



## DEMOCRATIC POTENTIAL OF NEW MODELS OF SCHOLARSHIP AND THE CRISIS OF CONTROL

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### Introduction

The aim of this paper is to establish a position in favour of open scholarship in the debate surrounding scholarly journal publishing and commercial presses. It examines the serials crisis as a bounded entity within scholarly life to examine the relationship amongst scholars, libraries, publishers, and university administration.

One of the most problematic changes that libraries, and especially academic libraries, have dealt with is the rising cost of serials subscriptions. The serials crisis is economic, pitting scholars and libraries against commercial publishers. The Association of Research Libraries (ARL) found that member libraries spent 402% more on serials in 2011 than they did in 1986 (Kyrillidou, Shaneka, and Roebuck 2012), forcing librarians to juggle monograph and serials budgets. Judith Panitch and Sarah Michalek (2005) summarize the price increases:

The term “serials crisis” has become common shorthand for the runaway cost increases of many scholarly journals. The serials crisis has also come to be closely associated with the pricing practices of certain commercial publishers, particularly in the areas of science, technology, and medicine (STM)... But “serials crisis” is perhaps a bit misleading, implying that if we just got the fever to break—convinced publishers to be more reasonable—we could return to business as usual. That will not happen, and probably cannot, since the serials crisis is, more accurately, only the symptom of a larger crisis in the system of scholarly communications.

The shift to electronic publishing has caused a shift from the ownership of journals to the right to access journals electronically, wherein the library does not actually own a physical copy of the journal. The result has been dubbed the

“serials crisis.” Librarians explain that the serials budget is cutting into the monograph budget (Okerson 1996), and as such, it is contributing to the demise of university presses (Whisler and Rosenblatt 1997). The sheer bounty of published articles and new journals, the result of “publish or perish” and the reward system in academia, adds weight to the problem. Some elements of the serials crisis might be framed in terms of supply and demand and exploitation, fundamental ideas in Marxian economic theory. Marxian economics, however, are not entirely adequate to explain what is going on. Later critical theorists (e.g., Habermas 1975) provide another theoretical lens for consideration. Below, we first define the nature of the crisis, then look to various theories in order to propose a different model, framed in terms of Dewey’s conception of participatory democracy.

### **Defining “crisis”**

Crisis is related to change, which is unavoidable and constant, but why do some changes result in a state of crisis? Crisis might involve a widespread catastrophe, such as a change in living conditions as a result of economic shifts (such as the 2008 U.S. housing crisis), or a hurricane—something that is universally recognized as a crisis. Alternatively, though, crisis can be a matter of perception involving a more personal (or localized) sense of loss, such as what might occur when forces that define or control social relations are upended. In other words, one party might benefit while another one loses in a drawn-out struggle for power. Such a crisis could be triggered by a combination of internal or external forces, such as conflicts in motivation and meaning or value and purpose.

Peter Knapp and Alan Spector (2011) explain that crisis, in Marxian terms, is defined by the process of growth to capacity followed by decline. Change is inevitable—it occurs in any kind of organism or system. Systems rise and peak, and then fall. Crisis occurs if a system fails to achieve a new equilibrium within its new environment. A fall might be triggered by a catastrophic event, in which case the change occurs quickly (as in the recent case of the collapse of the housing market, which triggered the financial crisis), or it might be slow, drawn out, and less dramatic or public (as is the case with the serials crisis). Marxism originally defined crisis in economic terms and class exploitation, with crisis culminating when the working class overthrows the ruling class (or when the exploited overthrow the exploiters). Marxist principles, though, are applicable across other social situations as a means of explaining power. While power often involves monetary exploitation, it is not a prerequisite—it is often the effect, rather than the cause. One suggestion might

be that crises occur when friction, driven by competing ideologies, causes the relationship to falter. Both the strict Marxian interpretation and a derived definition of crisis are applicable when examining the serials crisis, with identifiable actors exemplifying problems of power and economics, with periodic small crises punctuating an underlying, slow-burning and widespread instability.

Marxian economics are based on value, but who or what exactly defines the value of scholarly work, and who profits from it? When commercial publishers turn a profit, they are profiting on the model of supply and demand: here, scholars make the product (they are the labourers) and the publisher is the capitalist. Looking at the wide range of actors involved in serials production, we might address scholars and librarians together as the labourers or proletariat, and university administrations and publishers as the capitalist bourgeoisie, because the latter profit in many ways from the work of the labourers. Furthermore, librarians must buy back scholarly work from the publishers, suggesting that publishers are the source of exploitation. Indeed, in 2012, many scholars boycotted Elsevier (one of the largest and most profitable publishers—with over \$1 billion in revenues in 2010) because of the exorbitant profits that publishers were making from their work (Whitfield 2012). An article in *The Economist* (2012) explained that the conflict was not only over profit, though; it resulted from a conflict of values or ideologies:

[The boycott] is symptomatic of a wider conflict between academics and their publishers—a conflict that is being thrown into sharp relief by the rise of online publishing. Academics, who live in a culture which values the free and easy movement of information (and who edit and referee papers for nothing) have long been uncomfortable bedfellows with commercial publishing companies, which want to maximise profits by charging for access to that information, and who control many (although not all) of the most prestigious scientific journals.

