

From the Managing Editor**WHAT MATTERS MORE IN OPEN ACCESS JOURNAL
PUBLISHING: SCIENTIFIC RIGOR OR FINANCIAL VIGOR?**

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Scholarly journal publishing originated in universities as early as the 17th century (Björk, 2011; Morrison, 2011; Potts, Harley, Montgomery Neylon, & Rennie, 2017), with the term “journal” applying to these serial publications by the 19th century (Potts et al., 2017). These serials almost always rose from within scholarly societies, from and for dues-paying members (Björk, 2011; Cutler, 2006; Morrison, 2011). However, the processes of publishing and distribution were difficult and time consuming; many journals lacked sufficient readership to offset the costs (Potts et al., 2017). Nevertheless, journals became more popular by the early 1800s because they allowed academics to disseminate research results faster and more conveniently than monographs and treaties (Larivière, Haustein, & Mongeon, 2015). The financial footing for journals did not improve until the mid-20th century, when the post-war, government-funded research boom increased the number of researchers and thus journal manuscripts, all leading to the formation of the modern journal publishing system (Morrison, 2011; Potts et al., 2017). The demand for publishing scholarly research outstripped the ability of scholarly societies to manage, and into this gap between demand and supply, stepped for-profit journal publishers (Morrison, 2011). These commercial journal publishers filled the growing need for research outlets by launching topic-specific journals (Björk, 2011) and by taking over the publishing (and ownership) of struggling titles established by academic societies (Potts et al., 2017). Through an ongoing process of consolidation through mergers and acquisitions (Morrison, 2011; Remy, Cohn, Gallegher, & Leaman, 2006), multinational publishers acquired both academic journals and smaller journal publishers, resulting in the “Big 5” journal publication houses—Elsevier, Taylor & Francis, Springer, Wiley, and Sage—that today are highly influential and powerful. These few journal publishers own a majority of scholarly journals (Potts et al., 2017; Remy et al., 2006), up to 70% of the social sciences journals, although just



20% of journals in the humanities (Larivière et al., 2015). In addition to the financial constraints and inequality in academic knowledge (addressed more below), some researchers and librarians are concerned over what voices and research output might become suppressed—or would not even have a seat at the table (Gajović, 2019)—when so few players are expanding their dominance in research communication (Remy et al., 2006).

Certainly independent journals are still being published by academic societies, university presses, some university faculties or libraries, and small publishing houses around the world (Cutler, 2009; Morrison, 2011), representing nearly half of the scholarly publishing in 2006 (Crow, 2006), although that number may have changed (downward) by now. However, Boismenu & Beaudry (2004) found that some of these non-profit and so-called responsible publishers “occupy a central place in scientific journal communication” (p. 344) and can hold higher impact factors than their subscription-based peers.

Nevertheless, Morrison (2011) described the current oligopolistic structure of the contemporary journal publishing as “enclosed,” meaning many readers are unable to access publicly funded research because it exists behind the commercial publishers’ paywall. Academic libraries, often the gatekeeper for access to vast databases of scholarly articles, are key customers of commercial journal publishers, resulting in up to 75% of the publishers’ income (Larivière et al., 2015). Yet, because they are constrained by budgets, often their decisions are not based on what would be best for the university users but reflect only products combinations they can afford, often representing the commercial publishers’ “big deals” (Morrison, 2011). This can cause frustration because, as Larivière et al. (2015) noted, the scholarly content in journals are not interchangeable. Thus, the rising costs of scholarly journal subscriptions require university librarians all around the world to make difficult choices regarding what research reporting is made available to its students, academics, and researchers (Crowe, 2019; see also Bergstrom, 2014; Matthews, 2019). These decisions are difficult particularly for less affluent libraries (Bateman, 2006), causing a “crisis” in the availability of certain research (Owen, 2007; see also Gajović, 2019). Of special frustration is that universities’ staffs and researchers are the creators of the new knowledge in these subscription-based journals, and yet they have little control over the process of their scientific publishing. In most cases, universities are paying twice: once to create the research and a second time to have access to it through costly journal subscriptions (Crowe, 2019).

Several researchers have posed the question about what value commercial publishers bring to scholarly journals in the age of digitalization. For example, Björk (2011) noted that a scientific journal is successful (and thus sustainable) if it delivers the values that the readers expect and want, no matter whether that journal is not-for-profit or for-profit. Morrison (2011) and Björk (2011) observed that the bulk of the work in getting a paper from concept to publication is completed by academics—authors who conducted the research and wrote up the report, editors who determined it was of sufficient quality for review and (often) handled the review process, reviewers who contribute to quality control of scientific reporting, and authors and editors who work collaboratively in the revising process until the paper is ready to be accepted for publication. The vetting of the research by editors and reviewers is particularly important, Remy et al. (2006) pointed out, because of the abundance of misinformation on the Internet; peer-reviewed journals assure readers of the scientific rigor. But, again, that process is handled by the scholars overseeing the journal. Larivière et al. (2015) concurred, noting that when journals were only available on paper, publishers handled

the mechanics of typesetting, printing, and manual dissemination, among other tasks. Yet none of those are part of the journal publishing process in the 21st century, although some aspects of the process (e.g., layout, copyediting, marketing; Morrison, 2011) are supplied if the editor-academics are unskilled in these tasks. So the question Larivière et al. (2015) posed is, What value are the publishers bringing to the process that warrants universities investing continually more funds for subscriptions? And, as a follow up, many researchers in this field are asking how can the scholarly communities and individuals take back control of their own work

