumably as a condition of publication. You do not object to this?

SS: A very small number of publishers have a policy of systematically requiring that Harvard authors get a waiver of the licence. They inform the author upon acceptance of the paper that they will need a copy of the waiver document before publication.

I have no problem with that. If publishers believe that author rights retention as per the Harvard policy is inconsistent with their business proceedings, they are free to require waivers of the licences in this way. We aren't dictating publisher policies regarding licensing terms, just changing some of the default provisions.

RP: Some publishers are also telling research institutions with OA policies that they should sign a "systematic posting" agreement with them before posting any manuscripts. When I asked Alicia Wise about Elsevier's policy on self-archiving, for instance, [she said](#), "Authors are free to post preprints, they can post accepted manuscripts to websites or institutional repositories where they do so voluntarily or we have an agreement with their institution/funder, and we do not permit the posting of final published journal articles." Has Elsevier approached Harvard and asked it to sign a "systematic posting" agreement? Has Harvard signed one? What are the issues raised here?

SS: We haven't signed any agreement with Elsevier along these lines to my knowledge.

RP: Alicia Wise also [told me](#) that she has been sending takedown notices to universities where papers have been deposited contrary to Elsevier's policy. As she put it "We do keep an eye on the contents of repositories, and from time to time send requests for items to be taken down if they do not align with the policy." Has Harvard ever received a takedown notice? What would it do if it received what it viewed to be an unjustified takedown notice from a publisher asking it to remove a paper from DASH?

SS: We haven't received any takedown notices for DASH articles to my knowledge, from Elsevier or elsewhere. We would of course respond according to [the university's standard policy for handling allegations of copyright infringement](#).

RP: One of the triggers for the creation of the OA movement was the belief that the traditional subscription system is broken, and has become prohibitively expensive. In April, Harvard's Faculty Advisory Council [issued a memo](#) in which it said that Harvard Library faces an "untenable situation". It explained, "Many large journal publishers have made the scholarly communication environment fiscally unsustainable and academically restrictive. This situation is exacerbated by efforts of certain publishers (called "providers") to acquire, bundle, and increase the pricing on journals." It then suggested a few somewhat imprecise ways in which Harvard faculty could help spread the message. Responding to this document on your blog [you proposed](#) two very practical things that researchers could do. In reading your post, I inferred that you do not expect subscription publishing to disappear any time soon. Would that be correct?

SS: I'm not a member of the Faculty Advisory Council to the Harvard Library and was not involved in the drafting of that memo. But the underlying sentiment, that the scholarly journal market is systemically dysfunctional, I certainly agree with.

I doubt subscription publishing will ever disappear. Especially for the handful or two of journals that have managed to take hold of the promotion criteria in the life sciences — the *Science*, *Nature*, *Cell* type journals — who have incredibly high production costs keeping them from competing with OA journals on publication fee and a grip on the author market that allows them to opt out of that competition. For them the subscription model can likely be preserved indefinitely.

That's why discussions about OA should not be affected by those journals. For the rest of the tens of thousands of journals, exponential real cost growth and the access problems that that leads to are real problems that need to be addressed.

In the meantime, for academics involved with journals, as editorial board members for instance, who want to make sure that they're providing their volunteer efforts to journals that "do the right

thing", I proposed two simple tests to see if the journals were on the better end of the spectrum as far as rights and pricing go.

For rights, the journal's publication agreement should be consistent with the [Science Commons Delayed Access (SCDA) addendum](#) so as to allow green OA and compliance with funder or employer policies, and for price, the journal should be at least of "medium value" according to the pricing metric that the [Bergstrom's](#) have proposed.

RP: Publishers argue that the fundamental problem facing scholarly communication today is not publisher price increases, but simply that library budgets have failed to keep pace with research spending. As Alicia Wise [told](#) The Guardian, "Global R&D is around $1.2 trillion per year and it grows by more than 4% each year. This fuels growth in the number of researchers and research projects and the number of articles that are written and are of high enough quality to be published. It's unfortunately no surprise that there's an affordability gap in libraries. This is a shared problem for libraries, publishers, academics and funders that we need to work together to address." Are you at all sympathetic to this view?

