

Open access, responsibility and the “platformization” of academic publishing¹

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ABSTRACT

Digitalization was supposed to be a transformation force for the academic publishing sector, but it has reinforced the oligopoly of for-profit academic publishers. Open access (OA) was also meant to counterbalance this situation, but after a decade of efforts it seems that it has not achieved their goals. This essay explores how the combination of digitalization and OA have contributed to reinforce the lock-in effects exerted in the sector by digital platforms operated by for-profit academic publishers. I also explore alternative paths for the development of OA with the theoretical lenses that provide responsible innovation, putting social emphasis at the politics and values that lie at the heart of academia. I argue that exploitation, appropriation of labor and quantification metrics widely present in this social domain must be counterbalanced with different actions that do not focus alone in making freely available scientific articles for citizens.

Keywords: Digital Platforms; Responsible Innovation; Platform Economy; Platform Capitalism; Open Access; Open Science.

Proposal Submitted 28 August 2020, Article Received 17 April 2021, Reviews Delivered 2 July 2021, Revised 24 August 2021, Accepted 3 November 2021, Available online 28 February 2022.

¹ Acknowledgement: This work has been possible thanks to the funds received from the New HoRRizon Horizon 2020 project under Grant Agreement number 741402 and PLUS Horizon 2020 project under Grant Agreement number 822638.

INTRODUCTION

Responsible Innovation (RI) has revealed itself during the last decade as a transformative force that can enhance, extend and strength science-society interactions (Owen & Pansera, 2019; Stilgoe *et al.*, 2013). Its normative vision, namely Responsible Research and Innovation (RRI), has been pushed forward by the European Commission (EC) in the last decade for driving innovation towards socially desirable ends (von Schomberg, 2013). Open access (OA) has been one of the "six keys" promoted by the EC in this normative vision (European Commission, 2012) to maximize the visibility and availability of scientific articles and assuring that citizens will not pay twice (first for conducting the research and second for reading its results) (Delaney *et al.*, 2020). OA was later also included in the open science (OS) policy of the EC² introduced at later stages of the Horizon 2020 Framework Programme for Research and Innovation, and as a step towards the adoption of RRI in the EU research ecosystem (European Commission, 2016).

However, and after several years of OA development, its full implementation in the academic publishing sector is still far away. At the same time, digitalization was also to be considered a transformation force for the industry, but it has not achieved the significant change that was thought. Lowering operation costs of journals, launching new OA journals and favoring OA implementation due to new possibilities that can confer digital technologies to publishing were among its initial aims, but this process has not provided the aforementioned results. The aim of this essay is to shed some light on these controversies and outlining the challenges that the combination of OA and the "platformization" of academic publishing can create in the near future for academia. To this aim, I employ the RI lenses for questioning politics and values that lie at the social domain where academic publishing is embedded.

The structure of the article comprises seven sections. After the introduction, a literature review describes the development of the platform economy paradigm. The third section explains the "platformization" of academic publishing and its challenges. The fourth section exposes the role of RI as a political economy approach. The fifth section develops the case studies employed in the essay. The sixth section discusses the findings and the seventh section provides a conclusion for the text.

² See https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/open-science_en#documents.

PLATFORM ECONOMY AS THE IMPERATIVE BUSINESS LOGIC THROUGHOUT DIGITALIZATION

In recent years we have observed how new business models have been spurred into the economy thanks to the quick spread and diffusion of the Internet, the Web and subsequent digital technologies established around these networks such as social media, wearables, cloud computing or artificial intelligence (AI), among others. These technologies have provided to Internet companies with new tools for capturing, collecting, storing, analyzing, treating, reusing and selling data obtained throughout different platforms oriented to facilitate the development of user generated contents (UGC) (Ritzer & Jurgenson, 2010; van Dijck, 2009, 2013).

Digital platforms such as Facebook, YouTube or Uber have been increasingly positioned into daily routines, becoming shortcuts for providing digital services around socializing, streaming or mobility. These examples illustrate the current growing rate of digitalization that society is experimenting, as well as the promotion of data-driven business models. Digital platforms are a key infrastructure in this socio-economic transformation. They combine more visible aspects related with technology, marketing or organizational issues with other previously not really present in business management such as political and media connotations. Platforms seem to be a new buzzword that is loosely defined, and at the same time, a general trend in business (Gillespie, 2010). Digital platforms present features of an horizontal marketplace, as well as maintaining the classical hierarchy of business as usual, what it makes not easy to comprehend their practicalities as a whole (Sundararajan, 2016).