From these and other questions regarding the current state of the scholarly publishing world, many scholars, researchers, and librarians advocate for exploring and enacting financially sustainable approaches toward open access (OA),¹ independent, non-profit, scholarly publishers and journals to counter the dominance of the commercial scholarly journal publishers, but also to serve as integral components of a scholar-led research ecosystem with societal imperatives (see, e.g., Kronman, 2012; Lange & Severson, 2021; Morrison, 2011). This applies also to the ability of scientific societies to continue their tradition role of publishing journals, where Crow (2006) states that this outcome brings important implications for societies, as well as universities and their libraries. However, scientific societies often lack a strong and coherent structural capability to sustain themselves as entities, let alone serve as research publishers (Crow, 2006), and individual researchers are still beholden to the symbolic function of scholarly publishing to advance their careers (Larivière et al., 2015). Even universities rely on journals to provide documentation of significance of the institutions and its researchers outputs and to help raise its profile and remain competitive (Harrison & Stephen, 1995).

Thus, to counteract these challenges, Crow recommends the concept of “publishing cooperatives,” where the collaborative skills, financial support, organizational model can create an efficient environment where the sustainability of scientific societies and their publishing capabilities are strengthened. A similar approach could be e-portals, which have either direct or indirect governmental (e.g., university) funding and help local scholarly journals master the processes for successful publishing and establishing a global reach (Björk, 2011; see also Cutler, 2009; Morrison, 2011). And, as a result of such efforts, other stakeholders within the scholar-led research and publishing ecosystem (e.g., libraries, small publishers) benefit as well. In support of universities stepping up to contribute to the underwriting of a technology infrastructure that would support open access to published research, Holcombe and Wilson (2017) emphasized that the required costs would be less than when they are currently paying for the annual subscriptions rates for commercial journals and the APCs paid for research reports in commercial journals to be open access. In the current system, the universities and public funds are feeding both the publication processes and the profits for the commercial publishers (Morrison, 2011). As Morrison noted (2011, p. 6), the global expenditure for library subscriptions in 2011 amounted to nearly £3 billion, a portion of which funded both the publication process and commercial publishers’ profits.

In the recent literature, two distinct approaches are advocated regarding the current financial challenges in scholarly communication and the role of OA:

- Follow the traditional journal publishing practices but with different key actors and new financial models.
- Disrupt the current scholarly journal system and imagine new options.

I will address each of these issues briefly here.

A Modern Take on Traditional Journal Publishing

The foundation of any journal is the academic discipline: a community of practice. To continue to serve researchers and field advancement that ongoing research provides, the publication system would benefit from looking at the process as a means of community support. Harrison and Stephen (1995) emphasized the content aspect of publishing embodied within communities. Journals and their published papers present the discourse and state of an academic field, as well as serve as the repositories of the known body of knowledge, concepts and beliefs, and the accepted and contested terminology of an academic discipline. Naturally, as research continually is being produced, journal papers facilitate the ongoing discourse (i.e., represent a “part of a multiplicity of means by which communities communicate with themselves”; Lorimar, cited in Harrison & Stephen, 1995) and research directions of a field. Indeed, Björk (2011) noted that, through public citations, research reports are bound with the scientific discipline’s body of knowledge, particularly when the journal articles have been peer reviewed, the gold standard for quality. As an extension of these perspectives, then, is making open access journals easy to establish, viable through stable funding, and visually and professionally attractive and functional through ongoing support for the skills development of the editors and/or non-profit publishers a sustainable means to support and enhance scientific communities?

Related to this is the need for a publishing environment that levels the knowledge fields and scholarly access between richer universities and national education systems and those of developing and emerging economies. Solomon (2006) and Gajović (2019) pointed out several issues of the current publishing environment that put up barriers for researchers beyond the Western borders regarding both access to contemporary knowledge as well as being able to contribute to their fields. These authors underscore that certain OA options do not eliminate the barriers.

From the access perspective, the insufficient academic budgets in less affluent economies results in university libraries’ inability to purchase access to the top journals for their researchers because of the expensive subscription-based paywall. As a result, academic inequality is built into the system when researchers in these universities and research labs are denied access to the current research and knowledge generation within their fields (Gajović, 2019; Wilson, 2017), putting them at significant disadvantage to their more affluent peers in other countries. Gajović continued, noting that even if these researcher could obtain some level of access, they may lack the ability within their communities to absorb the knowledge in order to bring it to bear on their own societies and economies. In other words, he stated that the longer these researchers in emerging research communities are deprived of full access to the body of knowledge and discourse of the field, the more likely they are to fall behind their peers in wealthier areas of the world not just related to exposure to research theory and practices but in their own sufficient knowledge and skill to translate that global knowledge to the particulars of their own society and economy. This reality is even more problematic because often grants, doctoral positions, technology transfer, and the like are directly related to a researcher’s ability to access and absorb the body of knowledge of his or her field (Gajović, 2019). This brings unfortunate implications not only for the individual researcher and perhaps his/her university or research unit and colleagues, but also for the capacity to translate current knowledge into a means of advancing one’s country’s economic status and outputs, industrial development, market expansion, and social and educational advancement (see Gajović, 2019). And even if one’s university library is able to purchase subscriptions for materials of benefit, the user is

restricted, for example, by having to physically be in the library to access the materials. As Solomon (2006) related, this requirement is often unpleasant because the library subscription portals in many developing countries are cumbersome and frustratingly slow, particularly when compared to the ability to access OA journals through a simple Internet browser.