SS: No. If you graph the serials costs on a per journal basis, they're still hyperinflating. Global R&D growth doesn't explain the huge price disparities among journals, even when normalized by size and quality, or the existence of persistent extraordinary profit margins. These are clear signs of market failure.

Every knowledge industry on earth has managed to reap incredible efficiencies over the last decades from technological advancement. Why is scholarly article provisioning the exception?

RP: Indeed, and because of its high prices, and its support for the Research Works Act, Elsevier has been [boycotted](#) by some researchers (currently nearly 13,000). But is it fair, or even logical, to target one publisher when most commercial publishers behave in the same way as Elsevier?

SS: Yes, whatever you think about the Elsevier boycott, it is both logical and fair to target a single publisher. As a tactical matter, selecting a single target among the set of possible targets has several advantages: It sends a signal to all of the publishers that they want to be at least the second worst offender, causing them to compete among themselves in a salutary direction. It provides a bit of an outlet for demand among the boycotters who can still make use of the non-boycotted companies.

It is fair because Elsevier has demonstrated through a range of actions that it is especially averse to the trends toward openness in scholarly communications.

Frankly, if I ran a commercial journal publisher with a large subscription journal portfolio, I'd start setting up systems to enable the company to run open-access journals extremely efficiently. I'd establish or acquire some open-access journals to get experience with the model and learn how to make it work. I'd leverage relationships with librarians and with scholars on my editorial boards to push for open-access underwriting by universities and funding agencies. I'd take the high road on open access — allowing self-archiving, accommodating university and funding agency policies, not lobbying against the inevitable — so as not to tick off my future author pool, and so as to hasten the day when my competitors are at a strategic disadvantage. Kind of sounds like Springer.

Oh, except for the part about lobbying against the inevitable. [Springer, are you listening](#)?

RP: What are your views on the outcome of the Research Works Act?

SS: Thankfully, the RWA is dead. It was a tremendous distraction to the scholarly community, which was likely the intention of its proponents.

RP: What about the FRPAA: Do you support it? If so, why? Is it any more likely to be introduced than the RWA?

SS: I'm a strong supporter of FRPAA and hope that it can make good on the quite strong traction it has this go-round. Nonetheless, I'm not too sanguine about getting any legislation through Congress these days.

RP: The [Harvard OSTP submission](#) says, "public access should never be available solely through private-sector publishers." Can you expand on that?

SS: It's simple really. Private sector publishers go out of business or change their business plans. We don't want to lose access when such events occur.

Having a supplementary mechanism for systematically preserving and distributing the content in the hands of actors with motives that are not purely profit-seeking solves this problem. There are lots of alternatives along these lines: government repositories like [PubMed Central](#), university repositories, non-profit systems like [Portico](#).

RP: More and more researchers appear to be concluding that there is no longer a role for commercial publishers in distributing research. Would you agree?

SS: I am actually quite agnostic on the role of commercial publishers in principle and favourable in practice. There's nothing wrong in principle with commercial publishers providing publishing services for scholarly communication, so long as the commercial context is well designed.

The problem is not that the participants in publishing are commercial entities; it's that the market is dysfunctional. [Commercial publishers aren't the bad guys](#). In practice, the commercial publishers should have a leg up in competing even in a functional open-access journal publishing market. They know, in theory at least, what services are needed and how to deliver them and have lots of experience doing so.