While the Marxian interpretation is apt, it is incomplete. Publishers have, traditionally, added required value to the work of scholars (we return to this below). They do things that scholars have neither the time nor expertise to do, such as printing, mailing, advertising, and optimizing search engines. And because most scholars do not define their happiness in economic terms, if they had to do the work of publishers they might find work less rewarding. Nevertheless, the crisis seems to have worsened in recent years as publishers' profits have grown and as state support for universities (and thus administrative economic support for scholarship) has diminished. This is admittedly a

complicated situation. And while Marxism is ultimately hopeful, founded in a belief that a better system will rise from the ashes of capitalist exploitation, this article proposes another, democratic model of scholarly communication, one which remains hopeful and yet is based on practicable ideals.

### **A Professional Crisis**

Habermas's (1975) explanation of legitimate authority provides another way to think about the serials crises. In this case, we need to consider the legitimacy of professions, meaning the authority that professionals wield in the realms in which they work. A crisis in a profession might occur due to a structural change in the environment that causes a loss of control in a particular area of professional expertise (for instance, teachers required to adopt curricula in order to meet new reporting measures, or doctors refusing patients because of insurance caps; both are ceding what they know to be right due to imposed restrictions). Consider the crisis in funding for higher education. Public universities in the United States frequently say that they are in crisis because their funding structure has changed dramatically in recent years. Between 2007 and 2013, there was a 17.5% reduction in state funding for higher education, and a 23.1% reduction in state funding per full-time enrolled student (the difference has partly been alleviated through a 7.4% increase in the number full-time enrolled students) (Mitchell, Palacios, and Leachman 2014). The result is rising tuition and increased student debt load (Haughwout et al. 2015). Professors' authority and legitimacy are based on their credentials as scholars and educators; however, the neoliberal university environment requires that they demonstrate their worth in dollars and cents. The ivory tower is crumbling, and is hardly immune from the scathing criticism of the public and politicians alike, and even less from stock market swings and decreases in state funding.

The crisis in higher education is linked to the serials crisis because both have resulted from decreased public funding. The rising cost of higher education cannot be attributed to one particular factor, but to several, including reduced funding and increased financial aid being offered, expensive new buildings, and increased enrolment (Henley 2014). It is likely that the rising cost of serials is attributable to a similarly complex set of causes. In the end, however, both can be analyzed through the lens of power: who holds the power, and who is profiting?

Perhaps these crises need to be tackled in tandem. One expansive qualitative study of faculty needs in scholarly communication (Harley et al. 2010) found that tenure and promotion of faculty, at least in Ivy League

universities, is granted on ground-breaking research that is published in monographs and books in the humanities, and in the highest-ranking journals in other fields. The authors found that scholars are able to use creative venues for publication but that “scholars across all fields are being told to play it safe, publish their work in the highest-ranking journals, and to avoid spending time on websites or other nontraditional media” (Harley et al. 2010, 10). There are opportunities for alternative publication, but scholars are discouraged from taking advantage of them.

A Marxian analysis of the problem would suggest a revolution at this point, which is not without its merits, and which is also incrementally happening. In this case, the proletariat or working class (librarians and scholars) would overthrow the publishers and administrative bourgeoisie. However, as we detail below, librarians and scholars alike depend on publishers and university administrations to perform functions that we are not always able to do. John Dewey’s description of participatory democracy is one way to conceptualize a situation that is more equitable and ethical.

### **Deweyan Conceptions of Participatory Democracy**

Progressive-era reformer John Dewey often stated that a participatory democracy is central to an ethical society. He also argued that educators should safeguard against the tendency towards exclusivity: education should be driven by ideals such as freedom, individuality, and “relaxation of the grip of authority” (1944, 305). A fundamental Deweyan proposition is that an ethical society puts equal education for everyone at its centre, rather than in the hands of a privileged few. Dewey offers a rationale for public access to scholarship, and his message is particularly relevant as we face significant barriers to open scholarship (Veletsianos and Kimmons 2012), imposed by both university systems and commercial publishers.