From the academic contribution perspective, anything less than a fully open and free submission process places hurdles—and perhaps barriers—before researchers in emerging economies to add their knowledge to the field, to bring alternative perspectives for foreign peers' consideration, and raise the research output level of his/her colleagues, university, and society. Perhaps the clearest barrier is the article processing costs (APCs), the fee commercial journal publishers charge for researchers to have their published article available immediately as open access, rather than a delayed availability, potentially dating important research contributions to the field. Yet many academic associations (Bull, 2016) and OA publishers use the same requirement as a funding tool, underwriting the cost of operation on the backs of authors who already have invested in the system by creating the research report. As Solomon (2006, p. 3) explained,

In the developing world, which includes approximately 80 percent of the world's population, even modest charges for access or publication can be beyond the economic means of libraries and individuals who wish to access the materials or authors who wish to publish their material.

Some journals offer waivers in APCs to researchers from developing economies. However, those who do not qualify for waivers and do not have sufficient funding are shut out of freely and expediently publishing their research (Lawson, 2015).

Open access journals that have a funding model other than built upon APCs allow researchers anywhere and anytime to submit their research for publication consider without artificial constraints, what Solomon (2006, p. 3) called the “purest form of open access.” Such journals decrease the inequalities among researchers and open opportunities for genuine dialogue and collaboration unencumbered by time, distance, or financial barriers. Moreover, open access journals can help reduce knowledge gaps between South to North researchers and enhance South to South research interests, as well as decrease developing countries' reliance on Western-based journals or topics unrelated to, for example, the social, economic, or environmental needs of local area (Morrison, 2011).

Perhaps the greatest question regarding OA journals is how to fund the publication process sustainably. True, OA journals do have a lower capital expenditure than commercial journals (Harrison & Stephen, 1995), particularly when most of the work already is completed by volunteer academics. But “price-free is not cost-free,” as Boismenu and Beaudry (2004, p. 349) noted, and OA journals require at least modest financial support, particularly for some level of staffing, even with academic volunteers (Morrison, 2016). Moreover, even though the learning curve for quality journal publishing is not prohibitive, the support that academics need for a viable journal is not only financial. OA journals staffs will need to attend to the mundane aspects of journal publishing, such as submissions management, layout and copyediting, finding a platform to host their journal, secure maintenance for the technical side of publishing, and address basic marketing and journal indexing so that readers know the journal exists.

In the face of these realities, scholars committed to running an OA journal need significant (and perhaps, ongoing) support. The benefit of an OA environment is that many academics who have already gone through the process are very willing to share their

experiences, learned lessons, and suggestions for easing the processes. In addition, many universities have personnel who possess great know-how regarding many aspects of journal publishing, external indexing, marketing, language editing, and so on, particularly librarians, digital content experts, and IT professionals. The key, however, said Cutler (2009), is establishing processes so that these experts provide not just philosophical encouragement but also concrete economic support, technical know-how, and skills development to lower the bar of practical matters of associated with OA publishing. Particularly for scholar-led journals, whose focus typically is directed toward the knowledge and know-how being generated within his or her field, practical matters, technology solutions, and innovative practices are always evolving, resulting in the scholars' continual need to rethink their operating procedures in search for efficiencies or advantages (Kaiser, 2003). On some level, this reality underscores the need to have at least some professional management support, handling the day-to-day operations and advances and leaving the academics to attend to the journal's content, reputation or brand, and/or tapping into peer networks to draw in other volunteers to share the burden and to provide for succession.

In considering funding streams for OA journals, much discussion revolves around the various options. At the moment, APCs represent the primary funding model. Advertising is another option (Potts et al., 2017), as could be sponsorships; internal subsidies from, for example, association or society dues; external subsidies from, for example, foundations, institutions, and governments; donations and fundraising, endowments, in-kind support, partnerships (Crow, 2009). Meanwhile, some academics have suggested that portions of the university libraries' budgets could be redirected toward scholarly OA endeavors. In Morrison's (2011) view, active involvement of scholars—and particularly scholarly societies, professional associations, or consortia—can begin to impact in time the stranglehold of the large commercial journal publishers. However, she noted, designating funds within library budgets toward new OA initiatives will prove difficult, particularly in the short term, because those budgets are tied to providing research materials needed now, and thus much of their budgets are going to the “big deals” with the commercial journal publishers.

