

*Dear Seb*

*I am snowed under at the moment. I don't mind using open-access journals or making articles open-access, provided the funding is available. Part of the problem is that assessments/measures of esteem are done based on impact factors etc., so one cannot really afford publishing "low"...*

*Best*

Assistant Professor – Leading Research Institution

# A further exploration of the views of chemists and economists on Open Access issues in the UK

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June 2011



Commissioned by the Research Communication Strategy project at the Centre for Research Communications at the University of Nottingham; funded by JISC

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## 1 Introduction

### 1.1 BACKGROUND

The authors of this report responded at the end of April 2011 to an ITT from the Centre for Research Communications (CRC) at the University of Nottingham to undertake a small project, roughly a month long, and based mainly on meeting and interviewing UK academics in chemistry and economics. The remit of the project was to follow up on a web-based survey undertaken earlier in the year by the CRC under the auspices of CRC's JISC-funded Research Communications Strategy Project. The bulk of the work took place in May and early June; and this report was delivered on June 17.

### 1.2 THE FOCUS OF THIS STUDY

Most UK researchers are attached to academic institutions. Although there are variations in the breadth of the subscription base of institutional libraries, most scholars have smooth and seamless access to most of the scholarly research outputs that they require, for most of the time. Their world is largely an open one. For this reason, the policy discourse about openness in general, and Open Access in particular has had little influence on most academics. Their world is dominated less by issues of efficiency, cost-effectiveness and public good, than by the motivations in relation to scholarly publishing that exist within their own field. The focus of this study is on the latter, that is, on culture and the reasons behind researchers' attitude to Open Access.<sup>1</sup>

<sup>1</sup> For definitions of Open Access and the difference between "Green OA" and "Gold OA" see: [http://en.wikipedia.org/wiki/Open\\_access\\_%28publishing%29](http://en.wikipedia.org/wiki/Open_access_%28publishing%29)

It is worth noting that 'Open Access' is not a term whose nuances and implications are widely understood. For most people the key distinction is – 'is it free or do I have to pay for it?' The organisation and arrangements that go on behind the scenes to make that 'free' stuff possible is and will probably always be only a concern for a tiny minority of people. But having the free access is a concern for everyone. In a similar way: everyone wants to use Google to find things but how many people get involved in discussing search algorithms, ranking and indexing?

### **1.3 A NOTE OF THANKS**

The best laid schemes o' Mice an' Men, Gang aft agley.  
We bid for this work making what turned out to be completely wrong assumptions about the ease with which we could find academics willing to talk during the exam-marking period about the issues tacked in this study, within the project's very short timescale. We are very grateful for the cooperation of those to whom we did speak, particularly at this busy time in the academic year, and to Willow Fuchs from CRC for her pragmatic and supportive approach throughout. Thank you.

## **2 Methodology**

A key consideration in our approach was to concentrate on "everyday" academic chemists and economists rather than on those who might think of themselves as part of the Open Access movement.

We describe our methodology in some detail because the way in which it evolved during the project's short life is itself illuminating.

By agreement with CRC we focused our attention on ~700 academics (about ~350 Chemists and the same number of Economists) at 11 universities in England. This same group of researchers had been the target for CRC's online survey earlier in the year.

On 9 May we invited them by email to "help the University of Nottingham with a focus group about Open Access". 12 people (less than 2%) responded, in every case declining to be involved.

On 16 May – using a text agreed with CRC – we wrote again by email to the same group inviting them to come forward for a brief telephone interview about "making research Open Access". 2 people (less than 0.3%) responded: one offering to be interviewed, and one providing a brief view on the subject.

By chance, one of our team was separately in communication with a (non-responding) recipient of the first of these approaches. Through the good offices of this individual a focus group was eventually convened and this took place on 3 June.

The method we adopted in the focus group was to work through a tabled agenda of points, with one team member mainly facilitating and one team member mainly summarising views. The written record of the discussion has been shared with the person who convened the focus group.

Separately, an interview was arranged with a research professor in economics known to one team member, and not based at one of the 11 target universities.

The method we adopted for the telephone interviews was based on a script of just over 20 questions and follow-up prompts. They lasted 30 minutes and we recorded them via Skype. We wrote up a record of the interview responses, verbatim for comments that seemed particularly pithy or germane, and sent it to interviewees for checking.