Pricing & Markets

RP: You say that the subscription market is dysfunctional. OA advocates have always assumed that OA publishing will not be, and that it will therefore be cheaper. However, the conclusions of the UK [Finch Committee](#) (setup last year to make recommendations on how UK-funded research findings can be made more accessible), have led some to question this assumption. Specifically, concerns have arisen that the Finch recommendations will allow publishers to migrate to an OA environment in such a way as to lock in their revenues, and thus their current profit levels (which many feel to be too high). At one point I am told, publishers tried to persuade the Finch group to recommend the setting of a national APC rate in order to protect their revenues. While this idea was rejected, no price guidelines have been set for APCs. Just before the Report was published The Times Higher Educational Supplement *(THE)* [commented](#) *"[I]t does seem surprising that the Finch group appears unlikely to take the opportunity to at least consider whether the profits of academic publishers of all kinds — which, after all, come in large part from the public purse — are appropriate, particularly at a time when the research budget is declining in real terms." You are one of those who still believe that OA publishing will be cheaper, and you have argued that it will not be subject to the high levels of price inflation characteristic of subscription publishing — a phenomenon that came to be called* [serials crisis](#)*. Is that correct?*

SS: Yes, I do believe that OA publishing will be less expensive overall, based both on principled economic arguments and empirical evidence — unless of course we do something silly like having nationally mandated publication fees instead of letting a functioning market set the rates.

It's ironic, isn't it, that at one and the same time publishers reject government "intervention" in requiring grantees to make their funded articles available, they request government intervention to quash competition in the publication fee market.

I and others have argued that the market structure for the publication-fee revenue model does not exhibit the market dysfunction of the subscription revenue model. In particular, from the point of view of readers, multiple journals are economic complements, but from the point of view of

authors, multiple journals are economic substitutes. Complementary goods do not compete in a marketplace, but substitutive goods do.

Additional market problems for journal subscriptions come from the monopolistic nature of the good sold and the condition of [moral hazard](#) under which it operates. But the publisher services that OA journals provide and that publication fees cover aren't subject to monopoly control like access is, and the moral hazard can be mitigated as well. For all of these reasons, we'd expect to see robust competition among open-access publication fees where we're seeing a lack of competition among subscription fees.

In fact, there's evidence of that competition already.

First, the average revenue per article for open-access journals, even the minority that charge publication fees, is a small fraction of the average revenue per article of subscription journals.

Even the highest priced open-access journals like *PLoS Biology* charge less, $2,900 per article, than the average revenue per subscription journal article, around $5,000 per article according to the [Scholarly Publishing Roundtable](#).

And PLoS's average fee per article is around $1,350, since almost all articles they publish are in [*PLoS ONE*](#). They are thus financially solvent on an average revenue per article that is *less than a third* of the industry average.

Second, we already see competition among open-access journals in setting their publication fees. For instance, when Nature Publishing Group set up its *PLoS ONE* competitor [*Scientific Reports*](#), it priced the publication fee at exactly — to the dollar — the same as *PLoS ONE*. Another piece of evidence: unlike subscription fees, [publication fees correlate strongly with proxies of quality like eigenfactor](#).

But even if in the end OA publishing were no more cost effective than subscription publishing, it would still be extremely desirable to pursue, since we'd at least have access to all of the articles.

RP: The low-cost journals you refer to — PLoS ONE and Scientific Reports etc. — offer what some have described as a cut-price no-frills peer review service. In comparing them with subscription journals, are you perhaps comparing apples with pears? In June, the editor-in-chief of Nature *Philip Campbell [estimated](#) that if journals like* Nature, Science *and* Cell *became OA they would need to charge APCs in excess of $10,000 per paper. Given this, it is hard not to conclude that gold OA prices will inevitably rise as subscription publishers begin to migrate to OA. But you do not agree?*

SS: No, I don't.

First, the point of the megajournals like *PLoS ONE* and *Scientific Reports* is not that their peer review service is cut-price or no frills, but rather, that they use different criteria for peer review, scientific validity but not scope specificity or predicted impact.

Second, it's not only the megajournals that have relatively low publication fees compared to average revenue per article for subscription journals, but every OA journal around regardless of peer review criteria. *PLoS Biology* and *PLoS Medicine*, flagship journals of the highest quality, charge less than $3,000 per article. BioMed Central journals charge in the $600 to $2,600 range. They are profitable at those levels.