What may be needed for the transition from public and private education funds away from commercial journal publishers is case-making to public funding agencies and nonprofit and nongovernmental organizers to step up temporarily to fill the gap. Such funding could support individual journals (or, for example, multiple titles being published at a university) or be directed to scholarly societies, consortia, or portals committed to sharing resources and economies among many OA journal titles. Such approaches already are taking shape continent wide (e.g., Scielo in Latin America and African Journals Online), as well at the country level in, for instance, Japan, China, and Croatia (see, e.g., Gajović, 2019; Laakso et al., 2011; Morrison, 2011), giving fledgling journals and those longer-operating-but-struggling journals the opportunity to obtain firmer financial footing and put into place practices and funding streams that will help them remain viable. And, of course, the opportunity continually exists for universities and research institutions—the primary source of the research output—to avoid enclosure and instead work toward emancipation, that is, contributing to the sustainability of a scholarly OA environment by underwriting journals operated by their own academics or faculties (Morrison, 2011).

Much has been written about the benefits of OA publishing and the multiple means to accomplish the goal of making, specifically, publicly funded research results immediately

and completely available. For some, OA represents an ethical, socially responsible, and equitable movement toward decommercializing the research output of scholars. According to Laakso and Björk (2012, p. 8), “It no longer seems to be a question whether OA is a viable alternative to the traditional subscription model for scholarly journal publishing; the question is rather when OA publishing will become the mainstream model.” To reach the goal of OA as the expected norm in the scholarly publishing world, hard choices and creative thinking are essential toward the discussions, funding challenges, and editorial practices (particularly when research points to the stress that academic editors experience in balancing their scholarly and editorial responsibilities; Lange & Severson, 2021) necessary for this paradigm shift. Interest and commitment to this process—perceived by many as simply a change in scholarly publishing funding models—has been growing for a couple of decades now, starting with the early launches of electronic journals in the late 1980s (Owen, 2007). Yet, with all the technological advances for creating and distributing online journals, and the widespread commitment to—and young scholars’ expectations for (Remy et al., 2006)—free and unhindered access to all research, the field continues to struggle with how to make it so in practicality. That has led to some academics to call for radical changes.

Rethinking Scholarly Publishing

Morrison (2011) stated that scholarship and research reporting can be “emancipated” from the shackles of the current enclosed model of scholarly journals, as exhibited by practices such as subscription, pay-per-view, or purchase of research articles, by launching and supporting OA initiatives of various kinds. Some academics, however, feel a more drastic approach is needed, specifically activities aimed at disrupting the current underlying business model in favour of a large-scale transformation toward OA as the default journal publishing model (Schimmer, Geschuhn, & Vogler (2015). Owen (2007) advocated for revolution in, and Bateman (2006) called for radical change for, scientific journal publishing amid the dramatic technological advances since the mid-20th century. They note that it is unclear yet how such advances have significantly impacted the substance of formal scientific communication or its form. Potts et al. (2017) emphasized that many scholars feel the current scholarly publishing process is “broken,” requiring a new business models and publishing processes. They proposed a dramatically different approach to scholarly publishing and journals with an economic view on how journals are conceived as “knowledge clubs” and structured in a way for academic peers to contribute and benefit from their research and those of others within a specific economic and academically beneficial way. “Clubs are non-market solutions to public-good problems that rely on the ability of self-constituted groups both to self-organise and successfully to self-govern ... [that is,] groups of people who share a common concern, who are willing to pool their common resources and specialization skills, and to act in concert in pursuit of shared externalities” (Potts et al., 2017, p. 80). They believe knowledge clubs would embody the model of the personally engaged academic community that was prevalent in the days of scholarly publishing nearly three centuries ago.

However, even as they support greater interaction by these knowledge clubs, it is hard to see how these would, in practice, serve the general research environment. From my point of view, these authors’ ideas on how technology is changing the role and processes of scholarly communication—as well as recognizing that academics of all kinds have skills and interests and

visions for new approaches—needs wider discussion and consensus, at both the institutional and individual scholar levels. Their arguments on what is needed is presented as “radical,” but the challenges these groups and organizations face may not be substantively different from what has been discussed above. Of course, if ongoing research takes place within knowledge clubs, the benefit of the collective knowledge could be both more productive and more focused when all members of the club are operating within similar visions and discourse practices. In that regard, looking at how scholarly societies from centuries ago made new knowledge available and applicable to growth in the discipline, the expectations and understanding of what research could and should change the very nature of what contemporary scholars do. Additionally, innovative technological applications can decrease the learning curve and, perhaps, open ideas on streamlining the entire research process, from concept to published research reports. Interestingly, it might be a challenge to tease apart the separation of university communities of scholars from those of knowledge clubs or discipline-specific scholarly associations. Unless the entire vision of the university is revisited, and perhaps that is a reasonable topic for discussion, the role of the university community in the research and publishing functions of knowledge clubs might simply represent a new term for a familiar concept. Nevertheless, considering how the university can more actively support, both explicitly and implicitly, the free exchange of ideas and research findings is an important consideration as well.

