COST (European Cooperation in Science and Technology) – an intergovernmental framework supporting cooperation among scientists and researchers across Europe – recently supported an independent Strategic Initiative to better understand issues pertaining to open access publishing across a range of disciplines. Here COST Domain Committee members Marc Caball, Soulla Louca and Roland Pochet, Policy Officer for Open Access at the European Commission, Daniel Spichtinger, and Chair of the COST Strategic Initiative on Open Access, Barbara Prainsack emphasise that the best pathways to the goal of open access vary across disciplines and across countries and institutions. The individuals best placed to decide what is right for them are the researchers themselves. The European Commission also encourages this position through the adoption of the Horizon 2020 open access regulation which will present researchers with a range of Open Access options, rather than prescribing one narrow format.

Open Access (OA) has now become a widely established mechanism to make available research in digital format to readers free of charge – and increasingly often also free of licensing restrictions. In tandem with an increasing number of research funders, national administrations, and universities publishing OA policies, the idea that publicly funded research should be available for public use with as few barriers as possible is becoming widely accepted. There are, however, a number of obstacles to OA being utilised more widely and more creatively.

**Different disciplines have different open access needs**

While many disciplines within the natural and biomedical sciences have well established outlets and professional conventions for high quality OA publishing, uptake in other disciplines, including some humanities and social sciences subjects, has been very different (see Science Metrix and Science Europe, Humanities Committee). The result of this uneven engagement with OA is that OA requirements from funders and other institutions pose more challenges to some disciplines than to others. Moreover, the OA needs of certain kinds of researchers are currently unmet by the science publishing market.

For example, research findings in the social sciences and humanities are often published in book or monograph format. While OA options for monographs and edited volumes are developing rapidly, they are currently more limited than for journals, and sometimes costly, or not offered by top-tier publishers. In another domain, information and communication technologies (ICT), OA applies not only to research findings and data, but also to software, applications and computer models. Here, OA is seen as a way to facilitate the provision of relatively inexpensive, easily accessible, diversified and expandable ICT services, thus helping to reduce the digital gap within societies and across the globe. A key concern in this respect is the availability of multilingual search and data mining platforms. Current OA guidelines do little to address this problem. Thus, simply rolling out an OA standard that was developed in the natural science and biomedical domains to other disciplines is clearly not the most productive way forward.

To foster better understanding of the needs of researchers in different academic disciplines regarding OA, COST...
(European Cooperation in Science and Technology) – a long-standing intergovernmental framework supporting cooperation among scientists and researchers across Europe – recently supported an independent Strategic Initiative to better understand issues pertaining to OA publishing across a range of disciplinary clusters. An event organised in Vienna earlier this year brought together some 40 delegates from across Europe and beyond, including OA pioneers, publishers, skeptics, and policy officials. Several important lessons learned at the Vienna meeting were then discussed with stakeholders at a meeting in Brussels in October and summarised in a Report [pdf].

**Good open access policies put researchers in charge**

Delegates across all domains in this initiative subscribed to the view that publicly funded research should be freely available, but also felt very strongly that the best pathways to this goal vary across disciplines and across countries and institutions. The individuals best placed to decide what is right for them are thus the researchers themselves.

It is therefore a positive development that this very principle is a cornerstone of the European Commission’s approach. Since the beginning of its Seventh Framework Programme (FP7) for research and innovation in 2008, the European Commission has been operating an OA pilot in some thematic areas of the programme. Projects participating in this pilot are required – through a special clause in the grant agreement – to make their ‘best effort’ to render their peer-reviewed publications available to readers OA. This means that in this pilot, grant holders may decide to publish their article in an OA or hybrid journal (a ‘toll’ journal that offers open access if authors are willing to pay article-processing charges). In this case, article-processing charges are deemed eligible costs for reimbursement from the grant. Alternatively, grant holders may publish in a ‘toll’ journal and deposit the pre-publication version of the document in an OA repository (‘green OA’). Embargo periods between six months (for natural sciences) and 12 months (for social sciences and humanities) are permitted within this pilot.