Alongside these efforts we undertook what we had described in our response to the ITT as a "quick and dirty literature review", the main references for which are shown as footnotes

in the next section; and we listened to Lawrence Lessig's 18 April 2011 keynote speech at CERN – "*The Architecture of Access to Scientific Knowledge*"<sup>2</sup> – and to relevant sections of "*Academic Uses of Social Media: Exploring 21st Century Communications. A panel discussion held on 3 May 2011 at Harvard University's Berkman Center for Internet and Society.*"<sup>3</sup>. Coincidentally, on 26 April, the Economist published a short piece about scholarly publishing<sup>4</sup>, on which there are over 20 comments, some of which are relevant to the subject matter of this study.

Thus the inputs for this brief study are scant. We spoke individually to three senior UK figures, all professors in their fields, and to a small focus group of researchers of varying seniority at a leading research university. We undertook a brief literature review. We heard the views of key figures at Harvard University. In respect of those to whom we spoke personally and who emailed us, we value and wish to reproduce some of their very frank and revealing comments, so we have agreed to respect their anonymity – we have every reason to think that their comments are representative.

### 3 Results of brief literature review

We selected a small number of research papers and reports, informed by the RCS consultancy specifications and the references from Bill Hubbard's quarterly reports. As one might expect, Open Access enthusiasts (and, to a lesser extent, sceptics) have contributed to fairly extensive Wikipedia entries on Open Access publishing and Open Access journals. These cite some relevant research to which we also referred.

There is a strong skew in the research on Open Access diffusion towards studying the attitudes and motivations of researchers – the "talent" in the research world, rather than the "managers" and middle (wo)men. This is despite acknowledgement by, for example, Moore (2011)<sup>5</sup> that "While scholars are central, they are only one part of a scholarly communication ecosystem that includes publishers, librarians, and university administrators, as well as scholarly societies, associations, funding agencies and others." The dependencies and implications of Open Access clearly run system-wide in the ecosystem, so it is perhaps strange that most studies do not explore in depth the impact of other actors, of their value systems and professional cultures, and of the broader institutional settings in which research is mediated and distributed. Put another way, the culture of the academic researcher is an artefact of prevailing economic, social and reputational pressures.

Previous such Open Access studies have had some success in engaging researchers to discuss their attitudes, opinions and reservations about the field. Interviews are probably the most common research method, though questionnaires have also been used (sometimes in tandem with interviews) to get the broad base and quantitative comparisons afforded by large samples. While each of the studies has something unique about its focus (e.g. different kinds of repository<sup>6</sup>, open access journals<sup>7</sup>, different countries and cultures, comparisons across academic disciplines), several common themes emerge in each. To give a flavour of the kinds of issues, Kim (2010)<sup>8</sup> collected sufficient quantitative data to separate themes using regression analysis and this identified seven significant factors (listed in descending order of their effect size):

- altruism—the idea of providing OA benefits for users;

<sup>2</sup> <http://vimeo.com/22633948> last accessed 12 June 2011

<sup>3</sup> <http://cyber.law.harvard.edu/interactive/webcast> last accessed 12 June 2011

<sup>4</sup> Academic publishing - Of goats and headaches - One of the best media businesses is also one of the most resented. Of goats and headaches - (the article) <http://www.webcitation.org/5zO7HmqOm>; (the comments) <http://www.webcitation.org/5zO7PMAH6>

<sup>5</sup> *Survey of University of Toronto Faculty Awareness, Attitudes, and Practices Regarding Scholarly Communication: A Preliminary Report*, Moore, Gale. 2011. Toronto: University of Toronto. Retrieved 15 June 2011 from <https://tspace.library.utoronto.ca/handle/1807/26446>

<sup>6</sup> *OA Repositories: the Researchers' Point of View*, Roxana Theodorou, Journal of Electronic Publishing, Volume 13, Issue 3, December 2010 Retrieved 18 May 2011 <http://quod.lib.umich.edu/jjep/3336451.0013.304?rqn=main;view=fulltext>

<sup>7</sup> *Exploring the Willingness of Scholars to Accept Open Access: A Grounded Theory Approach*. Park, Ji-Hong & Qin, Jian. Journal of Scholarly Publishing, Volume 38, Number 2, January 2007, pp. 55-84

<sup>8</sup> *Faculty Self-Archiving: Motivations and Barriers* Jihyun Kim, Journal Of The American Society For Information Science And Technology September 2010

- perceived self-archiving culture;
- copyright concerns;
- technical skills;
- age;
- perception of no harmful impact of self-archiving on tenure and promotion; and
- concerns about additional time and effort.