Revolutionary thinking can and should be part of any discussion of revisioning higher education and scholarly research and the access to both. Altbach and de Wit (2018) have presented one example of this approach. Although the exact number of scientific journals is unknown but estimated at around 30,000, with the more than two million articles published annually (p. 7), Altbach and de Wit note these outcomes result from the never-ending drum beat on academics around the globe to publish, publish, publish. They stated that such expectations have resulted in excess pressure on the top journals (the aim of every researcher and his/her university or grant provider), immense stress on the peer review system, an increase in the publication of marginal research, and the rise of predatory journals (see, e.g., Beall, 2016; Berger & Cirasella, 2015, for more on the latter phenomenon). Altbach and de Wit stated that these negative outcomes result from two behaviors of universities in recent years: (a) most academic institutions’ desire to emulate top universities, thus taking on similar practices, including increasing research outputs; and (b) the growing trend in doctoral education away from monographs and toward article-based dissertations. They concluded that too much research is being published—no matter whether it is by commercial journals or OA avenues. Thus,

reducing the number of academic articles and books would permit the peer review system to function more effectively, would reduce or eliminate the predatory journals and publishers that have emerged recently, and would, perhaps most importantly, remove massive stress from academics who worry about publication rather than teaching and service. (Altbach & de Wit, 2018, p. 9)

This perspective points to many concerns amid continually expanding (steadily, on average, about 3% each year; Ware & Mabe, 2015, p.6) annual scholarly research output. Moreover, such commentary can elucidate the number of options available to scholars—and higher education institutions—regarding academic research and scholarly publishing. It also points to the role and practices of universities that, in turn, can inform the discussions regarding the role of universities in supporting journals within their academic portfolio of

practices. If indeed only research universities should require their academic staff and doctoral students to publish (as per Altbach and de Wit, 2018), then the skills and practices needed to assure the quality of academic output of their own people can readily be applied to one or more OA international journals that they support.

Regarding the nature of OA publishing, Laakso et al. (2011) studied the challenges faced by OA journals and the failure rate of more than a third of them over about a decade. Their research pointed to the challenges many OA journals face early on, citing the 2002 research by Walt Crawford who found a pattern in ceased OA journals that he called the “arc of enthusiasm.” Many discontinued journals succeed in their first few years but ultimately cannot expand their publication volume or article counts and ultimately discontinue or limp along with only a few papers published per year. This is a reality in journal publishing generally but perhaps more frequent in OA journals because of the low bar for start-up. Attracting sufficient quality submissions is a challenge, especially in a competitive journal environment. But that also points to the value that a university’s reputation brings to small-to-medium-sized OA journals, those that will not compete with the top journals but nevertheless provide an important service to the academic world—particularly those who are indexed by Scopus (as is *Human Technology*) and/or Web of Science. Although all universities—as do all authors—want to publish and be published by a top tier journal, the reality is that most research—still very good research—will not be accepted into those journals. Therefore, university-supported OA journals offer an important, valuable even, service to the knowledge communities by drawing on the group’s shared knowledge of the field regarding the significant contributions of research outcomes. Altbach and De Wit’s recommendations and Laakso et al.’s statistics on the fate of OA journals over time could open serious discussion about the purpose of research (besides being a published author) and the role of shared knowledge across one’s university, national university system, regional higher education associations and alliances, and global discourse.

Ware and Mabe wrote,

Journals form a core part of the process of scholarly communication and are an integral part of scientific research itself. Journals do not just disseminate information, they also provide a mechanism for the registration of the author’s precedence; maintain quality through peer review and provide a fixed archival version for future reference. They also provide an important way for scientists to navigate the ever-increasing volume of published material. (2015, p. 6)

Those associated with universities also are the primary consumers of academic scholarly publication, as the ever-growing body of research forms the foundations of their own members’ academic discussions, scholarly interests, and quality research. It remains in the universities’ (both as an institution and as a body of academically minded individuals) best interest to be active parties in the distribution of scholarly work. In that sense, that is why many universities are actively creating and maintaining their institutional repositories. But Altbach and de Wit (2018) will come back to their thesis that not all research is equal—or necessary. And no matter what the forum for making research results more accessible to all interested parties, a fundamental question must be asked within the respective scholarly organizations—universities and academic disciplines: Is the current system of scholarly research considered broken only because of the practices of commercial journal publishers or is there a deeper rot? Commercial journal publishers arose after the Second World War because of the dramatic governmental

push for researchers and an emphasis on research studies. If that emphasis on research was recast or rethought, would commercial journal publishers still be the primary concern? Perhaps fewer research studies and easier access to research reports could form the foundation for an entirely new concept of scholarship and academic excellence.

THE EXPERIENCES OF *HUMAN TECHNOLOGY* AND THE UNIVERSITY OF JYVÄSKYLÄ

This discussion up to this point has a personal purpose for me because of my role as managing editor of an OA journal. Boismenu and Beaudry (2004) noted that rather than focus on the role of commercial journal publishers, those who want to advance the OA environment should focus on nonprofit journals that already occupy important spaces in the dissemination of research. They conclude that there is no need, in most cases, to create new journals.

