Navigating murky waters between closed- and open-access content: The role of libraries and their institutional repositories

Prof. Jaquelina E. Álvarez (jaquelina.alvarez@upr.edu)
Prof. Grisell Rodríguez (grisell.rodriguez1@upr.edu)
Dr. Anidza Valentín-Rodríguez (anidza.valentin@upr.edu)
University of Puerto Rico – Mayagüez

While scholars were early pioneers to take on the cause of the open access (OA) movement, librarians have embraced it due to its closely knitted relation to their philosophical belief in access to information as a fundamental right for the public good. Coming into the scene, publishers with their particular take on OA begin generating their own hybrid and OA business models. Furthermore, in the last decade, funding and governmental agencies have also entered the arena by adding mandates that respond to the need for easily accessible research results. Traditional versus new models of scholarly publishing have created a very complex environment.

Libraries continue to create innovative services encompassing dissemination and preservation of scholarly communication. Emerging technologies, such as an Institutional Repository (IR), have provided a trajectory to fulfilling OA expectations. IRs can provide a sustainable transition to open access in addition to long-term discoverability of institutional "memories" (such as theses, dissertations, data sets, and other scholarly outputs) thus narrowing the accessibility gap. Hence, the transformative role of libraries from custodians of knowledge to content providers.

Librarians understand researchers' current conflicting paradigms while trying to promote the benefits of IRs and their long-term archiving function and navigate the murky waters between copyright, levels of openness, and bridging the inequality of access. This presentation aims to expose some issues related to the balance between the need and right of the public to what is being produced with public funding, making it easily discoverable and accessible and, on the other hand, the protection of the intellectual property of content producers.

Keywords: open access, journal costs, open access movement, academic librarians, information access equality

Introduction

Suber, Harnad, free online scholarship (FOS), Budapest Initiative of 2002, Bethesda Statement, and the Berlin Declaration of 2003 are just a few names and buzzwords heard through the grapevine since the beginning of the 21st century, as the notion of the open access (OA) movement took shape. As defined by Suber, "OA literature is digital, online, free of charge, and free of most copyright and licensing restrictions" (Suber, 2012, 2015). Nowadays, as the movement evolves, one reads about green, gold, bronze, diamond, or black open access, Creative Commons, public archives, institutional repositories (IRs), Open Educational Resource (OERs) and the 5Rs framework (Wiley, 2014), paywalls, Plan S, and Article Processing Charge know as APCs (Björk, 2017; Bueno-De-La-Fuente, Robertson, & Boon, 2012; Piwowar et al., 2018; Robertson, 2010; Willinsky & Rusk, 2018). All these issues come with varying degrees of restrictions and controversies that can affect the way a research output finally reaches the intended audience.

Scholars, publishers, and funding agencies

Scholars with strong advocacy within their community were the early pioneers to take on the cause of the open access movement. Since the begging of the 1990s physicists shared their pre-print via a centralized repository that later became arXiv. In 2001, the Public Library of Science (PLOS) became a nonprofit publisher devoted to making the world's scientific and medical literature an accessible public resource (PLOS, 2019). With an innovative business model, PLOS created a means to make published articles immediately available online, without restriction. For example, September 2001 came with the arrival of the Open Letter (Varmus, Brown, & Eisen, 2001) where professors around the US and the UK "urge journal publishers, their editors, and all working scientists to join together to create public, electronic archives of the

scientific literature, containing complete copies of all published scientific papers" (Roberts et al., 2001).

There has been a definite boom for OA with rising public interest in accessing results of publicly funded research. This matches the very fabric of the libraries' mission to facilitate access to information as a fundamental right for the public good (Morrison, 2009). The Directory of Open Access Journals (DOAJ) started in 2003 with 300 OA journals and now has near 12,000 (DOAJ, 2019). Moreover, tools to facilitate OA retrieval have been developed, such as Open Access Button and Unpaywall. A recently published study by the founders of open science, not-for-profit ImpactStory, estimates that 47% of Unpaywall users often find open access content. Also, the same source indicates that "the most common mechanism for OA is not Gold, Green, or Hybrid OA, but rather an under-discussed category we dub Bronze: articles made free-to-read on the publisher website, without an explicit Open license" (Piwowar et al., 2018, p. 1).

Almost two decades later, OA's convoluted content may include final versions of the published articles, pre-prints, first or final drafts, and full-text with embargoes. This muddle of OA versions forces libraries to continue the subscription-based model to guarantee access to the final version in a timely manner (Willinsky & Rusk, 2018). In juxtaposition to OA, this traditional model creates an access barrier, as it pays for access to the content. Exclusionary tactics from publishers, due to their unreasonable prices, are well documented in the literature (Bergstrom, Courant, McAfee, & Williams, 2014; Morrison, 2009). Thereupon, due to the high cost of publishing, libraries are still facing controversial decisions to cancel print and online journal subscriptions to balance their ever-decreasing budgets (Bosch & Henderson, 2016; UC Office of the President, 2019; Wenzler, 2017). At the same time, they must also be aware of and

consider the researchers' needs for readily discovering and consuming available content for their

work and the dissemination of their research results whilst protecting their author rights.

Librarians advocating for OA need to be aware of publishers that are transitioning to this

model, for instance, InTech Open, an OA publisher who just recently became a member of the

Open Access Scholarly Publishers Association (OASPA). OASPA is committed to "developing

and disseminating publishing solutions that advance open access, preserve the integrity of

scholarship, and promote best practice" (OASPA, 2019). Additionally, there are other platforms

using freemium models such as the Open Library of Humanities and Knowledge Unlatched

(Knowledge Unlatched, 2019). Promoting these OA publishers to campus stakeholders could be

the start of new policies concerning the use of OA content in courses and research.

