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Commentary

# Taking Back Control over Academic Publications

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**Flávio Codeço Coelho[1], Claudia Torres Codeço[2]**

1. School of Applied Mathematics, Fundação Getulio Vargas, Rio de Janeiro, Brazil; 2. Fundação Oswaldo Cruz, Rio de Janeiro, Brazil

**Time is running out for academic institutions to escape the cycle of economic exploitation represented by for-profit academic publishers. Over the last decades, we have witnessed a steep increase in the number of publications, while the number of scientific publishers has plummeted drastically as well. This oligopolization is harmful to science in many ways. We discuss the main issues associated with a potential reversal of this process to give back control of science publication to the producers of science. By embracing innovative technological solutions, we can work towards a more inclusive and sustainable publishing model that better serves the needs of researchers and institutions worldwide.**

**Corresponding author:** Flávio Codeço Coelho, fccoelho@fgv.br

For centuries, the practice of taking criticism and advice from colleagues has been at the service of philosophers and practitioners of science to improve their own texts [1]. In 1665, the oldest continuously publishing scientific journal, the Philosophical Transactions of the Royal Society, was started by the Royal Society of London. Back then, the decision to publish or not a piece of work rested solely on the shoulders of the journal's editor, even though the scientific results produced by the Royal Society's members would be regularly discussed at meetings. It would take another century before the same journal would institute a committee of selected members of the society, specialists in the subject at hand, to advise the editor on what should be published. But it was only in the mid-20th century, greatly helped by the invention of the Xerox photocopying machine, that peer review, done by the broader scientific community, became more popular. Scientific societies and academic institutions owned the most prestigious journals. And it would take a while longer for the review and publication of academic works to become a business. In these early years, the costs associated with publication and dissemination were shared between scientific societies, which handled review, editing, and publishing, and universities that contributed to the storage and retrieval of this growing body of knowledge, along with the remuneration of academic research scientists and the infrastructure required for their work. Most of the financial support would come from the government through its support to universities.

Academic publishing grew after the Second World War as a means to disseminate validated scientific knowledge, as a representation of symbolic capital, initially used in academic circles to justify career advancement. With the expansion of these practices, the business opportunities related to it became obvious [2]. With the huge expansion of scientific research internationally, which came later

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during the Cold War years and was also funded by it, academic publishing started to turn into something that began to attract for-profit publishing houses, which began to provide it as a service to academic communities in the 1960s and 70s [2].

In the 1980s, the infiltration of neoliberal principles into academic governance and planning ushered in a significant shift where publication emerged as the primary metric for evaluating research faculty. This paradigm compelled academics to prioritize maximizing their publication output to secure their positions [3]. Concurrently, alterations in the funding model of universities resulted in substantial budgetary reductions, significantly impacting the sustainability of university libraries. Despite these challenges, commercial publishers continued to thrive within this system, buoyed by diminishing allocations for library subscriptions to their publications.

From the mid-1990s to the early 2000s, a digital revolution took place, dramatically reducing publishing costs, since publishers no longer had to pay for paper, ink, physical storage, and shipping of their publications. Publications began to exist as files on the Internet. Running digital platforms was not free, but it was much cheaper. These savings were never passed on to the main consumers of scientific literature, the scientists themselves, who continued to provide for free the content that is then sold back to them. In the same period, the Open Access movement [4], riding on the very noble principle of making scientific literature open to any reader, culminated in the transfer of all costs of publication to the scientists. So from then on, authors began to be triply charged: they pay for the production of the content (with their grants), they pay for peer review (with their time), and they pay for the final publication with their own hard-earned money, in the form of exorbitantly expensive article processing charges (APCs) [5]. This is such a distorted market that the profit margins of academic publishers, in the year 2000, averaged between 25-35%, while those of non-academic periodical publishers averaged slightly less than 5% [6].

The concept of open access publication is frequently misinterpreted, as it encompasses a diverse range of models that vary in their approach to financing the costs of publishing. While "diamond" and "platinum open access" models represent exceptions, most open access initiatives maintain significant economic barriers either by generating revenue from readers or by requiring authors to cover the costs of dissemination and preservation.

This unnatural profitability led to strong oligopolization [7], through a series of acquisitions of smaller publishing houses and society journals by the now giants of the academic publishing market. At the same time, the world has witnessed a very rapid expansion in the number of small publishing houses fighting for a slice of this very profitable market. Shen and Björk [8] show that the number of articles published by such publishers grew from 52,000 in 2010 to 420,000 in 2014. Many of these new publishers were eager to accept papers for publication in their new journals, with little to no regard for a strict peer-review process. These publishers and their journals came to be tagged as “predatory,” following the article by Jeffrey Beall [9], who coined the term.

While we may hesitate to use the term 'predatory,' we cannot ignore the problematic nature of the 'pay to publish' practice employed by many publishers [10]. It's crucial to recognize that the primary driver behind these exploitative practices is the exorbitant pricing set by traditional publishers [11]. Publishers operating with such high profit margins face an inherent conflict of interest when it comes to safeguarding the quality of scientific publications. This

conflict often leads to a reluctance to reject low-quality submissions, which unfortunately constitute the majority of submissions to many journals. Thus, the need for profit preservation may compromise the integrity of scholarly publishing. Conversely, the publish-or-perish incentive structure that has become entrenched in academic governance presents a fertile ground for predatory publishing practices. The distinction between reputable and predatory publishers can be blurry, with some outfits operating in a "grey zone".