Academics produce scholarship, but they must comply with the accepted norms of dissemination. They might write in isolation, but they are part of a group; they work from a shared foundation of knowledge that defines their discipline. They are, therefore, potentially part of a deliberative, democratic community that is based on communicative action among participants with a shared interest. Dewey described democracy as a particular “mode of associated living, of conjoint communicated experience.” As a social ideal, democracy contributes to both increased individuation and a “broader community of interest” sustained through “deliberate effort” (Dewey 1944, 87). Dewey made an important distinction, however, between association and

community. Human association is a “condition of the creation of community,” but association and community are not synonymous terms. While association is “physical and organic”—a matter of fact—“communal life is moral, that is emotionally, intellectually, and consciously sustained” (Dewey 1927, 330). Community comes into existence when members become aware of the “consequences of combined action,” and these consequences “become the object of desire and effort” (ibid.), meaning that these consequences are directed toward particular, shared ends.

For scholars, the “consequences of combined action,” i.e., the “object of desire and effort,” is the sharing and advancement of human knowledge. Traditional publication tools, the printed monograph or scholarly journal, historically have served as the medium that enables scholars to identify one another as part of a community of interest and as the carrier or expression of new knowledge and intellectual deliberation across time and space. Journals are the *de facto* channel for scholarly communication in scientific (including social scientific) fields, reinforced by the structure that has been built around promotion and tenure (though there are exceptions: monographs tend to be more important in the humanities).

The first journals were a product of the Enlightenment, created to replace letters that scientists used for one-to-one communication (Cronin 2001). The wide dissemination of scientific knowledge (and all texts) was made possible by the invention of the printing press. Consequently, librarians were tasked with organizing the large new influx of materials; the French National Bibliography, printed in 1584, was indicative of this task. Research libraries first appeared in the very early years of the Enlightenment. Large libraries were a force in freeing people from the dogma of church and state because of the free availability of scientific information (Bivens-Tatum 2012). Librarians in the seventeenth and eighteenth centuries were already dealing with “information management and patron access within a context of a ‘multitude of books,’ of multiple texts, and of serial publications” (Valentine 2012, 84). The enormous research libraries in today’s universities, therefore, trace their lineage to the Enlightenment’s ideals of reason, knowledge, and freedom.

Libraries have traditionally played an intermediary role in scholarly communication, and in a very practical way, by providing access to the monographs and scholarly journals that are the bedrock of continued intellectual deliberation and knowledge production. The structure of scholarly communication was created to meet the needs of scholars and professions, providing an accepted and orderly path for advancing knowledge and to make information findable. Printed books and journals housed information for most

of the field's history, but the vast amounts of material presented constant challenges for the curation of these texts and to make them widely accessible. Librarians have created many technological tools to solve problems of organization and access.

In a prescient article, Fred Kilgour (1984) described the advancement of library technologies, beginning with the card catalogue, developed in France in the 1830s, through the online catalogue revolution that was occurring in the 1980s. Subject headings were developed in the mid-1800s, microforms were developed in the 1930s, and in the 1970s computers came into libraries. Kilgour predicted that computers would be the force to bring libraries “to the brink of a precedent-shattering socio-technological change” (1984, 319) as library users find library materials and the information that they need on their personal computers. Kilgour was, in 1984, envisioning users accessing articles available through the online catalogue from anywhere, which he predicted would “profoundly change the way people go about the business of living” (320).

Technologies also changed what could be published in the manuscript to print eras, and again in the print to digital eras. While the traditional academic journal is still the dominant publication format, it is riddled with practical limitations, such as page- or word-count limits based on print traditions and expectations. In addition to illustrating concepts and data in novel and beautiful ways, digital communication (through hyperlinks, etc.) provides seamless interconnections among related scholarship. Kilgour's assessment was forward-thinking but limited by the time; new library technologies (discovery layers) pull in materials from the catalogue, databases, and repositories. Google Scholar, likewise, pulls in many of those, but users face the problem of the paywall in accessing materials from commercial publishers. For many users, this is a serious hindrance.

### **Shifts in Methods of Communication**

At the heart of this analysis are communication technologies. The tools that are used to disseminate scholarship have changed drastically, both inside and outside of libraries. Do communication technologies have the power to change social structures? Theories of the network society, specifically, inform our analysis in terms of communication flows and the cultural aspects of democracy.

Marshall McLuhan ([1964] 1994) described three basic revolutions in communication that happened because of a technological invention: 1) orality to writing; 2) manuscript to print; and 3) print to electronic media. Elizabeth

Eisenstein (1983) builds on McLuhan's insights; taking her analysis further, she explains how the printing press changed politics, the economy, philosophy, and other sociocultural phenomena. For instance, with the rise of print media, new ideas could be widely disseminated, providing checks and balances to the power of the church and the state, leading to the birth of democracies. Eisenstein focused on changes that occurred because of the printing press, which today seems like ancient technology. Nevertheless, the shifts that she discusses also apply to new communication technologies, demonstrating that any time there is a shift in how communication happens, there are social, political, and economic repercussions.