Digital platforms are usually understood as infrastructures based on data collection and classification where data is produced by users' interactions mediated by platforms. The prominence of digital platforms in the actual economy has also drawn the attention of different scholars that have tried to shed some light into their implications (Gillespie, 2010; Gray & Suri, 2019; Srnicek, 2017; Sundararajan, 2016; van Dijck, Poell & Waal, 2018; Zuboff, 2019). Some of these scholars started speaking about a "platform economy" for referring to...

...a term that encompasses a growing number of digitally enabled activities in business, politics, and social interaction (Kenney and Zysman, 2016, p. 62).

Major representatives of this new kind of emerging but widely adopted economy (Srnicek, 2017) such as Facebook, Google or Netflix have majorly benefited from initial positive connotations related to digitalization. Some associated ideas to platforms such as sharing economy (Sundararajan, 2016), collaborative consumption (Botsman & Rogers, 2011) and crowdsourcing (Stefano, 2016) have contributed to develop an extensive, complex and meshed socio-technical infrastructure oriented to enable

UGC (Ritzer & Jurgenson, 2010; van Dijck, 2009). But also to capitalize the free availability of digital commons (Fuster-Morell, 2010; Tabarés, 2018) actively created by Internet and Web users.

Other authors refer to this phenomenon of data availability enabled by user activity in different devices, protocols and platforms as "digital labor" (Scholz, 2012) or "free labor" (Terranova, 2000). More recently, other terms such as "data colonialism" (Couldry & Mejias, 2020), "ghost work" (Gray & Suri, 2019) and "surveillance capitalism" (Zuboff, 2019) have been employed for illustrating a new mode of capitalism focused on data, that extracts surplus from user activity in digital platforms (Tabarés, 2021), and it is oriented to the exploitation of commons by platform owners (Fuster-Morell, 2010).

Socio-technical ecosystems established around platforms have also positioned themselves in society as cultural intermediaries, pursuing sustainable business models based on data whilst promoting themselves as champions of freedom of expression (Gillespie, 2010). The influence of the "Californian ideology" (Barbrook & Cameron, 1996) can be easily traced in the promotion of platforms as neutral and egalitarian ecosystems where platform users are supported and treated in an equal way (at least in their term of reference). However, digital platforms are not neutral nor egalitarian ecosystems. Platforms are mediated by algorithms, which are technologies designed to categorize and discriminate data results (Gray & Suri, 2019; Noble, 2018; O'Neill, 2017) and they are also rigidly controlled by platform owners and their everchanging terms of reference (Couldry & Mejias, 2020; van Dijck *et al.*, 2018). Algorithms are also critical components of platforms and they constitute very important active assets regarding technological development and economic competitiveness (O'Neill, 2017). In addition, platforms are totally dependent on users contributions for the digitalization of human activities and creating value throughout data generation extracted from social life (Couldry & Mejias, 2020; Kenney & Zysman, 2016; van Dijck *et al.*, 2018).

All in all, the popularization of platforms during the Web 2.0 period (Tabarés, 2018), the consolidation of the social media phenomenon (van Dijck, 2013) and the breakthrough diffusion of mobile devices worldwide (Vogelstein, 2013) have contributed to a dramatic change in business paradigm, favoring a transition to digital services promoted by big technological companies and nascent startups. That is why some authors like Martin Zenney and John Zysman argue that we are witnessing a major reorganization of our economy in which digital platforms are accumulating too much power:

If the industrial revolution was organized around the factory, today's changes are organized around these digital platforms, loosely defined. Indeed, we are in the midst of a reorganization of our economy in which the platform owners are

seemingly developing power that may be even more formidable than was that of the factory owners in the early industrial revolution (Kenney & Zysman, 2016, p. 62).

“PLATFORMIZATION” OF ACADEMIC PUBLISHING, OPEN ACCESS AND THE CRISIS OF SCIENCE

During the next section, I will try to map out how academic publishers have been no exception at all for this new business logic pushed forward by digital platforms. In fact, many of them started its digital transformation several years ago with the objective of updating its infrastructure and making its contents “platform ready” (Helmond, 2015). To this aim, I pay special attention to three factors that are enmeshed into the social fabric of academic publishing industry and that sustains the extractive and exploitative character of the sector. These three main drivers are the business concentration that occurs through an established oligopoly in the sector, the use of metrics and indicators provided by digitalization and the recent introduction of new business models associated to OA. The first of these factors, business concentration, was intimately associated to digitalization, that was a major trend for publishing outlets during the mid-90s and early 2000s. This immediately led to a significant aggregation and congregation of journals among top publishers (Pitt, 2018). These top publishers, namely Elsevier (part of RELX), Springer Nature (formerly Springer-Verlaag), Wiley-Blackwell and Taylor & Francis (part of Informa Group) are also commonly known as “The Big Four”, which it can clearly give an idea of its size and market share in the sector. These representatives of the sector accounted for almost 50% of all papers published in 2013 and three of them (Elsevier, Willey-Blackwell and Taylor & Francis) accounted for the 50% of papers published in specific domains such as social sciences during that year (Larivière *et al.*, 2015).