Finally, as I indicated earlier, *Science*, *Nature*, and *Cell* are not representative of the tens of thousands of extant journals. If a few journals need to charge $10,000 per paper — assuming they can convince authors that their services are worth those lofty amounts — that won't substantially raise the average publication fee significantly.

I'd guess instead that the handful of journals of that sort will just remain subscription journals. The conversation around open access has been badly skewed by undue attention to a handful of outlier

journals that are not representative of the tens of thousands of journals that make up the scholarly journal ecology.

RP: Can you say something about the market signals you envisage operating in a gold OA market to restrain price increases?

SS: As I mentioned earlier, gold OA funded by publication fees engenders a competitive market without the monopolistic aspects of subscription fees. There's ample evidence of this already. Claudio Aspesi's report "Reed Elsevier: The Tyranny of Competition — SCOAP[3] Shows That Price Premium Is Difficult to Sustain in an OA World" makes the argument forcefully.

But that doesn't mean we don't need to pay attention to the details. It's always useful to think ahead as to where incentive problems might lurk. One of the problems that could recur from the subscription revenue model is moral hazard, which we see in spades in the subscription market. The consumers of the subscriptions, that is, the researchers reading the articles, are completely oblivious of the price being paid for the access, since the universities are paying it on their behalf.

I've argued in the past — and COPE is based on the premise — that universities and funding agencies should pay publication fees on behalf of authors, just as they pay subscription fees on behalf of readers. Doing so may not engender a problematic moral hazard; there's no sign of one yet even though the vast majority of publication fees are paid by institutions on behalf of authors rather than by the authors themselves. But it's a good idea to design the system to mitigate even the potential of a problem. There are several ways that could be done, and experimentation with alternatives is a good thing.

The method built into Harvard's HOPE fund, which pays OA publication fees on behalf of Harvard authors, is to cap total fees per author per year. The cap makes the amount of available funds a scarce resource, reintroducing price sensitivity in author decision-making.

Another alternative is to have author co-payments, an approach that I think is especially appropriate for funding agencies to use. The scheme I've proposed is to cover 100% of the fee up to a threshold and a fixed percentage thereafter.

These two mechanisms for addressing moral hazard in the publication fee market are consistent with each other. You could imagine a system that uses both.

RP: I am thinking that where OA is paid for by means of the OA membership schemes that most OA publishers now offer, the same disconnect exists between the person who buys the product and the person who pays as we see in the subscription publishing model? And presumably this creates the same moral hazard?

SS: It's very hard to set up a membership scheme that doesn't reintroduce the moral hazard. Worse, memberships and prepayment schemes serve as a kind of transfer payment from universities to funding agencies, as I've argued in some detail elsewhere. Basically, the membership fee that the university pays for ends up reducing the publication fee that the funding agency covers. With membership fees, universities end up paying for more than their fair share of research distribution costs.

Also, memberships end up implicitly favouring some OA journals over others. The membership journals get a buy-down in publication fee that other journals don't have the benefit of. I don't think that it's appropriate to play favourites among OA journals in that way.

For these reasons, I'm not at all supportive of membership schemes. If universities want to make some money available for open-access publication fees — and I think they should — they're much better off allocating it to an open-access fund than to a publisher membership.

RP: Researchers frequently express the concern that if their funder requires them to publish in an OA journal then they will have to pay the APC out of the money they were given to do the research in the first place. Clearly, gold OA funds could help here, but universities are still having to pay subscription fees today, so there is a limit to what money they can

provide. Moreover, the Finch group recommended that gold OA should be prioritised over Green. Critics have responded by saying that research funders will insist that around 4% of the money they provide to universities to do research will have to go towards the university's gold fund. Do you think that this is an inevitable consequence of gold OA, at least in the short term?

SS: With regard to the concern that in an OA world moneys will have to go to distribute research instead of carrying that research out, first of all, research is useless if it isn't disseminated, and conversely, it's more useful if it's distributed without access restrictions. Paying for dissemination is a necessary part of the research process.