The first printing presses (and later iterations) also offered a means of standardization, which was crucial for reproduction and the systematic dissemination of ideas. However, it was not until the Industrial Revolution that technology brought mass production, mechanization, and regulation on a large scale. Today's postmodern world, conversely, is marked by increasing flexibility across both space and time, which has been described as both empowering and chaotic (Harvey 1989). Technologies enable different types of social interaction. For instance, letter writing is asynchronous, one-to-one communication, while broadcasting is synchronous, but not interactive. Digital communication, by contrast, because it is flexible across both space and time, can be synchronous, one-to-one, one-to-many, or interactive (Braman 2009). The scholarly publishing world in this environment is both empowering and chaotic: there is a world of possibilities for communicating ideas, including video and multimedia published online through nontraditional venues. If they wish, scientists can share their data so that others can replicate their findings, which, as Cronin (2001) observes, was the original purpose for scientific journals. Digital communication enables scholars to re-imagine the scholarly communication structure, but scholars are currently constrained by university protocol and print-media traditions (Harley et al. 2010).

Christine Borgman (2007) sums up many of the scholarly issues inherent in the change from print to digital media. Scholars have many choices about how they are going to communicate their work—through books, journals, and various forms of manuscripts, as well as via many types of personal communication and personal websites. They may also choose to store their work in their institutional repositories (IRs). Borgman notes that “the proliferation of digital content is part of the evolution, revolution, or crisis in scholarly communication ... authors, libraries, universities, and publishers are wrestling with the trade-offs between traditional forms of publisher-controlled dissemination and author- or institution-controlled forms of open access



publishing. At issue are the forms of peer review, the speed of dissemination, the ease of access, the cost, who pays the cost ... and preservation” (9).

### **Open Access Journals as Democracy or Revolution?**

One solution to the serials crisis is to publish in open access (OA) journals. Fundamentally, OA means that a journal is freely available online for anyone to read. However, there are different OA models: in a proprietary journal the journal article might be freely available one year after publication, or the journal might allow the author to self-archive the article, to upload it to his or her own website, to place it in an institutional repository, or in a commercial repository such as [Academia.edu](http://Academia.edu) or [Research Gate](http://Research Gate).

John Willinsky (2005) delineates what he calls “the Access Principle” as “*a commitment to the value and quality of research carries with it a responsibility to extend the circulation of such work as far as possible and ideally to all who are interested in it and all who might profit by it*” (5; emphasis in original). He provides a thorough review of the problem posed by the increasing costs of scholarly journals, along with solutions found in ten different OA models. Open access to scholarship has been a focus for many librarians in alleviating the serials crisis (e.g., see Bailey et al. 2006; Bruxvoort and Fruin 2014; Hood 2007; Radom, Feltner-Reichert, and Stringer-Stanback 2012). Online publishing could without doubt lower costs for libraries—not only in acquisition, but also in storage. And most scholars prefer electronic access (Liu 2006). Self-archiving and the use of institutional repositories (IRs) increase access; most IRs are created and maintained by university librarians out of a belief in and commitment to the access principle. The IR might house materials like data sets or preprints. IRs have been conceived of as one way to solve the serials crisis: if IRs were to meet their full realization, they would allow anyone to access articles deposited in them, bypassing expensive journals altogether. Google Scholar is not necessarily perfect, but through it anyone in the world can access articles uploaded to IRs, making scholarly knowledge truly democratic and eliminating at least one problem that developing nations have with costly access.

In their study at Cornell University, Philip Davis and Matthew Connolly (2007) found, however, that many faculty members do not use their university’s IR. Librarians want them to use it, but many do not because they are unsure why they should. Some find it burdensome and redundant, while many believe the IR does not serve their needs as much as other forms of dissemination (for instance, republishing their work on their own websites). The authors conclude:

“While some librarians perceive a crisis in scholarly communication as a crisis in access to the literature, Cornell faculty perceive this essentially as a non-issue” (2). Their study suggests that an IR must be very convenient to use and provide obvious benefits if it is to be widely adopted. Publishing one’s work in an IR or in OA scholarly journals are two models of open scholarship, but there are also many other ways of connecting to the public and with other scholars that bypass formal publication. However, these options are often perceived as risky for scholars seeking tenure and promotion. The “grip of authority” is held by administrative bodies in universities competing for federal research funding.