No further recent data has been gathered for this paper but taking a simple look at the benefits that these publishers have declared during most recent years, their self-declared high margins of operation (higher than 30%) (Beverungen *et al.*, 2012; Larivière *et al.*, 2015) and their different acquisitions of services and academic presses (Mirowski, 2018), it can be argued that this congregation of economic power is still growing³. In addition, it is also worthy to mention that companies such as Clarivate Analytics (part of Thomson Reuters group) have also seen in digitalization an opportunity to improve, reinforce and to launch new digital services that are at the core of research and research evaluation practices (Aspesi & Brand, 2020). This is the case of ISI Web of Knowledge, the biggest online academic database of peer-

³ See for instance <https://www.publishersweekly.com/pw/by-topic/industry-news/publisher-news/article/78036-pearson-is-still-the-world-s-largest-publisher.html>.

reviewed articles that aggregates the Journal Citation of Reports (JCR), Science Citation Index (SCI) and many others, or the Endnote reference manager, which is broadly used in the academic community. These and other services have largely benefited from the rising of digital technologies and their associated data analytics.

Secondly, the increasing dominant position of these players in this sector favored by digitalization and "platformization" drivers has been the subject of many debates because of its lack of transparency in business practices, its adequacy for research practices and its high profit margins based on unpaid labor carried out by academics (Buranyi, 2017; Pirie, 2009). In fact, the business of academic publishing can be considered as one of the test beds for platform capitalism (Srnicek, 2017), as it is based on the voluntary contribution of thousands of academics worldwide for generating content and reviewing it without any payment involved. This "free labor" (Terranova, 2000) is conducted by academics by the sole objective of advancing in their careers towards the recognition of the academic community and peers to their work, as well as the acquisition of merits that can be acknowledged by research and educational institutions, funding agencies, academic communities and others related. As recent studies have shown, the pressure for publishing is high and widely dispersed at all stages of the career (van Dalen, 2021). The extractive and exploitative character of the academic publishing industry towards academics (Beverungen *et al.*, 2012) seems to be also backed up by the wide use of key performance indicators (KPIs) in research career assessments and university rankings (Aspesi & Brand, 2020).

It is important to stress that KPIs and other metrics favored by digitalization and "platformization", such as the h-index or the journal impact factor, are provided by one of these top players (Clarivate) (Fox, 2020). The use of these KPIs by for-profit publishers in their top-rated journals is one of the backbones of the business model. It helps to attract researchers to these journals, contributing and publishing in these journals, as well as positioning these journals as prestigious publishing outlets. However, the prestige associated to these specific KPIs developed by for-profit publishers thanks to digital platforms is never a satisfying issue that is carved in stone for the academic community (Ferretti *et al.*, 2018; Rafols *et al.*, 2012). Popular initiatives promoted during the last years have strongly fight back this notion of prestige associated to these metrics developed by commercial publishers and its algorithms. One of the most renowned initiatives is The San Francisco Declaration on Research Assessment (DORA)⁴ that aims to ban the use of these metrics into research evaluation and research funding processes.

⁴ <https://sfdora.org/>.

Digitalization was pre-supposed to revert this situation, due to the new possibilities that the Internet could bring to the academic publishing process (reduction of associated costs to printing processes, new business models not based on subscription, etc.), but in fact it has been quite the opposite (Aspesi & Brand, 2020; Larivière *et al.*, 2015). For sure, significant successful initiatives such as the "First Monday"⁵ Journal or the efforts carried out under the Public Knowledge Project⁶ (PKP) which made possible and accessible a significant number of open-source resources have demonstrated that digitalization can be a transforming force for the academic publishing industry. Nevertheless, these kinds of examples have been the exception, not the rule. The ongoing processes of congregation and aggregation (and the launching of new journals thanks to digital technologies) of journals have been exacerbated during the last years thanks to digitalization in liaison to the increasing importance of data analytics and impact KPIs of publications and journals facilitated by digitalization.

Last, OA was meant to bring a transformative change within the industry and significant efforts have been promoted during the last years such as the 4S Coalition⁷. This significant initiative has been able to involve a great number of research funding agencies and research agencies across Europe as well as other international organizations such as the World Health Organization (WHO) or the EC. The latter one has pushed forward a great leap forward to the adoption of OA across the Horizon 2020 Framework Programme for Research and Innovation (Delaney *et al.*, 2020) However, OA has not achieved its aims yet, it is still far ahead of them and for-profit publishers have also created new extractive and exploitative business models around it. According to the Open APC initiative the top three academic publishers (Elsevier, Springer and Willey-Blackwell) have largely benefited from the Article Processing Charge (APC) fees that are established when an author publishes an article via the golden route (Burchardt, 2014). Together, these three publishers have a market share of 45.52% of OA fees that at the time that this article is being written sums more than 108 million euros⁸ of public funds allocated to cover APCs in OA journals.