Second, the funders are paying it now, through overheads that go to the research libraries that subscribe to the journals.

Third, as I have indicated the cost per article under a competitive open-access publication fee market should be less than that under the subscription market. So I have no problem with funding agencies using a portion of their funds to fund dissemination directly as they currently do indirectly.

But there are good ways and bad ways to set up systems of direct underwriting of open-access dissemination. The Finch group's clear expression of support for open access is laudable and important. But there are fundamental problems with the particular prescription that they've proposed.

RP: Can you say more on this?

SS: As you noted, they've prioritized gold open access over green open access. They've proposed cutting publishers a blank check for hybrid fees with no control over the problem of moral hazard. They've incentivized publishers to make green OA more difficult.

The problems with the Finch report approach have been well rehearsed. I hope that the implementers at the UK Research Councils will heed the warnings. If not, at least the move toward open access that they propose is a good one, and the problems in the implementation can, I hope, be corrected over time as they become more apparent.

RP: As you know, many have argued that author-pays OA publishing will encourage vanity publishing. Indeed, I believe that you yourself have been [targeted](#) by vanity publishers. Three years ago you wrote a [blog post](#) headed, "Is open-access journal publishing a vanity publishing industry?" In that post you concluded "Vanity journal domination is not occurring, nor is it likely to occur, among OA journals. Vanity journal existence will and does happen among both OA and subscription-fee journals, but at least for OA journals is a benign phenomenon". And you said to me earlier, "publication fees correlate strongly with proxies of quality like [eigenfactor](#)." I take this to mean you believe that there is a correlation between OA price and journal standards. Commenting on your 2009 post Harnad said to me, "The risk of low-standard OA is not high prices but more publication of low-standard papers: OA publishers can afford to publish no-standard papers, even at the lowest price, since it costs them next to nothing to do so". If Harnad is correct then it would seem to suggest that, vanity publishers aside, there may be a greater quality problem with OA publishing than subscription publishing, in scale at least. Meanwhile, Jeffrey Beall has collected a list of what he has dubbed "[Predatory Open Access Journals](#)" that currently consists of over 200 publishers and continues to grow. Would you accept that OA may lead to a greater number of poor-quality papers being produced, and can it really be that there are subscription equivalents to the more egregious OA publishers on Beall's list?

SS: It's not true that "OA publishers can afford to publish no-standard papers, even at the lowest price, since it costs them next to nothing to do so." It costs them their imprimatur. And when your customer base is authors looking for imprimatur, as it is in an OA journal, that's a huge cost. The empirical evidence that you refer to bears this out: the higher-quality OA journals can charge higher publication fees.

The issue isn't the number of bad papers produced; that's a red herring. In the internet age, who cares if there are a gazillion bad papers floating around. Even before OA, we all knew which journals generally published good papers and which generally published junk.

OASPA is doing yeoman's work establishing criteria for good behaviour of OA journals, and Jeffrey Beall's scholarlyoa.com is doing a great service alerting the community to bad actors. And remember, at least we don't have to pay subscription fees to any of those predatory journals. The only people who lose in publishing with predatory journals are the authors paying the publication fees. Caveat emptor.

Futures

RP: Let's finish by trying to peek into the future a little. Last June the Wellcome Trust, the Howard Hughes Medical Institute and the Max Planck Society announced a joint plan to launch a new OA journal called eLife. Initially at least this will charge no publication fee. Is this likely to be a dominant publishing model in the future in your view: research funders creating their own OA journals and funding the costs?

SS: It's one model for the future, but I don't expect it to be predominant. You can think of this model as a standard gold OA journal where the fee is paid for by a subvention from a non-profit. There are many such journals. Some are funded by research funders (like *eLife* is) or by foundations or by universities. But I'm ecumenical when it comes to open access. The more options the better.