Age, copyright concerns, and additional time and effort are negatively associated with self-archiving, whereas remaining factors are positively related to it. Further analysis revealed that scores on self-archiving culture in humanities were significantly lower than those in science, engineering, and social science. There were also considerable differences between sub-disciplines within these broad fields, reflecting different cultural and historical norms.

However, the focus of the Kim study on "self-archiving" – an Open Access approach, but one that places more emphasis on availability than impact – means that it gives less emphasis than most other studies to the one most commonly mentioned theme. This is what one of the subjects in Park and Quin (2007)<sup>9</sup> calls "reputational capital". The full quote is "The criteria to select to publish [sic] is always reputational capital. The thing is that if you publish in high quality your reputational capital goes up; if not, it goes down."

One of the apparent paradoxes of the slow diffusion of Open Access, as reflected in the Wikipedia account<sup>10</sup>, is that the main reason authors and researchers might want to make their work openly accessible – "to maximize their research impact" – is also the main reason they give for having it published in journals that are *not* openly accessible or do not allow self deposit in an OA repository.

There is now some research (e.g. Antelman, 2004<sup>11</sup>) to indicate that individual Open Access articles have more impact than those published in conventional journals. Antelman (page 380) concludes,

*It is well known that despite the fact that such journal-level impact factors are routinely used to evaluate authors of individual articles, "journal impact factors correlate poorly with actual citations of individual articles" (Seglen, 1997). The high standard deviations of these samples bear this out and point to the value of new citation measures, such as CiteSeer or ParaCite, which assess the impact of individual articles. Open-access articles make these new, more meaningful measures of research impact possible. Evidence of the rapid evolution of bibliometrics toward "webometrics, "cybermetrics," and "influmetrics," as Blaise Cronin (2001) has characterized them, is the partnership between ISI and CiteSeer to create a new citation measurement tool.*

Eugene Garfield, who originally devised the Impact Factor, has been quoted as saying "it has been demonstrated that on line access improves both readership and citation impact" (Antelman, 2004, page 372). When institutional actors come to embrace these insights and other measures of research impact, the culture in which researchers operate will have become more supportive of Open Access, and they will be able more straightforwardly to marry their pursuit of reputational capital to the public and commercial benefits of Open Access.

After we had completed our literature review, we were able to view the Harvard University panel discussion (chaired by John Palfrey) referred to in section 2. We feel it is worth reproducing some of the comments from this panel discussion (transcribed by us from the video, so any inaccuracies are due to transcription), not only because the figures involved are influential and knowledgeable, but also because the points made dovetail with and provide an excellent introduction to the comments of our UK respondents outlined in the following section.

<sup>9</sup> *op. cit.*

<sup>10</sup> [http://en.wikipedia.org/wiki/Open\\_access\\_\(publishing\)](http://en.wikipedia.org/wiki/Open_access_(publishing)) retrieved 16 June 2011

<sup>11</sup> Kristin Antelman (September 2004). "Do Open-Access Articles Have a Greater Research Impact?". College & Research Libraries 65(5). pp. 372–382. retrieved from [http://eprints.rclis.org/bitstream/10760/5463/1/do\\_open\\_access\\_CRL.pdf](http://eprints.rclis.org/bitstream/10760/5463/1/do_open_access_CRL.pdf) on 16 June 2011

*I find myself as an economist going to libraries far less than I did when I was a graduate student because our journals are on line. As long as you guys pay the right fees so that I can get all the journals through the Harvard library web site I never need to go to a physical library any more and I suspect that is true of a lot of people in my field*

**Gregory Makiw – Professor of Economics at Harvard**

*How do you blog about an article you can only get through Jstore, which, we are privileged enough to get, but not everybody.... as an educational issue it's a really interesting problem. I'm teaching a freshman seminar where students are ... using materials a lot of which they can find on line but not all of it, and many of them are using Harvard archives ... and there is wonderful archival materials that they can get to except for the fact that the archives, ... open only late in the morning, and my students all have sports practice in the afternoon, and they were unbelievably nice – they started opening early just for my students, but there is a tension here ...*