OA has been touted as a desirable paradigm to be achieved by research and academic publishing for making scientific information freely available to citizens. In this sense, the COVID-19 outbreak has been a formidable test bed for this claim, with several collectives promoting different campaigns in social media against vaccination,

⁵ <https://firstmonday.org/ojs/index.php/fm/about>.

⁶ <https://pkp.sfu.ca/about/>.

⁷ <https://www.coalition-s.org/>.

⁸ See <https://treemaps.intact-project.org/apcdata/openapc/#publisher/>.

promoting conspiracy theories and suggesting that the virus was designed into a Chinese laboratory. It is in this context, where research activities focused on coronavirus have adopted a more collaborative and experimental approach for making scientific knowledge freely available worldwide (publishing COVID-19 related papers in OA, uploading preprints, etc.), with the goal of speeding up innovation against the virus and promoting scientific education and communication towards citizenship (Fox, 2020). This rapid acceleration in the transition towards OA has been also stressed the role of digital platforms as "information brokers" conferring to some of the major platforms such as Twitter or Facebook the role of "content curators" to distinguish between false and true information regarding COVID-19⁹. At the same time, top academic for-profit academic publishers have also increased their popularity and importance due to their intermediary roles, aggravating its lock-in effects in the academic community (Aspesi & Brand, 2020).

However, recent episodes during the COVID-19 crisis such as in the case of Hydroxychloroquine (Boseley & Davey, 2020) that involved one of the most prestigious journals in medicine, "The Lancet", have also contributed to aggravate the "crisis of science" (Saltelli & Funtowicz, 2017). The crisis of replicability seems to be one of the symptoms of the growing "platformization" of academic publishing (Mirowski, 2018), as well as the serials crisis¹⁰ seem to be also a manifestation of the growing power of digital platforms commanded by this oligopoly. Indeed, the promotion of OA is by no means a controversial issue in the academic community that reflects the increasing lack of trust and transparency that surrounds digitalization of modern science (Tennant, 2018).

RI AS A POLITICAL ECONOMY APPROACH

In this article I promote a critical reflection about the adoption of OA in academic publishing and its consequences in science-society interactions. This article is not interested in stressing the differences between the normative approach of RI (RRI) and its academic approach (RI) (Owen & Pansera, 2019). The aim is to critically engage with the "platformization" of academic publishing and to use RI as a formidable theoretical lenses for unmasking values and politics (Papaioannou, 2020; van Oudheusden, 2014) behind digital innovations and business models pushed forward by academic

⁹ See <https://www.politico.eu/article/facebook-avaaz-covid19-coronavirus-misinformation-fake-news/>.

¹⁰ This term refers to the continuous increase of costs in subscription from libraries to scholarly journals. It is common to observe that the budget of libraries has commonly keep the same or decreased while subscriptions have been on a continuous rising.

publishers. I also try to explore some alternatives that can promote innovation governance into this sector.

In the DNA of RI there is a clear intention of integrating social and ethical concerns into science (Stilgoe *et al.*, 2013; von Schomberg, 2013), as well as proposing deliberative public engagements between innovators and citizens for contributing to innovation governance (van Oudheusden, 2014). Here, it can be argued that several public values that civil society should expect at the forefront of innovation such as accountability, responsibility, sustainability or transparency are not currently well managed and promoted by the companies that compose the oligopoly of for-profit academic publishing (Larivière *et al.*, 2015; Pitt, 2018; Tennant, 2018). In this sense, RI can be a powerful tool for shedding some light in the alternative paths that the development of OA.

At the same time, it is also important to stress that OA is also a component of the broader OS paradigm that aims to update and transform research practices thanks to the potentialities and possibilities that digitalization brings in (Burgelman *et al.*, 2019). While OA aims to make published articles freely available to citizens, OS has a greater ambition for making accessibly early data and research findings shareable to improve and to speed up available knowledge when dealing with societal challenges. In this sense, it can be argued that OS is a step forward to RI, thanks to digital platforms. The benefits of OS are intimately related with the possibilities that digitalization can have for sharing data, information and knowledge across researchers, such as in the case of COVID-19 crisis. It can provide several tools, instruments and resources for disseminating information and knowledge across research communities as well as establishing common research infrastructures that can thrive scientific discoveries (Burgelman *et al.*, 2019). However, OS does not address critically on the different challenges that modern science suffers today such as the democracy deficit, the reproducibility crisis and the increasing distrust on science by public opinion (Mirowski, 2018; Saltelli & Funtowicz, 2017; Stilgoe *et al.*, 2013). OS pays attention to instruments, tools and procedures, but as it has been argued previously in the text, the problems that science-society interactions face today are far from being new at all. This is the main reason for adopting RI as a political economy approach to shed some light on the current challenges and elucidate some possible solutions and alternatives.