RP: I get the feeling that in the wake of the RWA controversy many researchers are beginning to look beyond both gold and green OA, to more network-centric ways of distributing their research — ways more akin to the arXiv model than that used by PLoS ONE for instance. It is worth noting that former publisher Jan Velterop believes that if the research community adopted the arXiv "endorsement" model for publishing research (in which pre-publication peer review was abandoned) it could save $3 billion a year in the cost of distributing research. Are you sympathetic to this view?

SS: I don't see the connection between RWA and the kind of post-publication peer review that you are referring to here. But I take it that what you're getting at here is whether scholarly communications are likely to move in the direction of a greater role of post-publication review, so let me address that point.

I've in general been relatively conservative in my opinion of the role of traditional peer review, finding it to be an important source of improvement, filtering, and quality signalling of articles.

Most importantly, I think it's important to separate notions of access limitation (open versus closed access journals) from review process (pre- versus post-publication review). Confounding these issues has done a lot of damage to open access by leading academics to think that open access corresponds to non-peer-reviewed and therefore poor quality.

We need some methods to mark the quality of articles in a reliable manner, and to the extent that peer review is the only game in town, I'm a fan. Note that I say "quality of articles" not "quality of journals", and I say "mark the quality" not "limit to high quality". The former gets at the inherent superiority of article-level metrics; the latter at the irrelevance of bottom-feeding open-access publishers.

Of course, reliable marking of article quality could in principle be done by post-publication review. Unfortunately, there are no ringing exemplars of the approach. This is the main reason that I've been conservative. However, recently I have to say I've warmed to the idea of post-publication peer review. To some extent, you can see the move toward open-access megajournals that *PLoS ONE* initiated as a kind of first step in the direction of post-publication review. Of the three criteria that reviewing traditionally evaluates — scope, validity, and predicted impact — these journals retain pre-publication review only for validity. They leave scope filtering and impact evaluation to post-publication.

And other experiments in post-publication peer review would certainly be valuable to see how the system could be set up to provide the article quality marking that is needed, without the many frailties of pre-publication review.

RP: You were one of those to attend the [10-year BOAI event](#) held in Budapest in February. Amongst other things, the aim of the event was to come up with a set of recommendations to help lay out directions for future progress. What were your impressions of the meeting, and what do you feel was achieved?

SS: What struck me was the generally strong consensus on the issues surrounding open access. It seemed to me that the landscape is a lot clearer than it was ten years ago, when the whole notion of the plausibility of open access as a scholarly communication principle was completely up in the air and the situation was much more fragile.

By now, it is completely clear to all the stakeholders that open access can be a viable, sustainable answer to disseminating knowledge. Open access advocates have ten years of experience on which to base empirical arguments. All of the major publishers are now participants in open access.

This doesn't mean that the trajectory from here on is clear, or even that the future of open access is predictable, but it does mean that the big problem — managing the transition from the current situation to the goal — is really the remaining focus.

The meeting itself was a wonderful opportunity to talk with the leading figures in the open access movement, qua movement, and a personal privilege for me.

RP: Nevertheless, what do you predict for OA in the coming year, and over the next 10 years?

SS: I'm not a futurist. As Dennis Gabor said "The future cannot be predicted, but futures can be invented." We who are interested in the future of open access in particular and scholarship in general are better off inventing the future than trying to predict it.

RP: What do you believe the priorities for the OA movement should be right now?

SS: There are three directions that will lead the transition toward open access:

1. Education. As ever, researchers need to understand the issues. There is, of course, much greater understanding than ever before, but the mechanisms of scholarly communication and their problems are not high on the list of interests for most scholars. The move to open access needs to be supported by scholars, and education is the necessary precondition.

2. Experimentation. No one knows what new methods and systems of scholarly communication will take hold in the future. We need a broad range of experiments to see what works. Fortunately, disruption leads to just such experimentation. And vice versa.

3. Economics. We need to pay special attention to the financial sustainability of scholarly communication systems. The functions that the current system provides still need to be provided and paid for. There's no free lunch.

The three are interconnected. The economics will force the dysfunction of the current system to become obvious to researchers thereby educating them. Educated researchers demanding alternatives will motivate experimentation. Experimental efforts achieving critical mass will in turn remake the economics.

