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# **Reassembling Scholarly Communications**

## **Histories, Infrastructures, and Global Politics of Open Access**

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## 18 The Platformization of Open

Penny C. S. Andrews

As Jonathan Gray has suggested in the previous chapter in this book, any attempt to understand the emergence of platforms and platformization in “open” needs to take a multifaceted approach. As van Dijck makes plain, ownership, technology, governance, business models, content, and users/usage are all part of the picture.<sup>1</sup> In this chapter, “open” will be used as an umbrella term to cover various forms of open practice (open access, open data, open knowledge, open source, open science, open government, open research, and so on) in order to be able to speak to the broader issues in the knowledge space than concentrating on open access or open science, in isolation, would allow.

Historically, in platform studies (the field of studies of digital media focused on the underlying computer systems supporting creative work), a platform was defined as a computing system on which other services could be built.<sup>2</sup> The system could consist of hardware, software, or both.<sup>3</sup> Here the focus was on the relationships between hardware and software design of platforms and the creative content produced on or for those platforms, predominantly video games, virtual worlds, and experiments in art, literature, and music. In Business and Management Studies, the concept was defined slightly differently: an internal platform is here seen as “a set of assets organized in a common structure from which a company can efficiently develop and produce a stream of derivative products” and an external platform is a similar structure that allows third parties to build products or services on top.<sup>4</sup> This external platform idea was borrowed by other writers to describe the potential for different approaches to government,<sup>5</sup> libraries,<sup>6</sup> and others.

As the study of platforms as a concept has reemerged as a current topic, Tarleton Gillespie of Microsoft Research New England draws attention to the ambiguity of the word “platform” and the way it is used in architecture,

figurative speech, politics, and computing, as well as business, to the point where now it is used to mean any computational service, but particularly social networking services and “open” tools and services.<sup>7</sup> The term “platform,” as defined today in a digital context, now includes giving people and companies “a platform” in the figurative and political sense, as well as the infrastructure through which they can sell products and services, share data and content, express themselves, and connect with other people. What were once termed “Web 2.0,” “new media,” and “apps,” have been amalgamated into a single, less quickly outdated term: platform.

Alongside the development of new platforms, organizations have been undergoing a process of what has been dubbed “platformization”—which also has multiple definitions. In business, it is generally used to describe a company transitioning from a business selling products to one managing direct transactions between two or more actors<sup>8</sup> in a platform-mediated network; for example, Amazon’s evolution from directly selling products to enabling third-party sellers to use its platform and logistics network.<sup>9</sup> In media and communications, the term is increasingly being used to describe the process of making the data on the web compatible with social media platforms and their extension into external web and app contexts.<sup>10</sup>

It can be argued that research-sharing infrastructures and open tools and services are engaging with all these senses of platforms and platformization, with academic social networking services being seen as “reputational platforms” and mediating both connections between researchers and the sharing of research outputs, processes, and information.<sup>11</sup> The biggest players in academic publishing and scholarly communication are also building suites of products based on data sharing and acting as intermediaries between libraries, universities, researchers, and the public—and platforms rarely have open and transparent governance.<sup>12</sup> Anyone who controls access to data, including these academic publishers, can also remove that data as it suits them.<sup>13</sup> This chapter therefore takes a pluralist approach to definitions of these contested terms. When platformization is used as a description of the process of what is happening to research-sharing infrastructures, all of the above meanings are considered.

Platformization can also be a route to (positive and negative) disruption of markets, and monopolization/oligopolization. Consider the example of platformization in the form of the platform economy, otherwise known as the “gig economy.” The best-known examples, Airbnb and Uber, have

disrupted the hotel and taxi industries respectively, while being funded by venture capital connected to political power. They dominate their domains, with only the similarly financed Lyft (in some markets) proving any real challenge to Uber. Third-party services have emerged that build on the success of these platforms, such as UrbanBellhop for Airbnb hosts, and Uber has experimented with adding other products such as Uber Eats (food delivery) and UberRUSH (same day courier service) to their platform. Platforms in open include both new and existing tools and services, and platformization as the transformation of legacy academic publishers. As I will go on to discuss, the disruptive effects and funding models of these platforms are often not so different from the lifestyle brands of the platform economy.

