

Reinvention or return to ‘normal’? Scholarly communications at a crossroads¹

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Will the events of 2020 lead to innovation or stagnation? At the onset of 2021, with a slow and difficult recovery from the global pandemic on the horizon, organizations throughout scholarly communications faced a strategic crossroads. Would they use this time to pursue new ideas, models, and programs that combatted losses and enhanced their missions? Or, desiring stability and security, not additional risk, would they stay the existing course?

This opinion piece explores the scholarly communications community’s resilience during the global pandemic, how recent history shaped this response, and what this may mean for the future.

1. The past is prologue

Scholarly communications is a dynamic community with no shortage of new ideas. However, change can be slow, and sometimes so-called “new” models are still being piloted many years after their introduction. In the case of the three trends explored below, the kindling was there, and 2020 provided the accelerant.

1.1. *The road to open*

There is general alignment on the core tenets of Open Access, recognizing the transformative power of knowledge more equitably shared not just in privileged communities but as broadly as possible. However, years on in this discussion there is still considerable distance in how practically this can and should be achieved.

Open Access is not free, and someone must pay for the costs involved to review, to publish, to connect, and to host over time. But whom? Publishers, institutions, funders, researchers themselves? What of the disciplines with inadequate funding and the inherent limitations of the APC? Are emerging community

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action options like Subscribe to Open more equitable? If there is broad agreement about anything, it's that there likely is no one-size-fits-all approach.

Plan S, launched in September 2018 by cOAlition S, took aim at making “full and immediate Open Access a reality.” Despite only representing a fraction of total scholarship produced, the initiative significantly accelerated the conversation around Open Access. Starting with the Wiley Projekt DEAL agreement announced at the APE Meeting in January 2019,² there has been an explosion of RAP and PAR deals among societies, publishers, institutions, and consortia small and large.³ And while there was justifiable excitement from the community in how these deals pushed Open Access forward, some still wondered whether these deals were truly “transformative” like their moniker or just encumbering institutional funds as another flavor of big deal.

Likewise, some societies worried that the continued trend towards mandated action could harm society sustainability and impede the very access they wished to extend.⁴ Indeed, Open Access is not synonymous with equitable access. The theme of OA week in 2020 was “open for whom?” – a reminder that open is not truly open unless it is globally inclusive, and that we can't solve problems just for the North or the West or for well-funded private institutions and consider the issue solved.

Notably, Open Access has had a galvanizing effect for collaboration and coalition building on all sides of the issue. Whether it was in responding to governmental policy as a coalition of societies, crafting community-based dissemination models, or negotiating transformative agreements on a countrywide scale, organizations have eschewed siloed approaches in favor of coordinated action. This response to a “common cause” would serve as a critical precursor to the events of 2020.

1.2. *The expanding research lifecycle*

Another dominant theme that would serve the community well in 2020 was a growing appreciation for access beyond the article, to preprints, to multimedia, and to data.

Societies and publishers realized that new content types would enhance their holdings and help deliver new value. And for their users, access to peers' early work and negative results could further scholarship and speed up breakthroughs.

However, execution on these ideas was limited. When it came to conference content, most societies pre-pandemic focused on publishing only abstracts and text-based proceedings. Other rich formats such as posters, presentations, and video remained largely available only to those attending an in-person event.

Beyond the resulting content, there also was increasing dialogue on the need for more transparency into the research workflow itself, from submission, through review, publication, and post-publication comment. Specifically, there was growing recognition of the need to rethink peer review to address gender and racial bias and create a more inclusive and open process, with a common aim of removing barriers and advancing research as a result.

²<https://www.hrk.de/press/press-releases/press-release/meldung/wiley-and-projekt-deal-partner-to-enhance-the-future-of-scholarly-research-and-publishing-in-germany/>.

³<https://esac-initiative.org/about/transformative-agreements/agreement-registry/>.

⁴<https://scholarlykitchen.sspnet.org/2020/12/16/transformative-agreements-funders-and-the-publishing-ecosystem-a-lack-of-focus-on-equity/>.

