

Profit Over Progress: The Hybrid Open Access Publishing Dilemma

A Research Paper submitted to the Department of Engineering and Society

Presented to the Faculty of the School of Engineering and Applied Science

University of Virginia • Charlottesville, Virginia

In Partial Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

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Spring, 2025

On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Social Impact of Hybrid Open Access

Commercial academic publishers earn an unprecedented amount of revenue in an estimated \$19 billion market space, with prominent publisher Elsevier turning a massive 33.1% profit margin in 2023 (Buranyi, 2017; RELX 2023 Results, 2024). Although academia is seemingly motivated by innovation and greater public welfare, such exorbitant profits point to an industry with disordered incentives and exploitative publishing practices. Academic journals dominate the world knowledge base by being the main way to transfer knowledge and create progress, driving high demand for publications. Taxpayer dollars in the form of public grants, private funding agencies, and subscriptions paid by university libraries propel this industry. Rather than rewarding authors conducting research, these profits line the pockets of the commercial publishing companies distributing their work. The “pricing crisis” happening within the academic community has soaked up library budgets, causing librarians to champion change within the industry (Suber, 2012, pp. 30–41). Despite this, a publishing structure known as hybrid open access (OA) persists within the academic space, garnering further profits for publishers in the name of accessibility.

OA is defined as literature available online without “price” barriers and with “lower” permission barriers (Suber, 2012, pp. 7-9). Hybrid OA stems from this idea, allowing authors to publish their articles accessible to the general public if researchers pay an article processing fee; otherwise, the article remains behind a paywall requiring subscriptions to access (Suber, 2012, pp. 140). Though criticized for making profit from both subscriptions and processing fees, 73% of journals offered by the largest five publishers were hybrid in 2014 (Björk, 2017). This research investigates how researchers, university librarians, the United States government,

private funding agencies, and the commercial publishers of Elsevier and Springer influenced the development of the hybrid OA journal format. Using the Social Construction of Technology (SCOT) framework, the relationships between stakeholders in hybrid OA are analyzed to understand why each party participates in a seemingly exploitative system. Elsevier and Springer are examined due to their investment in the hybrid OA format and marketing to researchers.

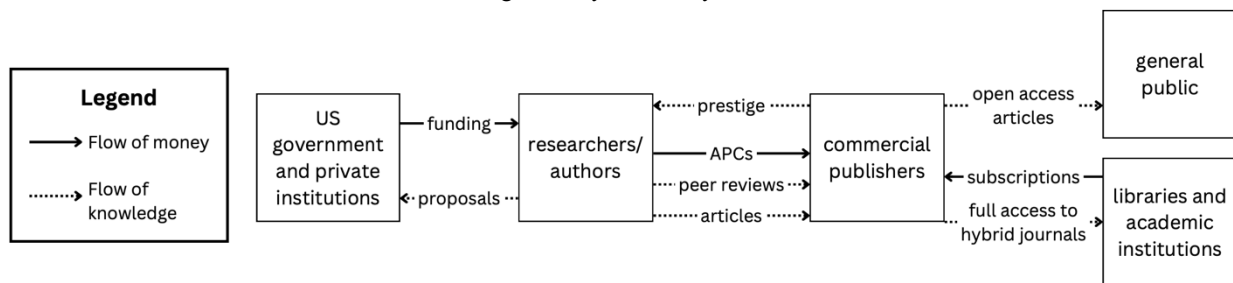
History of Publishing and Profits

Scholarly communication has existed for hundreds of years with the traditional format of peer-reviewed journals appearing in the 1700s within the Royal Society of London (Regazzi, 2015, pp. 23-26). Academics submitted their work to be critiqued by the Society and published in a monthly journal that required a fee to access (McDougall-Waters et al., 2015). In the 1950s, Robert Maxwell transformed the publishing industry from its humble beginnings to a profit powerhouse, pioneering the modern commercial publishing structure (Buranyi, 2017). He streamlined the process of publication and multiplied the number of journals offered, foreseeing that the more journals his company could publish, the higher profit he could create. Once journal articles were the accepted method of scholarly communication amongst researchers, the journal *Cell* changed the industry once again in 1974 by introducing the idea of prestige (Buranyi, 2017). Library scientists Irving H Sher and Eugene Garfield invented the now widely used “impact factor” to measure journal citations in relation to number of articles published, aiding in the selection of journals for the Scientific Citation Index (Garfield, 2005). The impact factor became a key metric in judging the prestige of journals.