In addition to this, I also employ the abundant literature about platform economy, platform capitalism and digital labor previously commented (Couldry & Mejias, 2020; Kenney & Zysman, 2016; Scholz, 2012; Srnicek, 2017; Terranova, 2000) for providing a critical reflection of the adoption of OA and its consequences in science-society interactions. I pay attention to the reproduction of inequalities in academia

thanks to the combination of digitalization processes and OA development. Employing RI as a political economy approach allow to explore digital transformations carried out in the academic publishing sector. To this extent, RI is positioned in the text in the tradition of social constructivist approach of science. In the following section I employ this approach with the help of two cases that exemplify the challenges that face the implementation of OA throughout digital platforms.

CURRENT CHALLENGES AND POSSIBLE ALTERNATIVES

To start with this critical analysis, the text takes stock of previous literature exposed regarding OA. This is why this article accepts the validity of possible alternatives exposed by Beverungen, Böhm and Land (2012) in which they open an scenario for transformation of the academic publishing industry with four possible responses: further development of open access repositories, a fair trade model of publishing regulation, a renaissance of the university presses, and a self-organized open publishing. These four possible responses are somehow common in the literature and several authors have sketched similar paths for OA development (Aspesi & Brand, 2020; Laakso *et al.*, 2011; Pirie, 2009; Van Noorden, 2013).

However, I also share the concerns of Beverungen *et al.* (2012) as they only consider the self-organized open publishing model as the one with more potential to really provoke a significant change in the sector. This is the model that has been chosen by the famous PLOS One journal¹¹ which was a great success despite it has not been able to change academics mindset about OA nor the industry itself (Van Noorden, 2013). Indeed, prestigious behind top-rated journals belonging to for-profit publishers, evaluation metrics role such as the impact factor and the lack of associationism and coordinated actions between academics are some of the causes that deter or contravene the impact of these initiatives.

Of these factors, it seems that journals prestige is probably the main barrier for moving to alternatives. It can be said that this status of popular journals in academia have been built up throughout different processes of exploitation and appropriation of free work (Terranova, 2000), mainly consisting in writing and reviewing scientific articles. Both activities are not economically rewarded as these are considered to be part of academic's skillset, as well as competences that can grant public acknowledgement of academia. Peer review activities can be occasionally paid by some journals, but this is not the rule and it is widely acknowledged that scholars will

¹¹ <https://journals.plos.org/plosone/s/journal-information#loc-why-researchers-choose-plos-one>.

not be paid for writing and reviewing scientific articles. In addition, the pressure for publishing is high and it's present at all stages of academia (van Dalen, 2021). This exploitation and appropriation of free work is at the core of moral values of academia, leading to increase precarity in combination with other factors spurred by recent economic crisis in several countries.

A second important factor contributing to the development of this prestige is the use of arbitrary metrics and KPIs to quantitatively, graphically and numerically express the impact of these top-rated journals. Indeed, academic publishing has been one of the most innovative sectors when using algorithms to sort, classify, manage, refer and suggest pieces of information for platform users. It is also important to remind that Sergey Brin and Larry Page, founders of Google, also were inspired by this use of metrics, when developing its famous algorithm called "PageRank"¹² which organizes and classifies massive amount of information on the Internet. Google search engine was heavily influenced by the number of citations that scientific articles receive for identifying its relevance. KPIs such as impact factor, h-index or number of citations that receive a paper are also at the core of the academic community. During last year's different initiatives such as DORA have also tried to avoid the use of these metrics into research evaluation and research career evaluation, but reality seems to be tough to contest. These arbitrary KPIs developed by for-profit companies are still commonly used by several agencies and institutions, as well as academic communities.

A third important factor that also demands attention is the completely different situation and particularities of academic communities in the whole system of science. Here it can be observed that academic communities that have benefited from strong associations with grand resources to be mobilized have resisted much better than the others the endeavor of combining digitalization and OA transition. Specially, in the social sciences and humanities domain due to the importance of local and regional contexts which has deterred the development of international associations (Larivière *et al.*, 2015). Associationism in the academia seems to be an important factor regarding academic publishing, as this can create alternative paths to be taken by self-organized scientists towards the development of their own digital platforms such as in the case of Science¹³.