1.3. *Mission, vision, and raison d'être*

Even before the pandemic, challenging issues and dwindling resources led many societies to revisit their fundamental purpose and reason for existence. Were they publishers, even if they outsourced this function? Should their journal be for mass appeal or geared towards the technical community? Open or subscribed access? Selective or sound science? Or, was their purpose to bring members together, to convene? And if so, how should this be done in the digital age to make the experience more inclusive and accessible?

Some societies receive lucrative commercial deals that enable them to provide extensive scholarships and grants, while some feel like it is part of their mission to work with a university press. Similarly, there is debate on when the appropriate time may be to tap an endowment or capital fund. The ethics of being a “not-for-profit” and what financial sustainability should look like are thorny issues indeed.

Even more divisive still are discussions surrounding neutrality, and whether societies should be involved in politics and policy, and if so how. While it might be straightforward to withhold from lobbying if not a part of a society's charter, what about the communication of basic beliefs? For instance, should scientific societies take a stand when the integrity of science itself is under fire?

Such was the question for organizations considering whether to publicly participate in and support the March for Science, first held in April 2017. This international series of marches held on Earth Day were part of a greater movement that celebrates the importance of science in the public interest. It also offered the opportunity (and for some, the imperative) to stand up for evidence-based decision making and against “anti-science” policies and rhetoric. While such support might seem an obvious choice for an organization whose purpose is scientific education, for many societies their public participation in these forums was a significant break from the past, and again, a harbinger of what was to come.⁵

2. **Lessons in resiliency**

Against this backdrop of opportunity but also significant pre-existing challenges, against what was already a market in transition, came 2020, and with it, the global pandemic.

It was a common assessment at the time that those things that seemed so daunting pre-pandemic were dwarfed by the monumental challenges posed by the ensuing public health and financial crises. For scholarly communications, the reality was the same. Concern over things like Plan S seemed misplaced as organizations wrestled with keeping their teams healthy and businesses afloat. In-person meetings, critical to so many societies for revenue as well as for researchers in communicating their work, were quickly cancelled. Projects of all kinds were halted to deal with immediate threats. There was an overarching concern that this would be a lost year (or more), stalling research and scientific advancement to the detriment of all.

But in fact, in organizations across scholarly communications, quite the opposite occurred. 2020 instead was claimed as an inflection point, a time to push forward and come out stronger.

⁵<https://www.washingtonpost.com/news/speaking-of-science/wp/2017/02/24/science-societies-have-long-shunned-politics-but-now-theyre-ready-to-march/>.

2.1. Innovation and exploration

Throughout 2020, the scholarly communications industry has exhibited unity, collaboration, and support for one another in the face of a true common adversary. Organizations have also demonstrated an appetite for innovation even in these most difficult circumstances.

This has included the many, many societies that pivoted their in-person meetings to virtual events, some in a matter of weeks. Decisions that might have taken months or years previously were made quickly and decisively to ensure that the show would go on, that collaboration and scholarly discourse would continue despite restrictions. And while we've missed being in person, these meetings have benefited from being more globally inclusive and accessible to those that were never able to go to physical events.

In the spring there was much concern about what would happen to research outputs, and while 2021 may suffer a rebound, in 2020 we saw outputs explode, particularly in biomedicine.⁶ Many of these contributions were of course related to Covid-19, but there was a rising tide for all research, with researchers out of the lab using the time to work on dormant papers and ensure that scientific discourse continued.

Notably, this time wasn't just about doing what had always been done, albeit in a different, virtual format. Instead, numerous organizations saw this as a time to experiment, to pilot and chart new courses.