The rise of the electronic journal format during the 1980s and 1990s expanded the market further and allowed for new journal formats and wider audiences (Regazzi, 2015, pp. 29-31). Peer review was conducted digitally, reducing overhead costs, and online journal access was sold

to large institutions through a subscription-based model. Capitalizing on this innovation, publishing companies began to acquire one another and consolidate the market as a greater market share directly led to greater profits. By 2013, over 50% of all articles published were under the five largest commercial publishers, establishing an oligopoly (Larivière et al., 2015). The Budapest Open Access Initiative in 2001 marked the beginning of the OA movement, a new publishing structure contrasting traditional publishing. OA is available in multiple formats, with the most prevalent being green and gold OA. Gold OA refers to OA offered by journals while green OA refers to articles published in repositories (Suber, 2012, p. 18). Gold OA often requires researchers to pay article processing charges (APCs) to journals to publish their articles with APC amounts ranging greatly. OA began to infiltrate the market as the number of OA papers increased tenfold across the years 2008 to 2020, and different gold OA structures were created (Shu & Larivière, 2024). Diamond OA journals publish articles open access without charging any APCs, and hybrid OA was born in 2004 with Springer’s Open Choice program (*Diamond Open Access | Plan S*, n.d.; Velterop, 2007). Hybrid OA journals collect revenue from both researchers and institutions as seen in Figure 1. Journals that are not fully OA—still operating

Figure 1: Hybrid OA System



under the subscription-based model—offer authors the option of publishing their articles open access at the expense of an APC. While the article still appears under the name of a subscription-based journal, the article itself will not be behind a paywall. By 2011, 74% of journals offering an OA format were hybrid (Suber, 2012, pp. 141). This drives the central research question of

this analysis in answering why the model of hybrid OA remains prevalent within modern academic publishing.

Methods

Data sources for this project included literature regarding the market scale and profitability of academic publishing and literature on major stakeholders. Additionally, discourse analysis from blogs associated with academia such as Scholarly Kitchen revealed incentives fueling hybrid OA. Informal interviews with library science experts, copyright specialists, and university officials offered insight into stakeholder sentiment regarding hybrid OA. Keywords for this paper include scholarly communications, transformative agreements, and academia. This paper is organized thematically, analyzing the major aspects of the hybrid open access system: accessibility, financial incentives, power dynamics, and communication. Within each of these themes, relations between the social groups of librarians, researchers, the U.S. government, private funding agencies, and Elsevier and Springer are analyzed using the SCOT framework.

SCOT Framework and Communication Technology

Key literature on hybrid OA includes historical analyses on the evolution of academic publishing and opinion columns debating the ethics behind hybrid OA. Stephen Buranyi's 2017 critique of the commercial publishing industry serves as an example of a prevalent system-based historical analysis (Buranyi, 2017). Blogs such as Scholarly Kitchen allow researchers to converse with one another and publish opinion articles on the current state of academia. Existing studies surrounding hybrid OA mainly involve estimates of market share and commercial profits due to the opaque nature of the industry, as seen in the 2023 study on article processing charges across publishers (Butler et al., 2023). With previous work serving as a basis for the economic

background of the publishing market, this paper offers a stakeholder-centric approach to compile relevant opinions and discuss underlying structures causing the development of hybrid OA.