**Harry Lewis - Gordon McKay Professor of Computer Science**

*... the Harvard library is a national treasure, let it be a universal public good along with the other major research libraries. Google had a good impulse to scan and make available all of this except that they wanted it to be proprietary, so ... let's see if we can join with other major libraries around the world, with foundation help if necessary, enlisting Google if we can, to make it a universally accessible public resource*

**Michael Sandel - Anne T. and Robert M. Bass Professor of Government at Harvard**

*One economics journal, the Brookings Papers on Economic Activity has just announced that they are going to be Open Access so the whole archives are now free anyway without a password or anything, which I think is a great thing, but that is unusual ...*

**Gregory Makiw**

*[we should] break the hold that these journals have on library budgets and break their monopoly by having all of **us** put out **our** articles, you know, make them freely available (emphasis added)*

**Michael Sandel**

*Why should Harvard faculty – full professors – even publish, review, or otherwise engage with closed access publications at this point? You have the ability to set the stage, especially the folks who are post tenure, so what advice would you give?*

**danah boyd, Social Media Researcher at Microsoft Research and Harvard affiliate**

*My quick answer to danah, is yes, I agree, we shouldn't [publish, review, or otherwise engage with closed access publications] we should just publish, and we should break the monopoly of the proprietary journals. There is no reason why not, no.*

**Michael Sandel**

*... there is another piece of this which is about citations and prestige, which is very very important even though there is this very anachronistic and very desirable tool of human resource management called tenure ... at least at the Harvard Business School, we have an enormous number of senior faculty who are working with junior faculty, and those citations for junior people climbing the ladder are critically important, and until the prestigious academic journals with great influence become open source, our promotions model, our influence model, is outdated, not keeping tabs with the possibilities and the noble potential, of Open Access. So we've got a rub there that we do not quite know how to iron out.*

**Nancy Koehn - James E. Robison chair of Business Administration at Harvard Business School**

*But all the people who cite us are also members of the same guild*

**Lewis**

*The 'they' is us!*

**Palfrey**

*The guild is breaking down but it is still not broken; and nor is the promotion system for the young.*

**Koehn**

## 4 Results of interviews and focus group

Surprisingly, our interviewees and focus group participants were agreed on the majority of issues despite representing a spectrum of age, seniority and subject specialisms; and their views are consistent with those expressed by leading figures at Harvard. Since this work is intended to investigate the culture and the reasons behind people's attitude to Open Access, we will start this section by summarising the themes and shared opinions that came up across the interviews and we will then create some case studies or "talking heads" which do not represent a particular real person with whom we have spoken but which do accurately represent real opinions and motivations which we have encountered.

### 4.1 Key Issues

#### Where should I publish?

There was unanimity that if a piece of research was regarded as high value or important to one's career then the first thought would be to publish in a conventional journal with a high impact factor. Open Access would only be a consideration if there were a specific reason – e.g. *it wasn't a big deal I just wanted to get it out there or my co-author insisted on it or it fitted with that issue*. The more junior the researcher, the more vital it is to get a high ranking journal on your CV and typically that does not include Open Access journals. Finding the money to publish even in a relatively cheap gold OA journal was also an issue. All agreed that if you had something important to publish then why would you want to publish in a low-impact journal? *If I said in a research proposal that I intended to publish in an OA journal then I would be afraid that the marker would mark me down or not take me seriously*. Note that, particularly in Chemistry, there is an implicit and explicit assumption that OA=low impact factor.

#### What am I accessing?

For most academics, access is not a big issue. It can be a little difficult if the institution does not have a subscription to the particular journal but there are usually ways round it. The implications of the "serials crisis" are known about in theory, but in practice the researcher in a department is not directly involved (they may be consulted about which subscriptions to cut but since they do not see any of the money saved devolved to departments, their involvement is quite superficial). *At the point where I need a paper, I often don't know or care whether it is OA – the subscription system masks me from that reality*.