In the case of *Human Technology*, its conception was based on experiencing a gap (or niche) in the scholarly journal universe. When the planning for an interdisciplinary journal that was international in draw and OA in dissemination, very few journals had a similar mission. At that time, the publisher of *Human Technology*, the Agora Center, was a recently formed independent research unit of the University of Jyväskylä that also occupied a niche, both within the university and in the greater research community. The founders of the Agora Center—Professors Pekka Neittaanmäki, Lea Pulkkinen, and Heikki Lyytinen—were bold and forward-looking internationally acknowledged scientists who were passionate about and dedicated to the advancement of interdisciplinary research. They conceived of the Agora Center as a research unit built upon collaboration and alternative disciplinary perspectives on phenomena, practices, and technology innovation, which was key to understanding and advancing society and knowledge. The administration of the University at that time saw value in this broad and innovative mission as well and established the Agora Center in 2002.

From that vision also arose the realization by Professor Pertti Saariluoma and others at the Agora Center that standard discipline-focused journals at that time had difficulty in embracing interdisciplinary research. *Human Technology* was positioned within that gap, embracing multiple disciplines and multiple research approaches as well as the free movement of scholarly knowledge. This vision struck a note with researchers around the world.

During my time at the Agora Center, I had always valued the vision of both the research center and the journal. OA as a practice was just arriving on the scholarly research scene and the visionaries at the Agora Center clearly understood the research benefit and sense of equality embodied in this journal model. Thus, the Center's managers were committed to underwriting the journal so that neither readers nor authors had to pay to obtain or contribute to scientific knowledge. In this sense, emphasis on quality scientific research was a cornerstone of the academic approach of both the University and the Agora Center, and by extension, *Human Technology*.

As reported earlier in this paper, one of the major challenges of OA journals is funding. But unspoken also is perhaps a difference in visions of what quality research represents. Thus, no matter how a journal (or its supporting scholarly organization) contributes to the scientific discourse, no matter how it is committed to quality in scientific discovery and reporting, no matter how many scholars around the world contributed to or drew on the articles in the journal

or collaborated with the organization's researchers, external forces can dramatically challenge these entities' fortunes. These realities confront all academics at some point during their careers.

In the case of the Agora Center, it was a matter of single-minded administrative thinking about the value of an interdisciplinary unit, even though successful and financially stable, not as an asset for the University and its community of scholars but rather as competition for the discipline-based faculties. The previous administration of the University appeared to believe that the ability to organize the finances of the University, establish goals and rewards, and articulate the work of the University was easier, perhaps even more efficient, if everyone operated from within their own disciplinary silo. As a research innovation, applying interdisciplinary perspectives and practices to highlight the different—perhaps unseen—facets of a phenomenon, and striving for alternative approaches to scientific organization were no longer valued. The Agora Center was shuttered and, as a result, *Human Technology's* funding source was eliminated. The journal's first era of survival had come to an end.

To some extent, the journal was adrift. The University's administration decided that most logical place for an OA journal was within the newly forming Open Science Centre (OSC). This reinvisioned unit of the university encompasses the work of the university's library, museum, and digital publishing, the latter activity embodying the "green" OA path via its institutional repository for the research reports and articles produced by the university's researchers and staff (for more information on the role of such repositories, see Crow, 2002). Publishing an interdisciplinary OA journal through this unit, on paper, made sense. And so *Human Technology* soldiered on into its second era. Yet it did not take long to see how, in practice, the mission of scholarly journal did not align with that of the OSC or its publications unit. So the managers of the OSC decided to shed the journal, thus ending *Human Technology's* second era.

From this story of a little journal that tried and tried—and, over the years, fulfilled its mission of growing from an idea of an interdisciplinary, international OA journal focusing on the intersection of humans and technology to eventually being accepted into Scopus—is a lesson that all OA journals must acknowledge. It represents perhaps one of the greatest threats to OA scholarship: the reality of the financial "bottom line." In other words, what is the priority of the scholarly funding source: scientific excellence or financial vigor?

Of course, the fundamental basis for almost everything in higher education (and a multitude of other business endeavors) is that of finances: How much of what a university wishes to do brings returns on that investment? What choices must be made within limited financial resources? And must those returns be strictly financial or are there other less tangible but important benefits for an activity?

I contend that, at least in the case of *Human Technology*, other benefits, albeit intangible, communicated about the University of Jyväskylä and potentially its brand and image. In this case, the name of the research institute and the University are prominently featured on the front page of each paper and on the journal's website. Each time a paper is opened on *Human Technology's* website or downloaded and read, the University was, at least passively, identified. Thus the reader could easily infer that the University of Jyväskylä actively promoted interdisciplinary and OA research. Moreover, the journal provided a means for the university, again however passively, to give back to the academic community and the interested reading public as part of its societal mission. Thus, each *Human Technology* article placed in a reader's mind a positive academic and social value regarding this University and its internal units. That, in short, is a key marketing principle.

Surely when the Agora Center was active, the benefits of the journal as a marketing tool were clearer: The Agora Center not only supported the free exchange of knowledge through its underwriting the costs of the journal but also benefited by building international networks and bringing knowledge of the interdisciplinary research unit to potential research collaborators. Nevertheless, each time, the University of Jyväskylä clearly was part of the equation, all for the tidy sum of less than .00025% of the university's annual budget.