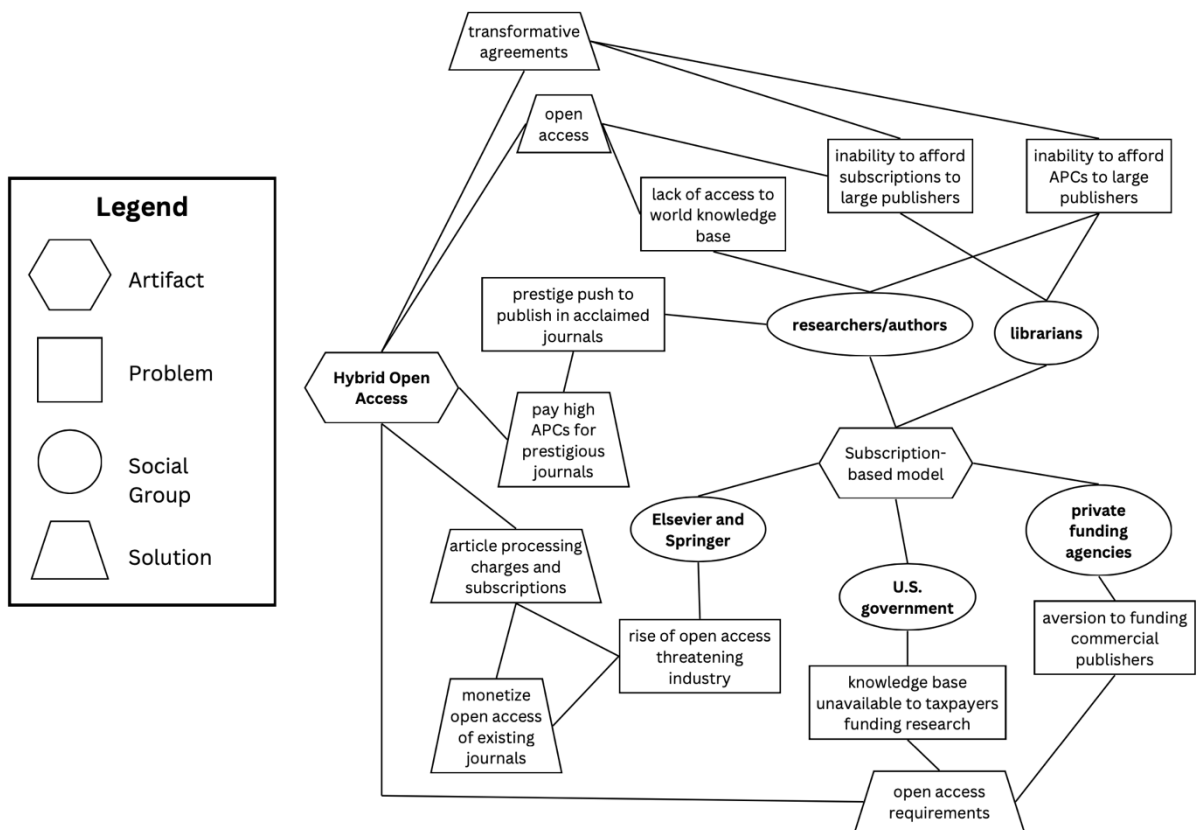
This analysis uses the SCOT framework to analyze the development of hybrid OA through the lens of its stakeholders. Scholars Weibe E. Bijker and Trevor Pinch pioneered the SCOT theory arguing that social groups and environments play a key role in shaping technology (Pinch & Bijker, 1987). SCOT uses a multidirectional view connecting technical artifacts to social groups, problems experienced by the social groups, and solutions developed to resolve those problems. Critiques of the SCOT framework argue that the stakeholder-based approach ignores relationships outside the system and does not consider limitations of knowledge or agency of these social groups (Russell, 1986). While SCOT limits the scope of the analysis and may ignore dependencies outside the major social groups chosen, the academic publishing industry is too complex to include groups weakly connected to the system. A limited analysis offers valuable insight into the system despite its constraints; lack of knowledge or agency is explored by investigating the evolution of hybrid OA through relevant stakeholders.

Within the current literature, author Christina Prell uses a social constructionist viewpoint to analyze media influence on children through a case study of the *Connected Kids* system (Prell, 2009). Prell applies the SCOT framework to illustrate the spread of information among children in New York and the underlying structures of the social groups influencing communication technology. In conducting a sociological study on the *Connected Kids* system, Prell analyzes the technology in the context of the underlying social structures shaping the system. Prell's utilization of SCOT theory on information systems illustrates the usefulness of this framework when applied to media; thus, the SCOT framework is an appropriate method to understand publishing structures.

