OA Models and Platforms – OS Fair session report

Introduction

The transition to Open Access has created a unique moment for the examination of new models and platforms for the dissemination of scholarly outputs. Public infrastructures are being linked in novel ways. Repositories are being re-positioned as the foundation for a distributed, globally networked infrastructure for scholarly communication. Besides green OA, different paths to OA are being pursued, some of which are based on consortial or co-operative models. More recently, there have been calls for a modular European Open Access Platform for research to be built upon public infrastructure.

At the same time as these consortial models arise, new platforms are emerging that re-envision "publication" in the digital era, encompassing ever greater strands of the research lifecycle and incorporating new levels of inclusivity and transparency in research dissemination and assessment. F1000 has begun to offer its publishing platform as a service for funders and research infrastructures to host their own OA platforms. Paperhive is extending the concept of peer review beyond publication and offering modular services for university presses and repositories. Frontiers are making strides in increasing research impact through public outreach, including to children. Rio journal aims to disseminate research from its ideas to its outcomes.

What are the emerging models of Open Access for publications? Who should be involved? How are costs distributed over the stakeholders involved? How can OA platforms innovate further to embrace Open Science? This session at the first Open Science Fair aimed to discuss and showcase the range of models available, including their costs and organisational aspects, to discuss their relative strengths and weaknesses in different academic contexts. Here follows a brief overview of the session.

Part I: Cooperative and consortial models for OA publishing

"Supporting sustainability, distribution, and innovation in scholarly communication at scale," Kathleen Shearer (Confederation of Open Access Repositories)

Kathleen Shearer's talk began by noting the long-ongoing discussion about what Timothy Gowers has termed the "perverse incentives" in the reward and incentive structures in academia. Shearer noted the extent to which, although these problems have long been well-known, thus far large-scale change has failed to take place. COAR's response is to issue a call to action to reposition the institution (and the library) as the centre of a scholarly communications and a global knowledge commons. Shearer advised that in their current form, repositories only perpetuate the existing system. As "green" open access repositories, they largely host parallel "open" copies of content published elsewhere. COAR hence is actively exploring how to foster the "next generation" of repositories, which are repositioned as the foundation for a distributed, globally networked infrastructure for scholarly communication on top of which layers of value added services will be deployed. Doing so will transform the scholarly communications system, making it more research-centric, and more open to and supportive of innovation, while also collectively managed by the scholarly community. To make this vision reality, the COAR "Next Generation Repositories" Working Group, is working to create a framework to make

repositories more web-centric, globally interoperable, pro-active and networked. Such a distributed, community-managed infrastructure, Shearer advised, will better support the needs of diverse regions, disciplines and languages, safeguard against failure, have less of commercial buy-out and place the library, and its values, at the centre of scholarly communication.

"The path-dependence of academic value creation: Impact, infrastructure, and innovation in academic publishing" Benedikt Fecher (Humboldt Institute for Internet and Society)

Benedikt Fecher's talk took a broader view on similar phenomena. Asking why our current system of scholarly communications is not primed to enact Robert K. Merton's norms of modern science, including "communalism" and "altruism", Fecher argued that a major part of the answer to this question is "path dependence", where decisions made in the past limit the range of options available in the present, even where the conditions upon which previous decisions were based now no longer apply. Fecher gave as an example the QWERTY keyboard, created to solve a technical rather than social problem but now engrained in people's habits despite its inefficiencies. Fecher believes scholarly communications suffers a similar problem. Closed access via journals may have made sense in a pre-digital age where paper was expensive to print and disseminate, but in the age of the Internet, such limitations disappear. But initiatives to flip the existing journal system, with all its problems, over to open access, risk simply reifying existing path dependencies. Fecher's presentation was hence a great wake-up call to consider all the ways in which we might be reproducing an inefficient system due to path dependencies, and to try to avoid them if possible.