New Open Access models and initiatives continued to grow in 2020. Among others, European Mathematical Society and IWA Publishing announced adoption of the Subscribe to Open model pioneered by Annual Reviews.⁷ PLOS announced an ambitious new Community Action Publishing program, with an aim to eliminate author APCs to both read and publish for their most selective journals.⁸

Faced with the limitations of traditional revenue streams, societies also pursued new product avenues, including with virtual events, the creation of new conference content packages, and with the monetization of data.⁹ New ventures also emerged – for example the American Society of Mechanical Engineers in November purchased the TechStreet Standards Management Business from Clarivate to kick off a new commercial subsidiary arm for innovative products and services.¹⁰ Significantly, in January 2021 Wiley announced the acquisition of the Open Access publisher Hindawi for almost three hundred million dollars, a major acquisition and moment in time for both the valuing of Open Access and open review infrastructure.¹¹

Innovation in peer review also continued, motivated by the need to reduce bias and create more inclusive systems. In September 2020, IOP Publishing became one of the larger groups to commit to the adoption of a double-blind peer review workflow for all its owned journals, saying that the move was motivated by a commitment to improve diversity and equity in science.¹²

⁶<https://www.nature.com/articles/d41586-020-03564-y>.

⁷<https://subscribetoopencommunity.org/>.

⁸<https://plos.org/resources/community-action-publishing/>.

⁹<https://www.aip.org/news/2021/reimagining-scientific-conferences-post-pandemic-future>.

¹⁰<https://www.asme.org/about-asme/media-inquiries/press-releases/new-for-profit-subsiary-of-asme-acquires-techstreet-standards-management-business-from-clarivate>.

¹¹<https://newsroom.wiley.com/press-releases/press-release-details/2021/Wiley-Announces-the-Acquisition-of-Hindawi/default.aspx>.

¹²<https://www.niso.org/niso-io/2020/09/iop-publishing-commits-adopting-double-blind-peer-review>.

2.2. Science in the spotlight

2020 was also marked by the omnipresence of scientific research in public discourse and media coverage. As members of the public devoured news about Covid-19 and the race to discover and test treatments and vaccines, they were also presented with a view into the scientific process and scholarly communications.

In the desire to present breaking news and the earliest findings, media outlets frequently linked to preprint servers like bioRxiv and medRxiv, even educating the public as to what a preprint was and how it differed from a peer-reviewed article.¹³

Certainly, the benefits of transparency, and sharing of early research as quickly and broadly as possible, were readily apparent. Many organizations made research related to Covid-19 freely available, and as a result gained new interest and additional audiences for their published content. This was a case study in what it looked like to be more inclusive and less insular, and to share research outside of siloed communities.

3. Quo vadis

There are numerous examples of individuals, organizations, and the community as a whole rising to the challenge of this time and innovating despite – and in some cases *because of* – these obstacles. But what of the future?

Certainly, the financial losses of 2020 and beyond will be felt acutely throughout the industry. This pressure may lead to market contraction, consolidation, and in the case of small organizations without a sufficient safety net, potential dissolution. Furthermore, instead of more openness, we could see a reversion to more walled gardens, more siloes, as groups try to protect what is “theirs”. Certainly, scant economies do not necessarily birth collaborative approaches.

However, I don't believe this is the future that we have in store. In fact, I think that the events of 2020 will propel scholarly communications to a more inclusive, interoperable, and collaborative future, and that the pace of change exhibited during 2020 will continue.

The broadening of the research workflow will give rise to new opportunities, for revenue models, for dissemination, for reaching new audiences and speeding up advancement.

Open Access adoption will be aided by emerging technologies and the use of AI and automation to meaningfully reduce per-article costs, and lead to more financially sustainable APCs. The community will also benefit from the experimentation happening now, producing new community support models and APC-alternatives for disciplines requiring a different approach.

Most importantly, collaboration will be critical. Those that will succeed in the future will do so in partnership with others. Siloed, insular approaches will not solve our community challenges or fully take advantage of our community opportunities. Smart, collaborative, transparent partnerships will yield efficiencies, reduce costs, and generate new ideas that will collectively push us forward.

Evolution has long been a hallmark of the scholarly communications community, and this will only continue. Organizations are meeting the challenges of this era, rethinking their roles and their unique value propositions, ensuring their relevance and value far into the future. The result will be a thriving industry that is all the stronger for the lessons of this time.

¹³<https://www.insidehighered.com/news/2021/01/20/pandemic-brought-new-attention-preprints>.