Profit Powerhouse: Conflicting Incentives Driving Hybrid OA

Hybrid OA is an unstable technology that embodies conflict between the social groups of librarians, government and private funding agencies, researchers, and Elsevier and Springer. As seen in the SCOT diagram in Figure 2, the themes of finances, accessibility, power dynamics,

Figure 2: SCOT Diagram illustrating stakeholders and relationships



and communication shape the hybrid OA system and the conflict between social groups that leads to destabilization of the technology. Within the hybrid OA publishing space, the oligopoly of commercial publishers holds significant power over other social groups of librarians and researchers, using their market power to sustain revenue. During informal interviews, librarians expressed pressure to pay for access to prestigious hybrid journals, feeling locked within large inclusive deals between institutions and publishers. While the original mission of accessibility

remains a driving goal of researchers and librarians alike, lack of communication between these groups prevents stabilization of the technology.

Accessibility

Hybrid OA was born from the original idea of publishing research free of charge and without barriers to accessibility. Often labeled as the beginning of the OA movement, the Budapest Open Access Initiative (BOAI) describes removing access barriers to research to “accelerate research, enrich education,” and “share” research across socioeconomic status (*Budapest Open Access Initiative Declaration*, 2002). BOAI represents the interests of the thousands of researchers, libraries, and other open access advocates that seek a more open publishing system and greater accessibility in research. Price tag barriers found in subscription-based models prevent researchers from both accessing previous research done by others and sharing their research with the wider public (Suber, 2012, pp. 4). Commercial publishers and libraries dictate researcher access in a subscription-based system while OA removes this barrier. The hybrid OA journal format was born to aid in the transition from subscription models to fully OA (Prosser, 2003). Hybrid OA originated as a temporary journal format to protect publisher and journal interests while increasing accessibility towards the final goal of a completely OA journal. This new hybrid format of allowing authors to choose to opt in to OA publishing for a fee or remain under a subscription journal leveraged the idea of accessibility without threatening commercial profits.

As the OA movement gained traction, the United States government began to support OA publishing for federally funded research. Within the subscription-based system, tax dollars funding research are funneled into papers that are locked behind paywalls, unavailable for taxpayers to view (Buranyi, 2017). Seeking to change this system, the U.S. government issued

the Nelson Memo in 2022. Though a 2013 memo required any agency with funding over \$100 million to publish research open access, the Nelson memo requires any research done with federal funds to be published open access with no embargo (Winter, 2022). Further OA requirements are decided individually by federal funding agencies, whether that be hybrid OA, another form of gold OA, or requiring published work to be deposited in an OA database maintained by the agency itself. This memo will have far reaching consequences for Elsevier and Springer, as they each have 30% of federally funded research published as closed access or only available by subscription (Schaes, 2023). Prior to the release of the Nelson memo, Elsevier released a response to the Office of Science and Technology Policy in 2020 advocating for the “direct results” of federally funded research to be made freely available (Re: RFI Response - Public Access (85 FR 9488), 2020). However, within the same report, Elsevier promotes the “pay-to-publish” format supported by commercial publishers and warns the U.S. government from interfering with publishing structures of privately funded research. Springer responded to the Nelson memo by painting themselves as “champion[s]” of OA for over “20 years” and pushing their “Open Access Agreements,” also known as Transformative Agreements (TAs), as the solution to growing OA mandates (Toh, 2025). TAs are deals between commercial publishers and institutions where institutions agree to cover costs associated with publishing OA for researchers under their organization. As the U.S. government pushes for greater accessibility of federally funded research, Springer and Elsevier position themselves as advocates for OA while also creating avenues for profits, whether that be through TAs or privately funded research (Figure 2).

Government funding agencies are not the only funding agencies interested in the OA movement; private funding agencies have expressed contempt at paying article processing

charges (APCs) associated with OA publishing. The Gates Foundation, a prominent private funding agency, stated that grant money could no longer be used for APCs of traditional journals. Gates-funded authors may choose to publish in any journal, but they must publish a preprint and their underlying data in PubMed Central upon acceptance. Any APCs required by the journal must be paid by the researcher or their institution (“2025 Open Access Policy,” 2025). However, the Gates Foundation introduced the Gates Open Research platform to host any research funded by their foundation. Gates Open Research replaces the role of OA research journals, offering a system for peer review and publication with no additional charges to authors (*Gates Open Research*, n.d.). This infrastructure may lower demand for hybrid OA by providing an alternative with no additional cost, but researchers may still opt for hybrid journals that have greater prestige. Other private funding agencies and institutions specifically allow grant money to be used for APCs so their researchers can publish OA, with many under TAs that support hybrid OA (*Funding Open Access Articles | Open Science | Springer Nature*, n.d.). As OA publishing rises in popularity, funding agencies like the Gates Foundation are taking active steps to eliminate paying APCs while other funders actively support this practice. Private funders are driving accessibility through ways that both benefit and hurt commercial publishers.