Part II: Next generation scholarly publishing platforms

"Collaborative reading and continuous peer review with PaperHive: keeping academic literature alive," Lisa Matthias (PaperHive)

Next, Lisa Matthias, formerly community manager for PaperHive (and now project officer for OpenAIRE), introduced the PaperHive platform for annotation of research papers. PaperHive is a new start-up, based in Berlin, which aims to embed seamless discussion of research papers into research workflows. Their web-browser enabled annotations allow researchers to collaboratively read, discuss and annotate academic literature by attaching questions, corrections, formulas, figures, further literature, code, or data directly to the original text. Such public annotations follow W3C Web Annotation standards, are licensed under CC-BY, and are archived to be citable. PaperHive is increasingly working with open publishers. As a case-study, Matthias presented PaperHive's collaboration with the OA publisher Language Science Press, which uses PaperHive for manuscript peer review, community proofreading and post-publication outreach. The PaperHive technology can also be used to complement subject and institutional repositories, to allow authors to quickly collect feedback to improve their manuscripts and attract attention to their results in parallel with, or as an alternative to, traditional publication.

"Open research publishing platforms: Moving beyond research journals", Michael Markie (F1000)

Michael Markie, publisher for F1000 Platforms, next presented the ways in which F1000 are trying to push beyond the constraints of the traditional academic journal. In line with the previous discussions on the need to innovate the ways we communicate research, Markie noted that funders and institutions are increasingly demanding more rapid access to results, more collaborative research, open workflows (e.g., data, software, etc.), and accelerated measures of impact. In response to these trends, Markie presented

the F1000Research publishing platform, which enables immediate publication of articles and other research outputs with transparent peer review and the inclusion of all source data. F1000 is now moving beyond their role as a traditional publisher to offer their platform as a service to funders (e.g., Wellcome Trust, Gates) and institutions (ELIXIR research infrastructure, UCL). By taking up such initiatives, funders and institutions are able to offer a complementary outlet for all research findings and hence improve research transparency and reproducibility. Doing so enables an alternative model of OA, with potential improvements in access, transparency and cost. F1000 aim in the medium term to test whether this model works effectively and is embraced by researchers, funders and institutions. Their long-term vision is to fundamentally change the role of the publisher from gatekeepers to facilitators.

"Frontiers' Ambition for Open Science," Frederick Fenter (Frontiers)

Frederick Fenter presented Frontiers, by now a well-established open access publisher (founded in 2007) that continues to innovate. Frontiers are partners in two of the initiatives that organized the Open Science Fair, OpenMinTeD and OpenUP. Frontiers' publishing model, which helped make "Gold" OA via article-processing charges mainstream, now includes a vast range of thematic areas. Amongst the various steps to continue the progression towards open science mentioned by Fenter, two stood out. Firstly Frontiers' collaborative model of peer review, which consists of two phases. Reviewers first assess research articles independently and once reports are submitted, they are then brought together with authors via an interactive discussion forum to collaborate in real-time comments in the discussion forum to reach consensus on the required amendments to meet the standards for publication. Reviewers remain anonymous during the review process but are then made public, alongside articles, upon publication. A second major novelty is Frontiers for Young Minds, where research is made accessible to children, both in the sense of being openly accessible, but also that the articles are written in language they will understand, and peer-reviewed by children to ensure it meets their requirements.

"Research Ideas and Outcomes (RIO) Journal: from Open Access to Open Science from the viewpoint of a scholarly publisher," Lyubomir Penev (Pensoft Publishers)

Finally, Lyubomir Penev presented the Research Ideas and Outcomes (RIO) Journal, as well as the ARPHA publishing platform on which it is based. RIO has brought another innovation to open science publishing – aiming to catalyse change in research communication by publishing not only research outcomes, but also research ideas and proposals, in a comprehensive way. Penev first presented ARPHA, the technology upon which RIO and other Pensoft journals are built, including the online collaborative platform (ARPHA-XML) which supports the full life cycle of a manuscript from writing to publication. Penev made the crucial point that work published in non-machine-readable formats (like PDF or HTML) is still far from open, and that lack of progression in this regard is a bottle-neck on scientific progress. Publications in RIO are hence made available in machine-readable JATS XML output. Authors are then able to publish revised versions of their manuscripts at any time. Future priorities for RIO and ARPHA include enabling nanopublications and linked open data.