These three main factors exposed lie at the heart of academia and at the same time, secure business models developed by for-profit academic publishers during last

¹² <https://en.wikipedia.org/wiki/PageRank>.

¹³ Science is published by the American Association for the Advancement of Science.

years. OA was pre-supposed to be a transformative force for the industry, but it was not. Instead, it has aggravated the economic externalities of digitalization in some cases making not affordable to researchers with low resources to publish in OA top-rated journals due to APCs, even in rich countries (Burchardt, 2014). This combination of problematics has deterred the implementation of OA and new initiatives and alternatives have been launched recently for trying to revert this situation. In the following, I pay attention to two particular cases: Open Research Europe (ORE) and Libraria.

Open Research Europe

Open Research Europe (ORE) is the OA publishing platform for Horizon 2020 and future Horizon Europe research results. It was officially launched on the 7th of April of 2021¹⁴. It is oriented to researchers that have taking part in a Horizon 2020 project or that will be taking part in future Horizon Europe calls and want to publish their original works throughout this OA platform. In the dedicated website of the platform it is also stated that:

All research is welcome and will be published irrespective of the perceived level of interest or novelty; confirmatory and negative results, as well as null studies are all suitable¹⁵.

ORE aims to provide a free and alternative OA platform for European researchers that have been funded throughout a Horizon 2020 or a Horizon Europe grant and that want to publish any research funded under this umbrella programs in an alternative platform to the classical journal platforms. The fields that covers ORE are natural sciences, engineering and technology, medical and health sciences, agricultural and veterinary sciences, social sciences, and humanities and the arts. All of these fields are addressed by the funding calls and work programmes of Horizon 2020 and Horizon Europe.

ORE uses an open research publishing model that consists of an immediate pre-publication of the article submitted to the platform (after pre-publication checks). Then, the preprint version is published, and data deposited can be viewed and cited. Following this stage, reviewers are selected and invited to conduct an open peer review (names of reviewers as well as their reviews and responses of the authors are public and citable). Last, articles that passed peer review are submitted to indexing

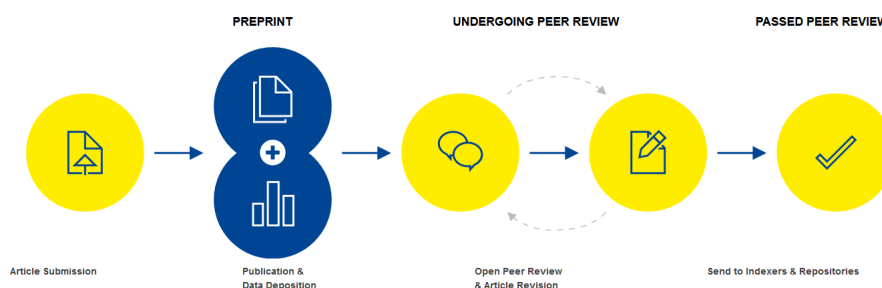
¹⁴ https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/other/comm/open-research-europe_official-launch_en.pdf.

¹⁵ <https://open-research-europe.ec.europa.eu/about/>.

databases and repositories (see figure 1). In a recent interview with Michael Markie, who is the publishing director for F1000¹⁶, the company that provides the technology behind ORE, he stressed how ORE can provide OA to research:

ORE is an open access publication venue centred around open research practices: open data, open peer review and full transparency of the publication process. It fits into a publishing landscape where there is now real momentum towards full open access to research. Over the last few years, funding bodies have looked to push the envelope with regards to supporting innovation in scholarly communications to ensure the research they fund is open for all to access. As with other funder publishing platforms, ORE provides eligible researchers with an optional venue where they can publish their work and fulfil their open access obligations at no cost to them. (Markie, 2021)

Figure 1 – Publishing process of ORE



In its website, significant benefits are mentioned for researchers, research and society such as no author fees, data sharing, a transparent peer-review, maximizing the value of and impact of EU Research Framework Programmes or:

...shifting the way research and researchers are evaluated based on the intrinsic value of the research rather than the venue of publication. (ORE website)

However, at the time that this article is being written there are a number of questions that cannot be answered in the dedicated Q&A section of the website. First of all, it is mentioned that the EC will take over the associated costs for publishing, but it does not provide any information on how much it will be or how it will be funded. It can be assumed that taxpayer's money will be used for these tasks, but no estimation of costs nor annual budgets has been disclosed. Second, it is unclear yet which, how and under which conditions reviewers will be involved for peer reviewing. Reviewers usually agree to conduct reviews in established journals thanks to non-economic incentives such as prestige or access to specific knowledge, but it is still unclear what kind of incentives can offer a platform like this. Last, the launch of ORE has also raised some

¹⁶ <https://f1000.com/>.

concerns between publishers as the company that provides the technology of ORE, F1000, was acquired by Taylor & Francis in January 2020¹⁷.