There are platforms that scholars can use that remove the middleman. The Scholarly Publishing and Academic Resources Coalition, or SPARC (<http://sparcopen.org/>), for instance, lists campus-based publishing and publishing cooperatives and collaborations as viable alternatives to commercial publishers. They are certainly not free, as there is always a cost, in terms of storage and labour. Librarians’ work changes under such models; instead of being intermediaries between scholars and publishers, they might instead serve as production engineers or managers of institutional repositories. Much like the “maker movement” in public libraries (Kroski 2013), academic librarians are creating digital humanities centres and other digital production and storage centres (Allen 2008; Sula 2013). Putting librarians in charge of digital production units, of course, changes their roles quite a bit (though that has been going on for some time now; librarians answer far fewer reference questions and instead spend time helping scholars, giving classes, etc.). The library space, too, is changing: reducing the serials budget frees more money for books, training, etc.

Commercial publishers nevertheless provide an important service for scholars. Kent Anderson (2013) lists 73 things publishers do, from branding to detecting plagiarism to handling artwork, metadata, licencing, and archives. How would scholarship itself be affected if commercial publishers were unavailable? They offer convenience, but for tenure and promotion, in the current climate they might be required because of the metrics that they offer; there is safety in publishing in well-established journals. For example, if a university uses Web of Science (<http://wokinfo.com>) metrics to determine a scholar’s worth, only articles that are both published and cited within other Web of Science-indexed journals will count. Web of Science is, therefore, considered to be the ‘gold standard’ because it is the most exclusive. Many libraries have helped scholars determine their “worth” using altmetrics—or non-traditional metrics (such as Google Scholar), though the extent to which they are used for tenure and promotion is unknown. Do commercial publishers really guarantee quality? Are their journals more easily findable?

Beyond Google Scholar, indexing services do exist for OA journals. The Directory of Open Access Journals (<https://doaj.org>) provides indexing services to quality peer reviewed OA journals, for instance. Quality has proven to be problematic, however; the OA umbrella is wide. Some OA journals are published by commercial publishers, and many are as legitimate as the highest-standard traditional journals, with excellent peer-review processes in place. Nevertheless, some are deceptive and even predatory, or have no clear standards for publication. The variability ultimately complicates the efforts of people trying to legitimize OA journals.

John Bohannon (2013) demonstrates the problem of peer review in OA journals through a (admittedly ethically questionable) sting operation in which he submitted a fake research article to hundreds of open access journals—an article with “meaningless results” that “any reviewer with more than a high-school knowledge of chemistry and the ability to understand a basic data plot ... should have spotted immediately” (60). He found a wide and surprising variability in the peer review process across the board. The article in question made it through the peer review process of some OA journals, and also in some published by the most respected companies, such as Elsevier, Wolters Kluwer, and Sage. Bohannon linked those inconsistencies with profit, explaining: “A striking picture emerges from the global distribution of open-access publishers, editors, and bank accounts. Most of the publishing operations cloak their true geographic location” (64). Bohannon claims to be a supporter of open access, and he believes that if he had submitted the article to traditional journals he would have found a similar acceptance rate. He focused on OA journals because of the explosion of an “underclass of journals, and the number of papers they publish” (65). Scientists (and the public) need assurance that there is some process that separates the wheat from the chaff, and Bohannon proved that the peer review process, even at commercial presses, is broken.

University presses offer one alternative to commercial presses. However, it is unlikely that they will fix the peer review problem, which will only happen through more radical means (possibly by universities requiring academics to submit fewer articles for peer review!). Some university presses publish journals, and fulfill most of the functions of commercial presses. Pricing models vary between the university presses, as do policies. Some allow self-archiving and provide open access.

Would scholars suffer without presses? Many research librarians already maintain an institutional repository (IR). As noted above, Google Scholar searches those repositories. Moreover, scholars participate in societies and professional associations, whose members already review papers and perform

some of the editorial tasks. Therefore, we contend that, ultimately, scholarly production would not cease or be negatively affected without publishers; however, librarians and scholarly associations would be required to pick up the slack, which could be quite challenging in the context of constrained budgets. Such a model would require a reinvestment in libraries, and possibly raising the fees for scholarly associations.

### **More about the Economics of Serials Publication**

Does everything begin and end with money? Publication does indeed cost money—scholars typically do not earn money for the work they do reviewing and editing journals, but their time is worth money because it could be spent doing other things. The costs of storage, indexing, adding metadata, and ensuring quality of a publication add up. Faculty are paid to do their work and are rewarded by their institutions when they publish in the most prestigious journals in their fields (which, ironically, might equate to more expense for the library). These rules are based on a model that is entrenched within the tenure and promotion system.