Platforms are not a new concept for open. It could be argued that *arXiv*, PubMed, and other long-standing subject repositories for open content fit the definition of platforms,<sup>14</sup> albeit without social features such as commenting or following/friending other users observed in more recently established academic social platforms.<sup>15</sup> Tools such as software development platform GitHub have a long history in academia, open-source software, and scholarly communication. However, the more disruptive elements of platforms have entered the open domain in the past 10 years, including many for-profit, publisher-acquired and venture capital (VC) funded entities. GitHub itself (before its acquisition by Microsoft) shared VC investors<sup>16</sup> with less scholar-friendly technologies such as the union-rejecting Kickstarter and is not an open source or not-for-profit platform.<sup>17</sup> Popular service ResearchGate has similar issues, sharing investors with Uber. Likewise, Academia .edu (VC-funded), Mendeley (VC-funded until bought by Elsevier), SSRN (independently run until bought by Elsevier) and bepress (independently run until bought by Elsevier) were all focused on community building and prosocial behavior and were acquired for their data-mining and full scholarly lifecycle integration potential. The political and economic infrastructure supporting open is not always known to users or even important to them. This is why users are often surprised when a platform is shut down or acquired by a bigger player—if they realize it at all.

One approach to developing new services for open practices has been the platformizing, digitizing, and scaling of existing tools and practices such as reference and paper management, lab notebooks, collaborative databases, and the sharing of research outputs. It is easy to see how in principle these platforms offer value as a more efficient way of doing what is already done.

Another approach can make claims to solving user problems, serving new communities, and bringing innovation to scholarly communication—a useful form of disruption. Some platforms go further, in a form of “technosolutionism,” looking to remove friction and add technology to every process to make it more efficient.<sup>18</sup> There has been proliferation of metric products (including “alternative”/attention metrics, digital badges, writing platforms, and add-ons to the academic publishing process (e.g., Publons)) that are either produced or acquired by the biggest publishers and aggregators. Much of this dubious innovation, for profit, excludes features and disciplines not considered by a less than diverse group of developers and shuts out workflows and output types that are not easy to standardize and metricize.<sup>19</sup>

The final form of platformization in open is scholar-owned, hosted and/or run platforms (Open Library of the Humanities, *SocArxiv*, *Humanities Commons*) with different funding models and using different technological solutions and partners. For example, the Open Library of the Humanities (OLH) has developed its own scholarly platform in Janeway, which was used at the time of writing for their website and limited journals, but also partner with Ubiquity Press as a platform for most OLH content.<sup>20</sup> Some funding and governance models in this form of platformization are more stable and sustainable than others. While some sort of start-up funding will usually be needed, relying on grant funding from a handful of big foundations rather than contribution from members can be a risky proposition. Funders tend to fund proof of concept and early development, but not 10 or 20 years of implementation or the staffing costs involved.

Against this commercial imperative, the principles of platform cooperativism pose an alternative, encouraging a values-driven approach that could lead to greater sustainability. The seven cooperative principles, also adopted by platform cooperativism are:

1. Voluntary and open membership
2. Democratic member control
3. Member economic participation
4. Autonomy and independence
5. Education, training, and information
6. Cooperation among cooperatives
7. Concern for community<sup>21</sup>

The principles are supported by two sets of values:

### Cooperative values

- self-help
- self-responsibility
- democracy
- equality
- equity
- solidarity

### Ethical values

- honesty
- openness
- social responsibility
- caring for others<sup>22</sup>

These values and principles would seem to accord with those of many scholars, librarians, and educators involved in open, especially when aspects such as economic participation are considered at the institutional rather than personal level. The values of for-profit publishers and platforms are much more geared toward competition than community and equitable participation in the scholarly commons. For example, RELX (Elsevier's parent group) had "Winning" as a corporate value in 2017.<sup>23</sup> However, it is not unknown for cooperatives to behave as though they are typical businesses—for example, OCLC, a library cooperative, has been critiqued for its "corporate greed."<sup>24</sup> Even nonprofit, scholar-founded platforms such as *arXiv* do not allow for voluntary and truly open participation, requiring proof of membership of the academic/disciplinary community.<sup>25</sup> ResearchGate replicates this gatekeeping activity by requiring an institutional email address. Yet Academia .edu breaks with this tradition by allowing anyone to join and upload/download content, as do some of the other for-profit services.

The principles of freedom to contribute and freedom to be read are aspects that more "responsible" not-for-profit open platforms need to consider, even if the founders of those platforms may initially struggle with the idea of a cooperative-based commons where every participant has ownership. Srnicek argues that as platforms scale, they transform from innovative enablers into stifling gatekeepers.<sup>26</sup> Emerging open tools often copy behaviors of platforms

in other domains, by ignoring the legal constraints that hamper institutional services and allowing the unauthorized upload of copyrighted material (e.g., ResearchGate).<sup>27</sup> Safe Harbor agreements protect intermediaries from liability in copyright claims,<sup>28</sup> which is why Facebook and Google continue to argue that they are not media companies/publishers and absorb the relatively small penalties incurred when they break the rules.<sup>29</sup> The platforms developed or acquired by legacy publishers are supported by their parent companies' government lobbying power<sup>30</sup> and influence in higher education, which is not so far from the regulatory entrepreneurship practiced by many technology companies to bend the law and common practice to their will.<sup>31</sup>

Recently, there have been calls by librarians and academics for scholars to delete their accounts on the for-profit platforms Academia.edu and ResearchGate.<sup>32</sup> But assuming a gatekeeper position by policing copyright and embargoes for legacy publishers<sup>33</sup> or insisting that particular platforms are not open enough, may form part of paid scholarly communication roles, but this is not necessarily a helpful direction for librarians and open activists to take.<sup>34</sup> Telling other researchers they are wrong does not make more content or data open and it does not convince the majority of researchers and other users of available research outputs who prioritize "satisficing"—taking a course of action that satisfies their minimum requirements—over optimization of their practices.<sup>35</sup> It can be all too glib to criticize scholars for using for-profit platforms or to talk about the "Uberfication" of the university as a full-time academic librarian or white male full professor on a secure contract. The choice to avoid self-branding and the biggest, most visible social networking services is one that can most comfortably be made by those not fighting for a permanent, full-time academic post while working several precarious, fractional jobs.

Scholarly communication platforms with a social networking element, which includes most commercial services in open, play the same game as Facebook, Google, Snapchat and other big companies in their commodification of participatory media and prosocial sharing. They profit (whether or not that is reinvested) from the long-established sharing behaviors within academic communities, now transferred to the internet. Most of the value in the platforms is actively provided or what Smith calls passively "leaked" by the users—content, network effects, relationships, actions, data, metadata.<sup>36</sup> Users in most cases cannot retrieve and consolidate their own data via Open APIs—the platform owners are the ones who can monetize user behavior via new products and metrics or the valuation of a tool at the time of acquisition.

It is important not to ignore the role of vertical integration and acquisition as platformization strategies. The “Fourth Industrial Revolution” or 4IR concerns the financialization of data, via pipelines and workflows or control of the data sources themselves.<sup>37</sup> To succeed under contemporary capital, “platform capitalism” or no, means being abreast of trends inside and outside a sector and being agile enough to transform businesses before they are left behind. In open, two large corporations have done very well out of responding to 4IR, and not just when it comes to their scholarly communication segments.