Libraria

Libraria is an OA access initiative formed in 2015 by an international group of researchers in the social sciences domain, more specifically on anthropology¹⁸. This is a recent initiative that tries to promote the subscribe-to-open (S2O) model (Crow, Gallagher & Naim, 2020) into academia for transforming subscription journals to OA. This approach is intended to convert gated access journals to OA using existing library budgets and established relationships. Institutions such as universities, research agencies or technological institutes subscribe to these gated journals in the normal way, and with the assumption that enough benefits are gathered, the journal is published in OA. It is important to stress that this is a subscription model, not a voluntary donation by publishers, that reinforces the relationships between publishers, funding agencies, libraries, researchers and society. In words of some of their promoters:

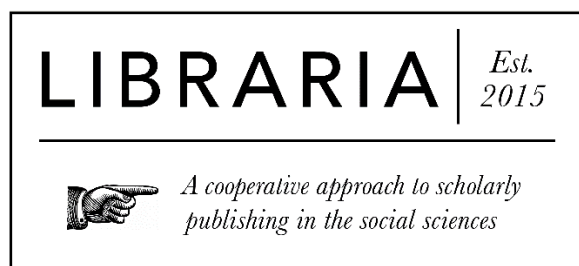
The major "pro" of this funding model is that it offers a way around a problem currently common to open access publishing — namely, the exploitation of underpaid or volunteer labor of production staff, or of the goodwill of authors and their backing institutions in paying APCs. By escaping proprietary agreements, the L+F model also promises greater budgetary transparency and access to data analytics for all involved. (O'Neill, 2019)

The S2O model enjoys of several benefits that other models don't have such as the APC. For instance, authors are not charged APCs or other administrative fees what it can help to authors from the global south or belonging to modest institutions to publish OA in top-rated journals. The model also provides incentives not only for current subscribers but also for new institutions with lower budgets to join to these collective agreements. The model can be sustainable only if participation is high, what it can balance power relations between publishers and institutions as well as providing future economic sustainability. Yearly renewal processes are similar and do not demand alternative workflows. The S2O model also is characterized by a transitive character and publishers can always start tinkering with some journals instead of its entire collection (Langham-Putrow & Carter, 2020).

¹⁷ See <https://newsroom.taylorandfrancisgroup.com/f1000-research-joins-taylor-francis/>.

¹⁸ <https://libraria.cc/>.

Figure 2 – Libraria logo



The model is not free of challenges and these are mainly related with the enough number of subscriptions needed to establishing an economic sustainable model, the strict deadlines between publishers and libraries that demand this subscription model and the common decreases in libraries budgeting that can hinge directly on their subscriptions (Langham-Putrow & Carter, 2020). Another possible challenge for the diffusion of the model outside of non-profit publishers is the alternative funding lines and business models that for-profit models can develop due to the increasing importance of digital platforms, data analytics and AI (Aspesi & Brand, 2020). At the time that this essay is being written, Libraria has helped to reach agreements with publishers such as Annual Reviews, Berghan Books, Coalition Publi.ca and Brill Publishers. Conversations with Oxford University Press and Society for Cinema and Media Studies are underway.

Some observants can argue that this is a similar option to the "transformative deals" (Anderson, 2021) that Elsevier has been negotiating during last years with different institutions around the world, but it is not. First, authors worldwide can benefit from these agreements and publish without APCs. Second, there are more stakeholders involved in the process of negotiation besides the publisher and the institution at stake. Third, there is much more transparency in the deal for all stakeholders affected and access and use of the data analytics of platforms is shared. This favors access to the elaboration and composition of critical indicators that some of the for-profit publishers make use of it for the promotion of diverse top-rated journals. As it can be observed, inclusivity, openness, diversity, transparency and accessibility are some of the values that are promoted by this model.

RESPONSIBILITY IN ACADEMIC PUBLISHING

As it has been stressed, the implementation of OA has faced many struggles and it cannot be said that their main aims have been achieved. With the help of the cases of ORE and Libraria I have tried to expose which kind of barriers are currently confronted by OA initiatives. These barriers are mainly related with the politics and values that lie at the core of different academic communities behind "science". In this sense, and throughout the lenses of RI, OA is not only a matter of making freely accessible to citizens scientific articles. It is also about contesting these politics and values for introducing societal concerns, expectations and public values that can transform current academic publishing.