Who owns scholarship? Restrictive licencing is profitable for publishers, because the publishers control who is able to access scholarship, and at what price. Christine Borgman (2007) explains how this is beginning to change: “Economic and regulatory frameworks for digital information have unbalanced traditional relationships among authors, readers, publishers, and librarians. Concerns about the notion of information as ‘property’ and the deterioration of the public domain are leading to alternative publishing methods” (4). The scholarly publication system is interdependent on several sub-systems, but much of the criticism of the system squarely targets the publishers themselves. It is additionally ironic that electronic communication technologies and the Internet have created alternatives to traditional publication methods while they have also created opportunities for further economic exploitation.

Publishing houses have a vested economic interest in maintaining control over access to scholarship. Journal vendors generally bundle journals together, much as cable companies bundle channels, including seldom used journals with widely read ones. They also have more recently begun to offer incentives to rely on online-only subscriptions. Libraries are of course interested in getting the best deal. They might use the purchasing power of consortia to put pressure on vendors. We might think of libraries’ e-only purchases as analogous to an individual’s choice to purchase iTunes or e-books rather than physical copies. Those purchases are easier, but this model makes

many librarians nervous. ARL libraries—those belonging to the Association of Research Libraries, which serves research intensive universities—have traditionally purchased books for perpetuity. E-only purchases have created an “access versus ownership” dilemma. Certainly, libraries have many reasons to rely on digital content—it is what the users want; moreover, for many libraries there is dwindling space to store physical copies of journals and books. There is, however, no guarantee of perpetual ownership of an item that is accessed digitally—though demands for permanent access have led to several different types of journal-archiving initiatives (Stemper and Barribeau 2006). Consider the changing nature of music purchases among the general public: most people no longer buy CDs but instead access their music through different digital platforms, such as iTunes, Pandora, and Spotify. Public libraries provide access to popular music, e-books, and magazines through various platforms that users can access via apps (utilizing their library card), similar to databases. While this makes sense for fleetingly popular content in public libraries, scholarly journals in academic libraries are a different story; scholars require permanent access.

Libraries generally work with publishers by way of large information service companies that provide databases, e-books, abstracting and indexing services, journals, etc. The companies create pricing schemes through contracts with libraries and library consortia. In 2001, Kenneth Frazier dubbed such contracts the “Big Deal.” He explains that there are many short-term benefits for users in ordering e-only access to journals, yet the relationship that is created through these deals puts power squarely in the hands of the publishers rather than with libraries and library patrons. Frazier argues:

In the longer run, these contracts will weaken the power of librarians and consumers to influence scholarly communication systems in the future. Librarians will lose the opportunity to shape the content or quality of journal literature through the selection process. Those who follow us will face the all-or-nothing choice of paying whatever publishers want or giving up an indispensable resource. The largest publishers will not only have greater market power to dictate prices. They will also have more control over contractual terms and conditions—including the ability to “disintermediate” other players in the economic chain. (Frazier 2001)

In a similar vein, Robert Darnton (2014) in *The New York Review of Books* explains why the serials crisis should matter to the public:

Consider the cost of scientific periodicals, most of which are published exclusively online. It has increased at four times the

rate of inflation since 1986.... Three giant publishers—Reed Elsevier, Wiley-Blackwell, and Springer—publish 42 percent of all academic articles, and they make giant profits from them. In 2013 Elsevier turned a 39 percent profit on an income of £2.1 billion from its science, technical, and medical journals.

All over the country research libraries are canceling subscriptions to academic journals, because they are caught between decreasing budgets and increasing costs. The logic of the bottom line is inescapable, but there is a higher logic that deserves consideration—namely, that the public should have access to knowledge produced with public funds.

This problem caught the attention of federal legislators, resulting in the Fair Access to Science and Technology Research (FASTR) Act, which was introduced in 2013. An editorial in *Publishers Weekly* explained its wide acceptance across a range of stakeholders:

perhaps the most notable aspect of the proposal is that the memo was praised by publishers, and open access advocates alike. And, also by members of Congress ... while publishers have consistently opposed previous federal public access mandates, and supported legislation designed to bar them from implementation, including last year's [Research Works Act](#) the 2009 [Fair Copyright in Research Works Act](#), the Association of American Publishers (AAP) [came out today](#) in praise of the Obama administration's initiative, calling it "a reasonable, balanced resolution of issues around public access to research funded by federal agencies." (*Publishers Weekly* 2013)

One of the main points of this federal intervention is that the public has already paid for the research, and for this reason, it should be publicly available. But should this hold true for work produced by all professors at public universities? How much accountability to the public at large do professors have? How much access should the public have? More importantly, has the Internet changed anything? The three main parties with legitimate claims of control over the flow of scholarly communication are scholars, libraries, and publishers; but (as demonstrated by the FASTR Act) the public should be able to access it as well.