RELX, Elsevier’s parent company, has divested itself of print magazines and acquired and developed products around legal technology, predictive policing, risk management and scoring, and health education; and most importantly, they are data brokers and data service providers for a range of sectors. This datacentric change in focus is reflected in the hugely profitable Elsevier academic publishing and services segment of the business. First, their spokespeople talked of a move from products to services, acquiring businesses that enhanced their service offerings, and now RELX markets itself as an “information and analytics” group—analytics meaning data products and services.<sup>38</sup> Elsevier’s academic segment does both parts of this and fits well with the wider company strategy. Central to this segment’s model is Pure, its “enterprise research management solution that aggregates an organization’s research information from numerous internal and external sources into a single platform.”<sup>39</sup> RELX has a start-up incubator to help find new acquisitions and the group has a venture capital arm that invests in Palantir, Peter Thiel’s software company, controversial for its involvement in deportations in the US, military intelligence, surveillance of US citizens, and other privacy-invasive work in the public and private sectors.

Elsevier and other RELX group acquisitions show a clear desire to capture multiple workflows from end to end in various sectors. In academia, they have products covering the full researcher workflow, an assessment workflow for administration, ranking hiring and research assessment exercises and access to enough data flows via the various parts of RELX and all the Elsevier products to produce new metrics, prediction tools, and other products regularly—as befits a data broker. They do not have to own the data, only control the pipeline and flows of data. RELX is embedded in other areas of higher education, such as the UK USS academic pension scheme investments, university league tables, and more.



While Elsevier is the most obvious example of platformization, oligopolization, and data control in this space, especially with the company's connections to others in the group, it is not alone in scholarly communication and, therefore, open. Clarivate Analytics, the company formed when the intellectual property and services part of Thomson Reuters was sold off to venture capital firms, has been acquiring additional emerging platforms and occupies a similar “workflow capture” space. Digital Science, part of the same Holtzbrinck group as legacy publishing giants Springer Nature, portrays a researcher-friendly image, but its own website talks about products across the researcher workflow, and while its offering is not as integrated as that of Elsevier, that looks like the company's eventual intention. Deals for piloting workflow packages from these single and barely interoperable suppliers are being signed by universities at a high administrative level.<sup>40</sup> What Elsevier calls “interoperable” actually means *intra*operable within its own suite of products. The signing of these workflow deals—for example, Digital Science at the University of Sheffield and Elsevier at the University of Manchester—has ramifications for higher education, particularly in countries like the UK, which traditionally used open-source software and library staff to run their open access and research data management services.

Finally, it is worth addressing the role of funders in the platformization of open. At the smaller end of the scale, a project-based approach to developing new services around open in institutions, a lack of funding for technical expertise in libraries, and poor user-experience design of in-house and open-source systems made it easier for decision-makers to outsource their infrastructure needs to commercial platforms—especially as most universities in the UK, in particular, operate as though they are in competition, leading to replication of staffing and services. This is a simplification of the problem but covers some of the issues. Large funders such as the Wellcome and Gates Foundations have invested heavily in commercial as well as not-for-profit open platforms, ResearchGate and F1000 being notable examples. F1000, a for-profit company privately owned by a serial entrepreneur and multimillionaire, is seeking to be the main provider of mega-journal and preprint platforms for various funders and institutions. The UK research councils chose to fund the payment of article processing charges (APCs) to legacy publishers to achieve Open Access rather than prioritizing funding for the staffing of institutional repositories or scholar-led no-APC options like the Open Library of the Humanities, and it remains to be seen whether initiatives such as Plan S

will help with supporting this human infrastructure or just add to their burden. Projects such as the Joint Roadmap for Open Science Tools (JROST) offer a little more hope, as creators and those who currently host their content are involved and not just funders and technologists.

Funder requirements (with consequences) have been the only successful instrument so far for ensuring researcher compliance with open-access and open-data mandates. The question remains though: is a sector that is reliant on venture capital plus large funders plus the public sector a mixed economy, or a platformized accident waiting to happen? Full stakeholder involvement is required in finding a solution, and researchers must not be outweighed by the views of proxy groups such as learned societies, whose statements reflect their connections to big publishers and their need for income to carry out their work.

## Notes

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