What is notable here is that universities actively participate daily in the movement of research outcomes and knowledge generation beyond that of their own students and researchers. Universities have always played a role in disseminating scholarly knowledge—ranging from in-class oral assignments all the way up to dissertation publishing and, as in past centuries, scholarly journal publishing; these at times represent a university's societal obligation. These activities embody the various types of formal and informal information sharing aspects of the research cycle (Ware & Mabe, 2015). And universities, including this one, could be thought to hold an obligation to embrace all information channels in bringing to its society information and new knowledge (whether or not it was created on its campus or involved researchers from around the world sharing research outcomes) as a return on the investment entrusted through public funding (e.g., Bateman, 2006),

Had it continued as publisher of this niche scholarly journal, the University of Jyväskylä could have had the opportunity to participate with other universities in reconceiving or perhaps even revolutionizing the practices surrounding how scientific information is distributed. Laakso et al. (2011, p. 1) pointed out that because OA journals (typically online) are not constrained by the physical printing process, they offer not only innovative ways to publish but also “offer new possibilities for niche- and emerging subject areas to establish dedicated research outlets.” Additionally, universities—which are more open to entertaining a diversity of ideas, approaches, and outcomes, even in discipline-specific discourse and writing methods—could help mitigate the “homogenization” of scholarly publication practices that seems to be on the rise, particularly in the social sciences (Paasi, 2005).

Certainly, *Human Technology* has not reached its full potential as an online journal, that is, one that broke free of the constraints of traditional journal publishing, despite many discussions to do so. As a fully online journal, the editors and publisher of the journal when at the Agora Center explored how digitally published papers could take advantage of multiple means of conveying information, data, and scientific material. One explicit idea was to employ video as figures in papers where such information would enhance the explanation of, for instance, experiments or data gathering. Including OA data sets through links was another option, as was some means to engage readers in discussion of published articles (see also Owen, 2007). Unfortunately, we found that, generally, researchers were not yet ready to employ such alternatives in their publishing activities. But surely this will not be the reality forever and, as in most paradigm shifts, often just a few good visionaries can redirect the practices of a field. Thus, a university dedicated to innovation could have made its mark on the publishing world, over time, by implementing and promoting forward-thinking journal publishing through an aptly available human-centered technology journal.

Other OA journals are still active on the University's campus. However, each them has support either from its research department or a scholarly society. So did *Human Technology* at one point. But when the decision arose regarding the scientific value of this journal as compared to its financial cost, the financial motivation to end it trumped its scientific value.

This perspective must be an important—essential even—component of the discussion surrounding the value of institutional support for OA journals, not just on this campus, or even in this country, but wherever and whenever the OA funding issue is raised.

In advocating for a more active role for universities in scholarly publishing, I acknowledge that such recommendations require a financial investment from, particularly, the research universities around the world, my own as well. In taking all that has been laid out above, I view university-published OA scholarly journals as an immense opportunity for the institutions—either overall or by individual research units or faculties/departments—to influence the future form, function, and content of scholarly research. At the moment, the “Big 5” commercial scholarly journal publishers make significant profits from public-supported universities who annually spend several millions of euros or dollars for access to research by their own and other scholars whose research already has been paid for by public funds.

But imagine if the top 500 or 1000 universities in the world would commit to taking back some control of the scholarly publishing system. If a journal such as *Human Technology* required .00025% of the University of Jyväskylä’s annual operating budget, it is possible that, with human efficiencies and improved technical systems and processes, the university could possibly publish six journals (one for each of its faculties) for just twice or three times the cost. If a thousand universities did the same, then 6,000 OA journals—and perhaps more if larger universities invest proportionally the same percentage of their budgets—would influence the scholarly disciplines run by academics for academics. That represents one fifth of the current estimate of active journals. And for their investment, for example, the University of Jyväskylä would have access to all its peers’ journals at no additional cost.

However, the financial benefit would not be the only positive outcome. First, such activities make a statement about the role of universities—particularly those in Western economies with more available funding—committing to and supporting the academic world (a global entity) by funding OA journals in areas in which they are experts. This would represent one aspect of their commitment and duty to society, not just in their own countries but around the world. Such an approach and commitment also would demonstrate that research communities (i.e., universities) worldwide value the free exchange of ideas. Moreover, it would demonstrate that universities in advanced economies understand and are willing to help level the uneven academic environment in which scholars and researchers in poorer economies struggle to compete. Finally, by underwriting one or more OA journals, all universities remove any artificial barriers to allowing quality research to flow and contribute concretely to every field of inquiry.

This is not the only answer to the addressing the pressures building within the scholarly publishing field, but it presents movement in the better direction for international interaction and knowledge development. Indeed, universities taking responsibility for and underwriting one or two (or more) OA journals is simply a cupful of water in a great big ocean. But if the largest universities in the world did so, then academics around the world would have hundreds or thousands of journals and archives of scholarly research available to them with few barriers. And if each of the estimated 25,000 universities in the world (TruOwl.com, 2018) would publish just one OA journal, then the scholarly community, over time, would surely have taken back control of the scholarly communication process.

THE DAWN OF A NEW ERA

Human Technology's first two eras have not turned out as well as I would have wished—or the founding academics imagined in the prelaunch planning. But fortunately for the journal, it will have a third era—one that I hope will be long and fruitful. The editorial staff of the journal and the editorial board members are pleased that the journal will not cease its mission but rather will continue in a new home: the Centre of Sociological Research (CSR) in Poland.