We need a paradigm shift in academic publishing, especially considering the significant strain imposed by the current model, particularly on academic environments in low and middle-income countries (LMICs). We propose harnessing the full potential of modern technology in publishing and online communication to empower the academic community to reclaim ownership and sustainability over the scholarly publication system.

## Self-hosting scientific production

Most universities already maintain electronic publication repositories for technical reports, theses, dissertations, and other documents that are typically not deemed profitable by major publishers. These repositories often assign Digital Object Identifiers (DOIs) to each document, guaranteeing their provenance and facilitating citation. By taking ownership of all their scholarly output by means of these repositories, academic institutions could ensure long-term archival, open access, prevention of tampering with publications, and clear attribution to authors and their affiliations. By embracing self-hosting, universities can affirm their commitment to academic integrity and scholarly communication. Academic publishing services have traditionally included the long-term preservation of scholarly works. This responsibility has been undertaken by universities for centuries, predating the emergence of commercial publishers. As custodians of knowledge, academic institutions possess the necessary infrastructure and expertise to ensure the perpetual availability of research outputs. Moreover, they are uniquely positioned to fulfill this role with minimal conflict of interest, as their primary objective is the advancement of knowledge rather than profit or market share.

## Regaining Control of Quality

In the current scientific publishing market, the pressure to maximize profits takes priority over the quality assurance (QA) of publications [12]. Peer review, as a tool for QA, is not incompatible with nonprofit institutional repositories.

When it comes to peer review, universities are well-positioned to innovate and adopt more efficient methods of QA for scholarly work. Drawing from their pool of expert faculty and researchers, universities employ reviewers who are already part of their academic community. Moreover, universities have a wealth of experience in conducting rigorous evaluations, as seen in the QA processes for theses and dissertations.

To enhance the peer review process, universities can implement a combination of external and internal review mechanisms. External peers bring diverse perspectives and expertise, while internal reviewers offer insights shaped by their familiarity with the institution's research environment. This hybrid approach ensures thorough evaluation while leveraging institutional knowledge.

Additionally, universities can explore innovative practices such as linking public presentations of scientific articles to their repositories. Authors themselves could

be enlisted to do this. By sharing these presentations alongside published papers, universities can enhance knowledge dissemination and increase the impact of new research findings.

## Quality is better than quantity

There is a rising perspective advocating for a shift in emphasis within academia, moving away from prioritizing the quantity of scientific publications towards valuing the production of fewer but more meticulously structured documents, prioritizing thoroughness, clarity, and accuracy. This approach contributes to raising the overall standard of research output and reinforces the credibility of academic publications.

A positive externality that may arise from investing in university repositories is the potential to unlock the value embedded within theses and dissertations, which serve as significant reservoirs of knowledge. These historically highly valued documents for their comprehensive exploration of various subjects are now-a-days overlooked in favor of more readily consumable formats. By harnessing new tools to extract insights and facilitate navigation through this collection of textual knowledge, we can change the arrow from quantitative productivity to quality and completeness and recuperate the communication potential of theses and dissertations.

## Remaining Conflicts of Interest

Critics may indeed raise concerns about conflicts of interest with universities and other academic institutions acting as publishers, particularly regarding their desire to showcase the productivity of their researchers. However, implementing institutional oversight of the peer-review process can serve as a potential solution to address these concerns.

By establishing robust institutional oversight mechanisms, universities can ensure transparency and accountability in the peer-review process. This oversight may involve the creation of independent review boards or committees tasked with monitoring the quality and integrity of peer reviews conducted within the institution. In fact, proposals for how these repositories should operate are not new [13].

Additionally, leveraging citation statistics as an indicator of peer-review quality can provide valuable insights into the impact and significance of published research. While it's acknowledged that journal citations are not flawless metrics of journal quality [14], they can still offer meaningful information about the influence and relevance of academic work within the scholarly community.

Moreover, the existence of institutional oversight coupled with the public availability of citation data can act as a form of checks and balances, encouraging accountability and discouraging any attempts to manipulate publication numbers or compromise peer-review standards. The peer pressure within institutions to maintain high standards of peer review can serve as a powerful deterrent against any efforts to inflate publication metrics artificially.

In summary, while concerns about conflicts of interest in institutional publishing are valid, strengthening institutional repositories can achieve the gold standard of a completely open, accessible, and sustainable publication system. By promoting transparency, accountability, and adherence to rigorous peer-review standards, universities can uphold the integrity and credibility of

academic publishing while ensuring that productivity metrics accurately reflect the quality and impact of scholarly research rather than the financial health of publishers.

## Statements and Declarations

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Conceptualization: F.C.C. and C.T.C.; Writing—Original Draft Preparation: F.C.C. and C.T.C.; Writing—Review & Editing: F.C.C. and C.T.C.

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