#### Repositories

Most respondents were well aware of the institutional repository and generally approved of it. There was feeling that stuff in an institutional (OA) repository (particularly data) got cited more than if it were in a subscription-based repository<sup>12</sup>. The repository is useful for tracking accesses and citations, it was felt that the existence and use of the repository was slowly bringing about a "sea change" in researcher practice, although the deposition of

<sup>12</sup> as mentioned in the literature review section, evidence to back this feeling up may exist along the lines of: [http://eprints.rclis.org/bitstream/10760/5463/1/do\\_open\\_access\\_CRL.pdf](http://eprints.rclis.org/bitstream/10760/5463/1/do_open_access_CRL.pdf) (though this refers to articles, not data).

material in the repository goes in bursts – typically when there is a REF or mock-REF exercise when the researchers *run around in a frenzy* updating their publications. A particular advantage is the ability to put talks and videos on-line which *quickly creates extra visibility for my work - institutions should be incentivising this since videos and talks will also increase the institution's profile. We now get complaints from people finding a metadata only record with no open access to the research the record describes.*

### **Mandates**

Some of our respondents were aware of institutional and funder mandates but treated them with scepticism. All agreed that there is a mismatch between the high-level policy statements of funders and institutions and the practice on the ground. As far as the institutional mandate to deposit in the repository goes, *we know there is a mandate, but it is for your supervisor or line manager to tell you to operate it.* The mandates from the research councils and the possibility of using an element of research grants to fund publication are also treated with amused scepticism- *Almost nobody knows about the payment element ... I suspect the research councils keep it quiet to avoid paying out a lot!*

### **Breaking the mould? Advocacy to whom?**

We should emphasise that the people we spoke to were in a wide variety of places in their careers and roles. They were not people one might easily characterise as troublemakers or rebels. In fact they were mostly very well-disposed towards OA *in theory*, but consistently cited the prevailing culture and the economic realities of promotion, jobs and recognition as the major factors in taking decisions about where and how to publish. When asked about the potential for advocacy in this area, most said that the best advocates would be senior figures in the field who no longer needed to care so much about building or maintaining their reputation. *If they start publishing in OA journals, then the rest of us will follow.* If, as is beginning to happen, leading figures in a discipline set up, or are recruited to the editorial board of, a new high profile OA journal then things might change quickly. So if advocacy is to be practiced, it should be targeting senior figures who by their example can change cultures.

There appears to be a "texture of esteem" that is very specific to sub-areas and sub-sub-areas within a discipline – one may be very much more conventional than another. This texture will affect how things are viewed within different parts of an academic department and the motivations and motivators vary depending on the texture.

One interesting area raised by more than one of our respondents was the limited scope of the current publication process. In particular, journals, even OA journals, rarely publish the data associated with a piece of research - *the pdf only tells you a limited amount – where are the data, the procedures, the notes and the log books?* Another drawback of the current system is that it very rarely documents failure or unexpected results which may in the long run be more worthwhile and interesting than expected results. *In this respect the publication system actually hinders the progress of science.*

There are undoubtedly many ways in which online and OA journals can innovate and change the landscape in the near future. But if they are to break the mould then they need to prove to ordinary researchers that they have something to offer, not only to the readers but also to the authors. Our respondents did not like being told what to do, by institution or funding body – they would rather make their own minds up given an appropriate system of incentives and following the examples of successful colleagues in the field.

### **Formal and informal communication**

Leading on from this, our respondents made a clear distinction between formal and informal means of communication. While the attitudes of colleagues and supervisors are clearly key influencers – as are reputation, employability, peer recognition, the attitude and

requirements of research funders – there is an interesting distinction drawn between things one has to do (usually communicated by email which is identified as a tool of the establishment) and things one wants to (for younger researchers, almost entirely via social networking tools such as Facebook). In the formal channels, one keeps things close to one's chest, not sharing the fruits of one's labours; in the informal channels one shares methods, tools and tips via Facebook.

## **4.2 Talking Heads - actors, roles and views**

PROFESSOR A

My first reaction is that I like OA – it's a good way to get my research out and in front of other people quickly – it gives me wider visibility. I'm very familiar with Open Access journals, I get notified of one or two new ones a month. I'm not so familiar with depositing research in a subject or institutional repository. We had something at my last university – I don't know if I can access it now that I've left. I've published about 10% of the papers that I've submitted over the last 5 years in Open Access journals. Speed is the deciding factor for me, especially if it's something that I want to stake my claim and say that I'm the first one to have thought of this! I think for the more traditional stuff I would go to the conventional journals, where I work in a specific area and I'm known there. I would aim for the highest possible impact factor journal that you could publish in, as opposed to just getting something out and saying, hey, see how clever or good I am. I aim to get a mix and a balance between the two.