Originally established as a platform for publishing research by its team of scholars, it soon expanded to serve as a platform for research dissemination from scientists from the Commonwealth of the Independent States and European Union countries. Yet its evolution did not end there, as it became an official publishing house, but with a vision of attending to the human relations that are so essential in any publishing endeavors. We who have worked on *Human Technology* for so many years feel very fortunate that the emphasis on the humans (in any scenario) remains a key focus and value. As my role as managing editor for *Human Technology* ends with this final issue, I extend my best wishes and great thanks to the staff and scholars of CSR who will take very good care of my “baby,” a journal that I was part of before its launch in 2005 and now am sending off for its next big adventure! I have every confidences of its continued success.

Before I sign off, though, I want to provide an appropriate farewell to the humans associated with this journal. Since 2004, I have had the honor and privilege of working with some incredibly talented scholars who were wholly dedicated to the quality of the journal in content, form, and function—and with authors from many countries who invested their time and energy in striving for quality research reporting, even if, ultimately, the paper was not published in our journal. I first extend my thanks to Dr. Päivi Fadjukoff, the former head of the Agora Center, who represented the publisher on the day-to-day work of journal publishing. She was always a visionary and natural problem-solver; her dedication set the stage for what a niche OA journal could accomplish. She worked closely with the other visionaries of the Agora Center: Professors Lea Pulkkinen, Heikki Lyytinen, and Pekka Neittaanmäki, without whom neither the Agora Center nor *Human Technology* would have made their mark on the University of Jyväskylä's campus and in the worlds of interdisciplinary and human-technology research. In addition, I express my thanks to the former director of the Open Science Centre, Ari Muhonen, and his management team, who took in the orphaned journal when the Agora Center was closed and, as best as possible, gave it a go within the work of creating the Open Science Centre at the University of Jyväskylä. I also deeply appreciate the commitment and dedication of our editors in chief: Prof. Pertti Saariluoma, the founding editor in chief of the journal, and the subsequent editors—Prof. Päivi Häkkinen, Dr. Pertti Hurme, and our current editor, Dr. Jukka Jouhki. The quality of the papers published in *Human Technology* certainly rested on your capable shoulders!

We also recently benefited from the efforts and scholarly insights of our current and former associate editors: Dr. Sakari Taipale, Dr. Rosa Mikeal Martey, Dr. Tuomo Kujala, Dr. Johanna Silvennoinen, and Dr. Marc Thompson. And, I would be remiss if I did not give a special shout out to our guest editors, the score of scholars who took on a topic within their academic passion and brought together research that not only contributed to the diverse fields of human-technology interaction but also were excellent reads. I am also grateful for the hundreds of academics around the world who voluntarily participated in evaluating the quality of the papers

submitted to our journal. Our biennial “thank you” appears in this issue. Finally, of course, our authors: You are the entire reason why all the editors and reviewers volunteered their immense time and expertise, so that your research can be available readily to scholars around the world. Thank you for seeking out this particular international, interdisciplinary journal for your research reporting. Your work lives on in *Human Technology*’s archives!

Our editorial board members have been an immense source of support and guidance for *Human Technology* over the years. Thank you for lending to us your expertise and exposing those within your spheres of influence to all that *Human Technology* could offer. I personally appreciate those of you who agreed to continue in this important role when the journal moves to the CSR. I extend my personal appreciation to our editorial assistants over the years, Rachel Ferlatte Kuisma, Maiju Lindholm, and Milla Koivuniemi. To our technical staff, where would the journal be without your expertise? Thanks to Rikupekka Oksanen, Asko Soukka, Teppo Naakka, and Riku Eskelinen. Thanks also to Fotini Boyiatzi and, more recently, Jussi Pajari and Hannamari Heiniluoma, who made the transfer of materials and information to *Human Technology*’s new home as easy as possible. And many thanks to the support staff at both the Agora Center and the Open Science Centre who assisted whenever the journal (or I) needed you! Finally, our readers: to the tens of thousands of individuals who came to our website and read our articles—and especially, when you found them worthy of citation—thank you! We trust you will continue to find quality and informative research available for years to come in this journal under its new publisher. I am confident that editors and staff at the CSR will strive, as we have, to provide the highest quality papers possible.

I certainly close the book on my efforts on behalf of *Human Technology* with bittersweet emotions. How could I not be proud of all the work invested in creating and maintaining a quality scholarly journal? Moreover, I am so very pleased that the journal has found a new home with a new set of qualified, dedicated, and enthusiastic academics to protect what the journal is and advance it to new levels of success. I wish them the very best of luck and look forward to becoming an avid reader of upcoming issues. Yet I can’t help but feel a little sad that the University of Jyväskylä could not see the value of this journal and the potential it held to not only for filling a niche in the very crowded scholarly publishing field but also the public relations values it projected. I wish this university would have been willing to assume some tiny measure of responsibility to keep a small but growing journal available to academics worldwide. Thankfully, the CSR has assumed this commitment.

ENDNOTE

1. For information on the various aspects of open access publishing, see Hurme (2015).

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