Yet another aspect of scientific (and social scientific) research is that many of today's problems are global. Does that not mean that we should consider the rest of the world when we speak of public access to information? This brings up yet another problem with the "old model" of publication and

distribution: many have argued that it favours the Global North. Some claim that scholarship is not controlled by scholars but by “large multinational publishers are driven primarily by commercial motives and market shares” (Chan, Kirsop, and Arunachalam 2011), which was confirmed by Bohannon’s sting operation. Bundled packages of journals and services are “a legitimate commercial strategy, even rich institutions in the North can ill-afford the continuing rising cost” (ibid.). It is true that there have been efforts to extend journal services to countries in developing nations through such programs as Research4Life (<http://www.research4life.org/>) and INASP (<http://www.inasp.info/en/>), but the countries to which these programs extend often have unstable or unavailable Internet connections. Many libraries in Africa are unable get even print journals (Willinsky 2005), and the high cost of bandwidth in many developing nations presents further access issues (Cottrell 2013). In sum, the traditional scholarly publication model represents an entrenched power regime that favours certain kinds of research from certain countries (Gray 2007). The Internet has brought to the forefront many issues of power and control over the spread of human knowledge. It is worth asking whose interests are being served by the current accepted models of scholarly communication, and if there is a better means to support the advancement of knowledge.

Within librarianship, the serials crisis has been framed as a problem for the library. Librarians work primarily with tools that have been created by others—such as [library catalogues](#), [discovery layers](#) that lay on top of the catalogue, and [communication tools](#) for working with distance patrons. Librarians sometimes create their own tools using open-source environments—for instance, many librarians are now using open-source [Evergreen](#) or [Koha](#) software systems, or [others](#). However, the software and hardware that the technology relies on are always changing: they require upgrades and sometimes information becomes inaccessible. Furthermore, the tools all need to be compatible with each other and with the access tools that patrons already use. Keeping up with technology is expensive in terms of both time and money.

Libraries derive authority from users. They are embedded in the process of scholarship because they collect the materials that are needed to complete scholarship. We can say that the social “capital” that librarians deal with is knowledge, or cultural production, which is one reason to explore the idea of “crisis” relative to librarianship, particularly when changes in the nature of information production cause a crisis in librarianship. Librarianship’s legitimacy, its cause and reason for being, is based on the cycle of information production. When changes in production occur, it causes a crisis in the profession because professionals must be responsive to that change in order to

maintain control over the flow of information. Librarians understand the stakes and have devoted their professional lives to organizing information in order to make it accessible.

Is the word “crisis” a misnomer for the current state of affairs with serials? The serials crisis has been called a crisis because libraries cannot fulfill their mission due to the current state of scholarly communication; they are tasked to provide students and faculty with the scholarship that they need, scholarship that will produce future scholarship. Furthermore, if they are forced to cancel the most expensive journals the university itself loses credibility among its users, and it also might face problems with accrediting bodies. One way to conceive of the crisis is as a fight between the collective good and corporate interests. It is also a crisis because libraries have, for so long, relied on publishers, out of necessity. The Internet has made new forms of communication possible, but the systems that revolve around scholarly communication have not yet recognized the value of the public good in opening scholarship to the widest possible public. It is nearly impossible for librarians, alone, to build a more equitable, world-wide platform for the sharing of scholarly resources. Such a platform would need to be accepted and used by scholars, as well as by tenure committees and accreditation bodies. In other words, solving this crisis will require all players to negotiate new roles for themselves, and to adjust together, to make the process of scholarly communication work in the twenty-first century.

### **The Way Out → Moving Toward the Ideal**

Is there a way out of the crisis in which we, as scholars and librarians, are entrenched? Are we forever bound to corporate interests? Manuel Castells (2009) has argued that democracy “resid[es] in the capacity to counter the power of heritage, wealth, and personal influence with the power of the multitude, the power of numbers” (366), and that the “practice of democracy ... is called into question when there is a systemic disassociation between communication power and representative power” (298) or when there is a lack of “equal opportunity” to participate in the meaning-making process. If scholars begin to recognize their role in relation to librarians and libraries, they will understand that they have an ethical duty to create equal opportunities. By working with librarians, they can increase the democratic nature of scholarly communication.

The connective technologies of the twenty-first century hold tremendous potential for building democratic communities of interest. Unlike the



broadcasting media of the twentieth century, which were unidirectional communication vehicles, today's social media facilitates dialogue. Clay Shirkey (2008) provides insight into the power that the Internet offers for simply connecting people to each other through social media: "the enormous visibility and search-ability of social life means that the ability for the like-minded to locate one another, and to assemble and cooperate with one another, now exists independently of social approval and disapproval" (207). Scholars are beginning to take advantage of these communication technologies to build and sustain communities of interest. The question raised by John Dewey (1927) was whether individuals would come to recognize themselves as a "public," as a group with shared concerns and shared interests.