Financial Incentives

The academic publishing market is dominated by only a few companies, making it an oligopoly. The top five publishers in the field, including Elsevier and Springer, made up over 50% of all papers published in 2013, displaying their market dominance (Larivière et al., 2015). The market nature of the publishing industry lends itself to exploitation as the oligopoly has the power to increase prices of journals with few consequences. While these publishers found their origins in the subscription-based model, the rise of OA fueled a shift into the OA market. The

hybrid OA model is appealing to these companies because it greatly reduces the risk taken on by the publisher. If the hybrid journal has a low uptake rate—meaning fewer researchers opt in to OA—the journal still profits off subscriptions (Suber, 2012). A high uptake rate results in revenue from APCs, still creating profits. Additionally, hybrid OA journals are often viewed as more prestigious than other gold OA journals. Average APCs for hybrid OA are double that of gold OA, illustrating the monetization of prestige within publishing (Shu & Larivière, 2024). These high APCs allowed the five major commercial publishers to garner \$448.3 million in APCs from hybrid journals across the years 2015 to 2018 (Butler et al., 2023). The oligopoly controls many of the most prestigious journals and leverages this position by increasing APCs and using the hybrid format.

Though financial gain drives publisher interest in hybrid OA, financial incentives for publishers and librarians remain in stark contrast. Publishers seek greater profits and librarians fight growing financial strain, leading to tension between these social groups (Figure 2). Librarians feel frustrated with their perception of “double-dipping” happening within hybrid OA, alleging that publishers profit from two different streams of income for the same paper. Libraries pay for subscriptions to hybrid journals, but some articles within the journal generate additional revenue through APCs. Elsevier claims that they have a “strict no double-dipping policy” and consider the percentage of OA papers in the subscription price of a journal (“Pricing,” 2025). On the other hand, librarians label double dipping as a “structural” element of the hybrid journal, criticizing the collection of profits from both researchers and institutions (Esposito, 2021). The double-dipping debate is one manifestation of the conflict between libraries and commercial publishers as librarians simply cannot keep up with rising publisher fees amidst shrinking budgets and critical institutional oversight (Anderson, 2017). Greater fees from hybrid OA

results in financial gain for publishers, but librarians continue to speak out against higher fees and what they deem to be unfair publishing practices.

TAs offered by commercial publishers attempt to resolve the conflict between shrinking library budgets and publisher profits. These agreements, built to package the subscription and OA publishing sides of journal fees, have two major categories: “read-and-publish” and “publish and read” (Hinchliffe, 2019). Read-and-publish agreements allow libraries access to a publisher’s journal portfolio and cover APCs associated with publishing OA. These agreements often include floors for APC amount, so libraries agree to pay a minimum amount in APCs to prevent any financial risk to the publisher. Publish-and-read agreements cover the publishing fees paid for OA and provide reading rights of the publisher’s portfolio for free. Publishers market TAs as a way for institutions to transition to OA publishing and reduce the financial burden on libraries, though these agreements do not always reduce library spending. However, some librarians feel that the added benefit of open access publishing justifies the continuation of high spending (Hinchliffe, 2022). For publishers themselves, TAs lessen the administrative costs associated with collecting APCs from researchers (Steinberg, 2025). TAs become a way for publishers to appease librarians while continuing to reap in profits from big deals.