The OA journals that I am aware of or have used in the past did not have an impact factor on the same levels as the top journals in the field. If they replicate what the traditional journals have done in terms of a very reputable editorial board, and good and fast service, then they might be able to increase the impact factor. I'm not aware of any mandates or pressure to use Open Access, but I think it's a good thing: one does research for the good of mankind, to advance knowledge, to encourage new inventions and ideas. So whether you do it in a traditional journal or an OA one, it's part of your duty as a researcher – it's almost your social responsibility to publish this stuff.

PROFESSOR B

My personal intuition is that OA is a good idea and I like that kind of thing.

I make stuff freely and publicly available where that makes sense. I'm in tune with the general idea.

But there are particular traditions that people feel they need to stick to for career reasons. That affects me not so much in terms of my own career but because I co-author with young PhD students and others who have careers to make. The key thing is the grading of the journal and the accepted view of which are good and bad journals. Whether they're open access is just not the issue. Where you publish is so important for careers. Open access is secondary.

There was someone who said to me recently, "We can only do this [research] together if we can publish open access". He was actually working for a government (not British), so his career was on a different trajectory, and he wanted to publish and have what he had to say as widely known as possible. He's in a different situation from many of my young colleagues.

As for depositing research in a subject or institutional repository, I'm not aware of it as something that people consider, mostly. Until I looked on Wikipedia [Prof B had been sent a link to [http://en.wikipedia.org/wiki/Open\\_access\\_\(publishing\)](http://en.wikipedia.org/wiki/Open_access_(publishing)) in advance of the interview] I wasn't aware that was something one could do, and always assumed that the journals you published in wouldn't want you to do that.

I'm happy to stick something up as Working Paper on a website and, as far as communicating what I've got to say, that seems to me to be quite sufficient. Publishing on from that in a journal is a lot of effort, but something that you have to do.

The Working Paper is normally put prior to submitting to a journal. It will normally get revised, and become, arguably, better. The Working Paper just stays there, and, if we remember, we put something on the website to say "this was published in a journal". It's a bit confusing, I suppose: if someone wanted to find the final version, what they'd find would be the old Working Paper.

I can access publications through my University. Sometimes that doesn't work because the university hasn't got a subscription or because there's some mess-up. Then it's annoying. It's only when things go wrong that you're aware of the line between what is and isn't Open Access.

Usually Open Access wouldn't enter into the discussion about what journal to submit to. I suppose it's *How high ranked a journal can we have a go at?*

The people who I'd want to read my stuff who wouldn't have access through the academic channels would be civil servants, policy making people in NGOs, international organisations, possibly policy people in think tanks and political parties.

If I were to have to pay for publishing research results then it should be factored in, in some way, to the funding of research. The problem is in the transition, when it's not. The transition would need to happen properly so that everyone understood. I get a lot of EU grants, and I'm fairly sure that the publication charge wouldn't be auditable. There would have to be a change of scene.

I'm not aware of any mandates or pressure to use Open Access.

I suppose I'm keen to find out more about Open Access, I don't really understand the full implications or how it works ... but I have other things I'm more keen on!

## PROFESSOR C

I have published in OA journals in Physics and Computer Science where they have more reputation. But in Chemistry I have to ask myself "*Can I afford to publish in OA? .... Where is the best impact factor?*"

Access to information for academics is not a big issue – much of the time, most of us, including students, can get access to nearly everything we need through library subscriptions etc. So we are masked from the fact that what we access is not Open Access. The thing they can't get is the data (publications are in pdf but we need the data to manipulate and then allow us to reproduce the results – open data). I want access to data and am happy to provide access to mine. The OA journals could do a much better job of pushing in this area, for example ensuring that the provenance of images is clear, and by insisting on the inclusion with an article of the data on which it was based. OA journal 'statements of quality control' could be better. PLoS has a high impact factor and should be used but it is not a conventional route for chemists. If it was funded via the department it might be more popular but it depends on the sub-discipline and the culture of that sub-discipline and even the sub-sub-discipline!