In this sense, it is of utmost importance to support this transition to other business models where the role of exploitation and appropriation of academic labor do not end up with its commodification and enclosure by representatives of platform economy. OA in this sense can be a transformative force for providing greater visibility to scientific content but also to making this knowledge available and not encapsulated behind paywalls. From a RI perspective it is also important to work against the lack of transparency, responsibility and sustainability that affects the sector. As it is argued by one of the representatives of the two cases discussed, sustainability is one of the main values that should be confronted with the transition to OA.

The biggest challenge to OA publishing is ensuring sustainable funding. Who will pay the bills to provide free access to knowledge? Publishers, after all, are also in the business of making money. The project of OA is nothing less than to clear a new commons within an economy of publishing that has come, too often, to put profit before science. (O'Neill, 2019)

The serials crisis and the crisis of reproducibility are relatively new phenomena in science but there are logical effects from the increasing digitalization and the rampant pressure for maximizing benefits of platform capitalism (Srnicsek, 2017). Academic publishing is no exception to the current business logic imposed by the growing digitalization and the important role of digital platforms on it, but it has been aggravated by their politics and values behind. As Nick Couldry and Ulises Mejias stress, digitalization and datafication try to normalize forms of unpaid and underpaid work that were unthinkable before, but not surprisingly there was a sector where this was previously legitimized.

Today, social quantification represents the most extensive attempt to construct a whole economy based on the free ride that capitalism can extract from our lives, so that modes of unpaid and underpaid work that were unimaginable before are

legitimized, normalized, and in the long run, naturalized. (Couldry & Mejias, 2020, p. 58)

For this reason, the role of RI regarding OA should be more ambitious than the current aim of making scientific articles freely available to citizens. It should entail a reconsideration of the current practices and values that are in place behind the whole social domain where academic publishing is embedded. In this sense, it seems clear that several changes can be introduced in the industry for making this sector more oriented to societal concerns and needs. Regulation, investment in community-driven initiatives and public support to associationism in academia for promoting self-OA publishing are some of the directions that should be pursued in the next years.

At the same time and whilst these directions can provide a transformation within the industry, it is also worthy to mention that the full implementation of OA paradigm alone will not solve the challenges previously alluded regarding science-society interactions. Misinformation, public controversies around science and lack of trust in scientists will not be overcome if citizens are still the mere recipients of the increasing and vast scientific production. In this sense, it is so important to start introducing another set of qualitative indicators in research career assessments and research evaluations that can counterbalance current KPIs pushed forward by digital platforms and quantitative indicators commonly accepted in academia. Backing up the efforts of researchers for diffusing, exposing and engaging with citizens around research outputs can be a really transformative force. Public engagement can counterbalance the excessive bias towards impact metrics in academia and can help to strengthen science-society interactions. If no paths are encouraged into this direction I agree with other authors that the transition to OA and OS will meet definitively the new configurations enabled by platform capitalism (Mirowski, 2018; Srnicek, 2017).

CONCLUDING REMARKS

As I have explained, challenges faced by academic publishing sector demands a major reorientation of institutional and international initiatives deployed. While a significant focus on OA has been set during the last years through actions such as the 4S Plan, this has also led to reinforce the well-established oligopoly with alternative funding lines via APCs. Here, "platformization" processes conducted by top academic publishers have also helped to augment locked-in effects in their respective "walled gardens". A common side effect of digitalization in many markets (Tabarés, 2021).

In this regard, it is of utmost importance to act in several domains at the same time for progressively transform the sector towards the adoption of OA and the abolition of paywalls. Here, the abundant literature related with digital platforms and digital labor is really relevant for this case as there are a significant number of similarities (Couldry & Mejias, 2020; Scholz, 2012; van Dijck *et al.*, 2018). First, there is an obvious need for international regulation on this sector for creating a common level play of field that can stop abuses from top dominant players. Having an international regulation can help to favor competition as well as favoring the introduction of emergent or incoming players that can contest the well-established oligopoly. Second, there is also a clear need of public investment and backing up of community supported alternatives of OA publishing. Following the same logic of investment that has been pursued during the last years will only reinforce the current dominant position of main players in the sector. The strength of not for profit publishers in certain communities of academia where international associations are not strong, makes a plea for this argument (Larivière *et al.*, 2015). Third, the prominence of metrics in research evaluation and research career assessment need to be counterbalanced with more qualitative indicators encouraging public engagement. Hybrid formats, events or dynamics that can contribute to actively discussing and debating research outcomes with citizens can be probably the most important transformative force.

Last, I would like to stress the limitations of this essay and encouraging researchers to conduct fieldwork and action-research initiatives in this topic. Due to its importance for science-society interactions, it is also surprisingly common to observe the relative limited literature that can be found on the topic as well as the limited awareness and knowledge that can be found on different research communities.

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