The introduction of TAs has led to a rise in uptake rates to 9.1% in 2022 (Jahn, 2025). When libraries are willing to pay for researchers to publish in hybrid OA journals, researchers become more likely to publish OA and use the library to pay the APC. Thus, a positive side effect of the TA system on hybrid OA is a greater number of OA articles. One study found that under a TA, 87% of articles published in hybrid OA journals opted in to open access (Tracy et al., 2025). Researchers have a positive incentive to engage with hybrid OA and pay APCs to further accessibility in scientific literature. However, librarians express conflicting opinions on

the benefits of TAs. One scholarly communications expert describes a hidden benefit of TAs: expanding institution access to paywalled content (Hinchliffe, 2022). Publish-and-read deals include access to publisher portfolios, so signing these deals may allow institutions greater access to paywalled articles along with increasing OA publishing. On the other hand, libraries become financially responsible for paying APCs; for example, the University of Kentucky paid \$695,987 in hybrid APCs over the years 2018-2022 under their TA (Rawlins, 2024). Springer and Elsevier hybrid OA journals were responsible for most of those APCs, displaying the high costs associated with TAs. As the TA was originally marketed as a way for libraries to reduce spending while promoting accessibility, librarians express concern over the continuation of expensive contracts with publishers. While TAs incentivize researchers to participate further in hybrid OA, librarians have a more complicated dilemma balancing access with financial responsibility.

Power Dynamics

The social groups participating in the hybrid OA system do not operate under an equal distribution of power and influence. The oligopolistic nature of the publishing market and underlying pressure on academics complicate the hybrid OA technology. Researchers operate under a publish-or-perish ecosystem where publication metrics dictate their career and measure their “competency” (Rawat & Meena, 2014). Measures such as citation count and impact factor of journals become pivotal for a researcher’s success. Prestigious journals, often controlled by the publishing oligopoly, wield power over researchers as they become desperate to publish in the competitive academic landscape. Furthermore, OA articles have a citation advantage over research hidden behind a paywall, with Elsevier OA articles in 2015 having a 46.13% citation advantage over their traditional access peers (Sotudeh & Estakhr, 2018). When research is

accessible to the public, the paper may garner more citations and thus more prestige for its author. Springer themselves advertise this aspect of OA, stating on their website that OA articles gained an “average of 1.6” more citations, displaying the “wider value” brought by hybrid OA (“Assessing the Open Access Effect for Hybrid Journals,” n.d.). Publishers understand the power they hold over researchers and the strong motivations of prestige, and this power differential manifests itself financially. On average, hybrid APCs are 46% more expensive than gold OA counterparts, and 86% of the top 50 most expensive journal APCs are hybrid (Butler et al., 2023). Publishers have the freedom to increase APCs on prestigious hybrid journals because researchers are motivated by status and institutional pressure to pay these APCs. As researchers seek to secure their academic positions and retain solid publication metrics, publishers exploit them for financial gain.

Additionally, the oligopoly holds power over librarians due to the unique nature of journals. Librarians must provide their institution with a relevant, up-to-date repository of research. When collecting journals to include in their collection, however, libraries cannot simply replace one journal with another; each journal offers unique value that cannot be replicated by acquiring a different journal even if it is in the same field. As one librarian stated, an OA journal competing with the prestigious medical journal *The Lancet* would not result in their library unsubscribing from *The Lancet*; rather, the library would be expected to add the OA journal to its resource list while still paying for *The Lancet*'s subscription fees (Anderson, 2017). Thus, as Springer and Elsevier control important journals that institutions value, they can charge high fees for subscriptions and libraries will continue to pay. “Big Deals” between librarians and publishers bundle journals to reduce unit cost yet still lock librarians into an endless cycle of paying high prices for journal subscriptions they feel they cannot cancel (Anderson, 2017). This

power dynamic has been threatened by the University of California (UC) cancelling its \$10 million Big Deal with Elsevier in 2019, objecting to high fees and Elsevier's unwillingness to negotiate their terms (McKenzie, 2019). Librarians used their funds to enact change and force Elsevier to rethink their funding system. However, UC later established a Transformative Agreement with Elsevier, meaning that librarians continued to pay Elsevier large sums of money but with the added benefit of OA publishing opportunities. The sense of inertia and inability to pull away from commercial publishers illustrates the uneven power dynamic between publishers and librarians.