I don't really see speed to publication as a benefit of OA journals, as most conventional chemistry journals have quick (3-6 month) turn-around time, and in any case if things get published too quickly this might call into question the quality of refereeing. (I hate those journal submission systems which harass you to review so harshly that you just get a 5 minute review written to get your inbox empty.) If I really want to get something up quickly I can do that via the repository – if it's worth publishing in a journal I want a high impact factor. More visibility for my work is important and I can achieve that by getting talks and videos put on line quickly and easily

## THE EDUCATOR

When I was a mainstream researcher, it was imperative that I published in high impact factor journals – even now I have moved into an educator role, the fact that I have that on my CV is important. Even the best of the subject education journals have much lower impact factors. I'm a big fan of the repository which I use for storing stuff and making things available to people – but it's not a substitute for publishing. It's good to see 800 downloads of my materials, whereas when I publish something I don't know who's reading it. It's good to track where they have come from. When you have something important to publish you want the highest impact journal you can get into. The time people use OA is when the main priority is to get stuff out there. My work is more now in education and there are limited options for publication of research in this area. For 'low level research', I have published material on the University's repository and published links to this on my web page and at meetings and conferences I have attended.

## THE POSTDOC RESEARCHER

To get a postdoc position I needed to publish and I wouldn't have touched OA with a bargepole. To get a job and increase my profile, I **must** have publication in high impact journals, that mentality is reinforced by the supervisors and the system. I need to be able to say "Oh, I've got my JACS<sup>13</sup> article published." The general perception is that OA is for mostly useless or Friday afternoon stuff. I want to publish in a journal with an impact factor of 9+. I never had money in my budget to pay for publishing - another reason for not going OA. Students don't really respond to institutional instructions or mandates – email is a tool of the university, we used to use MS messenger but now if they want to talk or get people to respond they will use Facebook etc. If I want my student group to respond to something, I know that email is useless - I'll message them via Facebook. Mind you, the University Chemistry Facebook group got no-one joining up whereas a chemistry group set up by an undergrad got loads of people. Once I had my PhD then I started using email – it's a sign of being grown up, looking for a job etc. I suppose. The postgrad students would be very upset if their work went into preprints. Everything is share, share, share when an undergrad. As a postgrad things change. Some people won't even share with their supervisor or store their stuff on department machines – they prefer to carry it around on a memory stick. We were told quite early on "don't put URLs in your citations – use the proper citation format of a paper publication", so I access stuff on the web but I use the paper citation at the end of my articles. I had to go to the library once to get a paper, that was scary.

## THE OA ENTHUSIAST

I have to admit, my attitude to OA is schizophrenic. As an individual, I edit a (gold) OA journal but when it comes to publishing my own stuff, then the stuff I publish through OA is the stuff I don't mind appearing with a very low impact factor, plus I sometimes have trouble coming up with the cash to do it. If you have something really exciting then obviously you want it to be published in the highest impact place you can get it. I have worked on various projects across the whole of the UK encouraging colleagues to publish, but it is hard work because you are working against people's perceptions. Basically I have not eaten much of my own dog food!

On the other hand, OA is great for increasing views and profile. *Acta Crystallographica Section E: Structure Reports Online*<sup>14</sup> is the IUCr's highly popular open-access structural journal. Since it went OA it has had a big increase in submissions – there's a three tier

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<sup>13</sup> <http://pubs.acs.org/journal/jacsat>

<sup>14</sup> <http://journals.iucr.org/e/>

charging system for publication (£30, £60, £100), discounts for institutions with subscription also for prepayments and waivers for authors from 3rd world. And one really good thing about putting data in a repository is that it gets a DOI (Digital Object Identifier<sup>15</sup>) with the DOI being thereafter cited by those referencing the data.

## 5 The future – paths to change?

### 5.1 *Final thoughts*

General advocacy is unlikely to work. Targeted advocacy on key opinion formers and discipline leaders may be useful, but working on other ways to bring the economic advantages of OA in front of them and incentivise OA publication, whether "green" or "gold", may be more powerful.