The European Commissions’s premise that OA for scientific peer reviewed publications should become a general principle of its new framework programme for research and innovation is now enshrined in the Horizon 2020 regulation (passed by the European Parliament on 21 November, 2013). As is currently the case in the FP7 pilot, Horizon 2020 will include both ‘Green’ and ‘Gold’ OA measures. Furthermore, a mechanism for OA publishing after the end of the grant agreement with the Commission will be piloted, to avoid the problem that researchers publishing findings after the end of their grant can no longer access grant funding to cover article-processing charges (if applicable). In sum, Horizon 2020 will present researchers with a range of OA options, rather than prescribing one narrow format. Its successful implementation will thus depend on researchers being able to make informed decisions.

**Engaging researchers**

Many researchers, however, are currently unaware or uncertain of differences between OA models. Here, again, scholars from disciplines where OA is already more established have an advantage. Others may feel they need to choose between a rock and a hard place, believing that if they publish OA, this means going for a journal with a lower reputation in their field, and if they publish in a traditional ‘toll’ journal, then fewer people will read their work – or they are breaching rules imposed by their funders. Greater levels of awareness of ‘green’ OA – i.e. the deposition of pre-publication versions of journal papers on institutional and self-archiving websites – could help to address this problem. Awareness and training activities are, therefore, of crucial importance in supporting scholars to learn about all options available. But such measures must not translate into yet another task on the already overcrowded to-do lists for researchers; they need to lead to meaningful activities that help researchers to enhance the visibility and impact of their research in a way that they choose.

An important step towards this goal will be that researchers no longer view dissemination as a separate activity that takes place when research has been concluded. Instead, the research community must consider it as an inherent part of research activities from the start. The UK’s Research Excellence Framework, with the considerable weight it gives to the impact of research, provides a very strong incentive for considering various ways of engaging with the users and audiences of research from the earliest stages of grant writing (and the earliest stages of research
At the same time, the way in which ‘impact’ is measured in the REF has received a lot of criticism and is likely to lead to an even greater bureaucratisation and commercialisation of academic science and research.

Moreover, the REF’s narrow definition of impact as non-academic impact misses one of the main changes in research cultures: namely that the line between academic and non-academic publishing has started to dissolve. Many scientists who use Twitter, for example, have witnessed how the standing of a newly published paper is decided in the matter of a dozen tweets (see Eysenbach and Bower). When choosing an outlet for a ‘hot’ research finding, some scholars now consider reputable, high-impact blogs alongside traditional peer-reviewed journals. This is the case especially when the question of who will get to read about research findings, and how fast, matters more than the impact factor of the journal. Currently this applies primarily to senior academics who no longer need to worry about traditional bibliometric indicators for the sake of promotions and grant applications. The more developed and accepted alternative metrics, such as article usage data, become, and the better they are integrated in research assessment methodologies, the less tenable the distinction between academic and non-academic research outlets will be. Researchers know intuitively that peer-review is a powerful, but insufficient tool to ensure quality; the question about peer-review is thus not one about whether and how to replace it, but about how to complement it. As different models of OA publishing entail and facilitate different formats and levels of (formal and informal) peer review, researchers who are aware of the full range of formats of engagement they can use, and who work at institutions that are willing to acknowledge and reward such a wide range of engagements, have a distinct advantage.

Scholars who are currently unable to find the time to engage with a wider range of options within digital scholarship would almost certainly be able to do so if some of the administrative burdens that currently rest on them – and that have nothing to do with their core activity of research and education – are lifted from them. Universities could achieve this by investing in appropriate and relevant administrative support not despite, but because of, budget cuts, to ensure that research and teaching staff are as productive as possible in their academic work (which in turn will attract more students and grants). In the meantime, research funders, learned societies, and other associations should provide training materials on OA that are user friendly to work with, rather than a chore to read. For example, it would neither be very difficult nor very expensive to open a competition for the creation of a computer game that introduces researchers to the basics different formats of OA publishing and digital scholarship in the time that it takes to drink a cup of coffee. This would help to increase familiarity with the basic formats, advantages, and disadvantages of OA publishing, and whoever did not to want to dig deeper at the moment could leave it there. Anybody wanting to learn more would elevate to higher levels.

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