And they also all start with the letter "e". Coincidence?

RP: You rightly say that there is no free lunch. However, at the start of this interview you said that some researchers fear OA could lead to unintended consequences. You have indicated your preference for libre OA, and you have said that while you believe gold OA will prove less costly than subscription publishing, you acknowledge that the same moral hazard inherent to the

subscription system could be replicated in an OA publishing environment. You also said that you believe hybrid OA is counterproductive of the goals of open-access funds like HOPE, and that mandating publication fees is one way in which a moral hazard could be replicated in an OA publishing environment. I think it is for this reason that you are cautious about the Finch recommendations and the resulting RCUK policy — which will [require that APCs buy libre OA](#) and prioritises gold over green OA.

You will perhaps know that Harnad [believes](#) the outcome of the RCUK policy is likely to be that subscription publishers will see no urgent need to convert to gold OA. Instead, they will push authors to embrace hybrid OA — which is invariably a more expensive option than pure gold OA — while lengthening their green OA embargoes (so that green OA is no longer conformant with the RCUK policy). We have also seen Nature [respond](#) to RCUK's requirement for libre OA by further increasing the cost of its APCs — by between $200 and $500 per article; and we have seen the UK government provide an [additional £10 million](#) to help the [Russell Group](#) universities pay APCs.

I have been wondering recently whether the OA movement might not therefore be at a dangerous — or let's say significant — point in its development. What if RCUK does not heed the warnings, and what if other research funders around the world choose to propagate the RCUK policy? And suppose in the meantime universities ceased to propagate the Harvard policy, or propagated only a weaker version? Might this not see the "affordability" problem at the heart of the serials crisis worsen rather than improve in an OA environment? That is, as the research community migrated from subscription publishing to OA could we see the costs of disseminating research rise rather than fall?

My final question therefore is this: might an unintended consequence of OA be that the costs of disseminating research rise? I understand you believe that this could be avoided if APC prices were capped, but (based on its [last statement](#) at least) there is no indication that RCUK intends to do anything like this. If this unintended consequence were to occur what, in your view, would be the consequences, and what can researchers do to try and avoid it happening?

SS: An unintended consequence of poorly designed OA policies could be that the costs of disseminating research rise, absolutely. That's why it behoves us to support well-designed policies and models, and call out poorly designed ones.

The problem is not with OA per se, but with particular policies designed to achieve the goal. In particular, I think Stevan Harnad is quite right in pointing out the extraordinarily perverse incentives in the Finch report proposals. He is right that "the outcome of the RCUK policy is likely to be that subscription publishers will see no urgent need to convert to gold OA." That's true of any policy that establishes an unchecked willingness to pay hybrid fees, and the Finch report and the RCUK implementation fall prey to this problem. Your "what ifs" paint a scenario that would be disastrous, though improbable.

The good news is that it's unlikely that all funders will be willing to haemorrhage money in this way.

The bad news is that those who are will be spending a lot of money postponing the day when full open-access journals become widespread.

But there are some reasons to be hopeful. First, the affordability problem that this kind of policy induces is experienced by a new set of stakeholders, the funders, who have in the past been insulated from seeing the problem first-hand. We can hope that they'd be less likely to be willing to put up with excessive costs indefinitely. If so, they'll be able to easily repair the incentive structure when they put their minds to it.

Second, since not all articles will be funded by funders with this kind of open-wallet policy, publishers may still have to moderate their publication fees to attract the rest of the author pool.

Finally, once the funders do learn their lesson and reintroduce market mechanisms to their policies, competition can take over to mitigate the problem.

As to what researchers can do, this is really not a problem that they can do much about, nor will they have much incentive to, since it's not their money that's being wasted. The funders have decided to shoulder the affordability problem without solving the market failure; they'll presumably learn soon enough what they've gotten themselves in for.

RP: Ok, thank you very much for taking the time to answer my questions.