Communication

Lack of communication and understanding between social groups leads to the prevalence of hybrid OA because researchers do not fully understand the dynamics of the publishing system. Researchers are not inherently experts of the publishing process as their focus is their research discipline. Capitalizing off researcher ignorance, publishers often use vague and inconsistent language to describe journals and publishing structures (Laakso & Björk, 2016). With the growing pressure to continuously publish, however, researchers must navigate the confusing, unfamiliar publishing landscape. This leads many researchers to follow the example set by their peers and publish in traditionally well-regarded journals independent of pricing. As OA has changed the publishing sphere, some institutions promote any OA publishing as better for the "public good," viewing high APC costs as an "investment" towards accessibility ("Why Publish Open Access?," n.d.). Transformative agreements have exacerbated this issue by removing researchers' financial stake in the system and streamlining the APC process as librarians carry all financial responsibility. By shielding researchers from the financial realities of APCs, libraries have "very little ability to limit costs" without oversight (University of California Libraries,

2016, pp. 128). The driving incentive for researchers when publishing are prestige and higher metrics, so the disconnect between library expenditures and researcher publishing practices results in the potential for higher costs from APCs.

Exploiting the disconnect between libraries and researchers, publishers utilize aggressive marketing tactics to increase their financial gain and prevent power dynamics from shifting. For example, the University of Kentucky library, after expressing that they were not interested in a large TA, was offered a series of three different expensive TA options not supported by their budget and only covering hybrid OA journals (Rawlins, 2024). Publishers utilize intense communication and force expensive deals on libraries, refusing to offer options in the library's best interests. Publishers are not willing to downsize and seek to replace Big Deals with lucrative TAs rather than reduce the costs paid by the library. Libraries, for their part, are not always willing to invest in OA architecture that will pave the way for future success due to the "free rider" problem (Anderson, 2017). Free riders can take advantage of libraries' large investments in OA infrastructure without spending any money themselves, leaving librarians feeling cheated. TAs allow librarians to feel that their financial investment in OA is actively helping their institution's researchers rather than allowing others to benefit for no cost. High-pressure marketing combined with librarians' desire to benefit only their institution's researchers contributes to the prevalence of expensive TAs supporting hybrid OA.

Scope and Limitations

The social groups included in this analysis are limited. Librarians considered come from large research universities and commercial publishers are limited to Elsevier and Springer. Some work referenced within this project considers publishers outside of Elsevier and Springer but is still used to reflect the overarching publishing system. While this work has global consequences,

it is limited to U.S. government funding and U.S.-based private funding agencies. Additionally, as the government funding system changes under the second Trump administration, the research system analyzed within this project could shift completely and render the future implications of this work obsolete. Extreme changes in one social group associated with hybrid OA will have effects on the whole system. Furthermore, the use of the SCOT framework limits the stakeholders analyzed within this project. There is a potential risk of missing important stakeholders or aspects of the social groups included.

Future Work

The prevalence of open access publishing grows as the number of OA published papers surpassed subscription-based papers for the first time in 2020 (Hook, 2021). Additionally, government policies continue to evolve according to the Nelson memo. The National Science Foundation (NSF) announced that all published works must immediately be uploaded into the NSF public access repository, which will be public with no embargo (National Science Foundation, 2023). As government agencies begin to enforce their new OA policies, future work can be done on the development of hybrid OA within the new system. The influx of OA from these government mandates also may cause overrepresentation of U.S. research within the global scholarly community. Research can be conducted on this issue and possible solutions. Additionally, gold OA and hybrid OA are both utilized by commercial publishers, so future work can be conducted on the interaction between these systems. This research can be used to inform work currently being done to create sustainable publishing infrastructure to promote accessibility of scientific literature.

Implications of the Hybrid OA System

Hybrid OA exists as a destabilized technology influenced by the social groups of researchers, the U.S. government, private funding agencies, and the commercial publishers Elsevier and Springer. Social groups involved in hybrid OA have conflicting incentives that prevent the closure of the technology. The U.S. government, libraries, and researchers seek greater accessibility of research, but commercial publishers attempt to monetize the OA publishing space for financial gain. Though libraries struggle under the financial burden of publishing agreements, the market power of the oligopoly prevents change from occurring within the market. Insufficient communication leaves researchers insensitive to the APCs of hybrid journals, and aggressive marketing of transformative agreements allows for hybrid OA to flourish in the publishing space. As each social group has a conflicting idea of what the closure of hybrid OA could look like, the hybrid OA system remains a convoluted and unstable technology.

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