Likewise, in the last decade, funding and governmental agencies have also entered the

arena by adding mandates that respond to the need for easily accessible research results. Since

2008, when the US National Institutes of Health (NIH) mandated that products generated by

their grantees must comply with OA within a year of the publication date, more agencies have

delineated similar policies. Most recently, the European Commission and the European Research

Council, launched in September 2018, Plan S (Else, 2018). It mandates that by 2021:

> all scholarly publications on the results from research funded by public or private grants
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> provided by national, regional and international research councils and funding bodies,
>
> must be published in Open Access Journals, on Open Access Platforms, or made
>
> immediately available through Open Access Repositories without embargo. (cOALition
>
> S, 2019, para. 2)

Although the OA supporters welcomed this, it created a controversy on the global stage.

Recently, a group of researchers expressed their concern with the European Union's Plan S,

indicating that it "goes too far, is unfair for the scientists involved and is too risky for science in general" (Open Letter, 2018). In a May 2019 interview, Arianna Becerril-García, Executive Director of Redalyc, agreed with the intended goals of Plan S in making all-knowledge free of paywall and that authors should retain their rights. However, she was hesitant about the possibility that Plan S "seeks to replace the pay-for-reading model of subscription publishing with a pay-for-publishing one." Furthermore, she pointed out that:

> historically, research institutions in the South have struggled to afford the fees necessary to buy access to international subscription journals. However, a move to an OA system almost exclusively based on pay-to-publish (which Plan S seems likely to lead to) would lead researchers in developing nations to struggle to find funding to pay the article-processing charges (APCs) needed to publish their work in international journals. (Poynder, 2019)

Hybrid models based on APCs have become a central point of the publication discourse and an urge for librarians to act (Björk & Solomon, 2015; Lohse & Meiburg, 2019). In order to balance the inequality of the system, tantalizing deals have been developed by publishers for certain "developing" countries based on their gross domestic product (BMC, 2019; Research4Life, 2019; Wiley, 2019). While well-intended, these lists do not include the majority of Caribbean, Central and South American countries. Therefore, a more fair and just OA publication model remains to be seen.

The economy of the knowledge society, the public interest, and the mandates of funding agencies are just some of the topics that prompt the murky waters that librarians must trudge through as traditional versus new models of scholarly publishing have created a very complex environment.

New library services to support the research ecosystem

Concerned with the crisis generated by the high cost of journals, the monopolization of publishers and the decrease in access (via libraries subscriptions) to publicly funded research, the Association of College and Research Libraries (ACRL) began a scholarly communications initiative. In 2003, it defined scholarly communication as "the system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use" (ACRL, 2003, para. 1). Librarians answered the call to action, partnering with researchers to become active participants in reforming an unfair system. Libraries assumed a new role of advocacy and education, particularly creating awareness regarding creator's rights. Traditional consultations services expanded to include the understanding of publication contracts, author addendums, Creative Commons (CC) licenses, and alternative forms of dissemination. By then, Scholarly Publishing and Academic Resources Coalition (SPARC) had released the results of a study evaluating the roles of Institutional Repositories (IR) developed by research and academic libraries and made the case for their immediate use to solve the scholarly journal system problem (Crow, 2002).

Since then the use of IRs has spread around the world to bring to life hidden treasures (Drake, 2004), institutional memories (Gbaje & Mohammed, 2017), heritage materials (Fasae, Larnyoh, ES, Alanyo, & Holmner, 2017) or more commonly, as initially defined by Johnson in 2002, "a digital archive of the intellectual product created by the faculty, research staff, and students of an institution and accessible to end-users both within and outside of the institution, with few if any barriers to access" (para. 11). Even though IR promises long term archiving, concerns such as recognition from the institution, plagiarism, credibility and low-rate faculty participation (Wu, 2015) are still utterly affecting its main goal. Librarians understand these

difficulties and can help faculty and researchers overcome these challenges while promoting its benefits and functions.

IRs have provided a unique opportunity to start conversations with researchers and other stakeholders (Erway, 2013). Tools such as SHERPA RoMEO facilitated the process of making published articles available to the general public via self-archiving or depositing in a disciplinary or institutional repository by identifying the OA journal's policy in a color-coded system (green: can archive pre-print and post-print or publisher's version; blue: can archive post-print or final draft post-refereeing; yellow: can archive pre-print before the refereeing process; and white: archiving not formally supported. Additionally, SHERPA Juliet provides funders' mandates regarding open access publication.

As described above, with the broadening of funders' requirements such as postulated by the Office of Science and Technology Policy memo, many libraries carry out self-assessment and environmental scanning in order to respond to their community's data needs. Nowadays, services include data storage, management plans, metadata, access and preservation as well as data stewardship. Opportunities have recently arisen to collaborate with campus researchers, information technologists, grant administrations, and archivists.

Overall, IRs have provided the means to disseminate scientific outputs including data, making it easily discoverable and accessible, while offering a trajectory to fulfill OA expectations. In the process, libraries have shifted the transformative role of libraries from custodians of knowledge to content providers (Adema & Schmidt, 2010; Chadwell & Sutton, 2014).

Conclusion

Overtime commercial publishing business models have adapted to meet their

shareholders' expectations. Jumping into the OA bandwagon, the pay-to-read model has moved

to a pay-to-publish creating a disequilibrium between those with funding and those without.

As the needs of students, faculty, and researchers have evolved so have the library's and

the services that it provides. However, the fundamental role of providing free access to

information has not changed. Defending this right to access has become a core value and is now

ingrained in librarians' principles and professional attitudes. Working toward bringing down

barriers and overcoming challenges to narrow the equitable access gap is our duty and

responsibility. We must wholeheartedly embrace, strive and accept the advocacy and activism

path presented before us.

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