The hard decisions being taken by libraries in reaction to the "serials crisis" will only have a very delayed effect on perceptions while the budgets are divorced from departments. They will undoubtedly create inefficiencies and more "friction" in the process of academic research, but whether this friction will therefore be accompanied by an increased perception of the value of OA in the short term is doubtful.

For most individuals, where to publish is a key career decision – the overwhelming message being heard from peers, supervisors, assessors, funders and employers (whether they think they are broadcasting a different one or not) is to publish in the highest impact factor journals, those with the highest reputation. When most of these high impact journals either allow OA through self-archive (green) or are themselves OA (gold) then advocacy and persuasion will no longer be necessary.

It may be that we are at the turning point for Open Access and that in two years' time this report and others will look dated and irrelevant, but our work with researchers on the ground indicates to us that whatever the enthusiasm and optimism within the OA community, it has not spilled into academia to a large extent and has had only a small effect on the publishing habits and perceptions of ordinary researchers, whatever their seniority and whether in Chemistry or Economics.

While there are discipline and sub-discipline differences, with Economics being better represented by working paper archives, we did not conclude that there were major differences in culture. OA is not at the top of researchers' agendas and many will not know or care what OA is as long as they can somehow access the materials they need and get a chance to submit papers to the leading journals in their field.

One interesting question which arose during our work was 'What happens to young researchers when they, in the words of one of our young respondents, "grow up"?' Let us suppose that they get that important job e.g. in the public sector or voluntary sector. We know their access to subscription journals typically becomes far more restricted - do they just accept that as being part of being 'grown up' or do they circumvent it using their web skills and contacts to find free copies or do they drift towards using free information from pressure groups etc? JISC is commissioning work to look at the possible benefits of OA to the public and voluntary sectors – hopefully this will provide some answers.

### 5.2 *Some possible ways to change the current landscape*

The academic research world runs mainly on the currency of reputation, at both the individual and institutional levels. In fact there are probably multiple currencies with different terms of investment and return, and variable rates of exchange between currencies. This is illustrated by Professor A above, who makes a clear distinction in his publishing preferences.

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<sup>15</sup> [www.doi.org/](http://www.doi.org/)

*Speed is the deciding factor for me, especially if it's something that I want to stake my claim and say that I'm the first one to have thought of this [laughs]. I think for the more traditional stuff I would go to the conventional journals, where I work in a specific area and I'm known there.*

Here, there is the "pioneer" currency of reputation – the ability to plant one's stake in new territory for future reference – and another "contributing to the tradition" currency. The former is not expected to have an immediate impact, so doesn't need to be widely read or cited, but represents an investment with the chance of big rewards if subsequent work shows it to be important – in which case a paper in a "conventional journal" can cite it as a demonstration of prescience and cutting edge work.

If this investment, exchange and accumulation of reputation is what is most important for the research ecosystem – not just for individuals but for the institutions that both back them and trade on their reputations – then having sophisticated and accurate metrics for reputation, with these metrics embedded in incentive frameworks, could be an important lever for change.

We recommend:

1. Changing incentive frameworks within institutions and within disciplines so that OA publishing (green or gold) is rewarded in **promotion criteria**, and in **recruitment specifications**. Without this, institutional commitments to OA in principle are largely worthless.
2. Giving much stronger emphasis in funding agreements to OA publishing (green or gold), so that researchers are in no doubt about any requirements of the funder for outputs to be made open, whether by publisher, institution or individual.
3. It would be helpful if HEFCE were to make an unequivocal statement supporting OA and guaranteeing that judgements would be made on article quality and not on the basis of where those articles appeared. The REF (what used to be the RAE) clearly drives much of the thinking about publications at the institutional level. In the medium term, one comment we received questioned the continued importance of the REF, now that the research councils are to provide an increasing percentage of research funding, probably a change which would take time to be reflected in institutional culture.
4. Opening a dialogue at discipline level, and in particular with scholarly societies and not for profits about the long term benefits of Open Access and the important role of opinion formers and leading academics within each discipline in leading efforts to insist on Open Access, whether green or gold, for all their publications.
5. Campaigning and advocacy among leading academics to create a vanguard who not only commit to publishing all major and important works in Open Access (green or gold) but who, in the words of the Harvard panel discussion, *refuse to publish, review, or otherwise engage with closed access publications.*