Social media have the power to link people together in user communities; ultimately, though, a model for scholarly communication would incorporate not only social media but also what Charlotte Hess (2008) has called a "new commons ... inhabited by heterogeneous groups from divergent disciplines, political interests, and geographical regions ... [who are using the commons to solve] social dilemmas, degradation, and sustainability of a wide variety of shared resources" (1). Hess is describing social activism, enabled by the Internet, which is ideally a democratic force against corporate greed (humbly granted: this is merely an ideal). Of course the Internet has been used for social activism around the world, but arguably it has been used with even greater power by governments as an anti-democratic forces (see, for example, [Freedom House](#) reports). Rebecca MacKinnon (2013) notes that activists (or "netizens") can use the digital public commons to expose problems with government (such as Wikileaks has done), potentially reducing the abuses of power through the power of words and code. However, the Internet is a double-edged sword: "public debate and even some forms of activism are expanding on it, while at the same time, state controls and manipulation tactics have managed to prevent democracy movements from gaining meaningful traction" (42). This is not at all tangential to the discussion of scholarly communication, if one considers the exclusion of many voices in science (Harding 1991).

Developing countries, too, face roadblocks to participation in scholarship because they do not have even or stable access to the same journals as developed nations. OA journals and other projects such as Wikipedia hold great promise for democratic production and ownership. Publicly available scholarship is needed to level global inequities in access to research, and there are new tools that researchers can take advantage of that go beyond traditional scholarly production (Chan, Kirsop, and Arunachalam 2011). One new model with interesting possibilities is the crowdsourced journal article. *The Chronicle of Higher Education* has reported on a crowdsourced article in the *Harvard*

*Business Review* with over 200 authors, including “community thought leaders”:

the general approach was to put ideas “out in the open, so that, one, everyone can see them, and two, people can comment on them, elaborate on them further, and help to develop them, to take what might be a kernel of an idea into something that’s much more powerful.... And we really believe that, going forward, taking advantage of this capability is not only possible, it’s really revolutionary in terms of the speed with which we’re able to work.” (Biemiller 2014)

Democratic? In one sense, yes; however, contributors were limited to the Harvard Business School community. This offers another model for scholarly production, though one can see how it could become muddled and unwieldy. Perhaps it worked because the authors all came out of the same school.

Frazier (2001) has argued that librarians need to invest in “bold new experiments in scholarly communication [such as] The Scholarly Publishing and Academic Resources Coalition (SPARC) partners such as MIT CogNet, BioOne, Columbia Earthscape, New Journal of Physics, Project Euclid, and others” in order to counteract the power of commercial publishers. Frazier believes that those “initiatives are profoundly subversive to the commercial publishing system—and the commercial publishers know it” (para. 39). Fifteen years since the publication of this article, librarians continue to develop these and other models amongst themselves and in cooperative agreements, such as the Hathi Trust and Google Books (despite protests from publishers as well as some from the authors guild). Scholars are also creating their own bold new experiments, even as ensuring compliance to standards is crucial for findability. A central aggregator is needed—one that has both democracy and the public interest as its highest goals.

This article has focused on the serials crisis. As libraries move towards larger e-book purchases (recall “the Big Deal”), we are seeing the same financial problems arise with monographs. Publishers have bundled monographs for libraries for immediate access to pre-processed large collections of e-books. E-books, like e-journals, present the same conveniences to readers: immediate access from anywhere. Libraries, likewise, are not required to find space for the books on the shelves. They require no physical care. They require little processing. Meanwhile, *The Chronicle of Higher Education* has recently reported that the major monograph publishers have raised the cost of e-book bundles (Wolfman-Arent 2014). The publishers have replied that the pricing scheme that the libraries originally signed onto was

unsustainable: they were testing pricing models that would benefit *libraries* because libraries do not have to pay shipping costs for e-books, and if the books are not used much anyway, then it makes more sense for the libraries to simply purchase access. Librarians are certainly questioning these claims of benevolence, seeing the past repeat itself in a “historical tug-of war” (Wolfman-Arent 2014) between publishers and libraries. One librarian emphasized that libraries need to “set the agenda” (ibid.) this time around. It is unlikely to happen if they are relying on publishers for access through proprietary platforms.

We believe that the notion of a serials crisis is actually a misnomer, and is instead, as Castells (2009) has noted, a shift in power ushered in by electronic communication combined with decreases in public funding. The real crisis for *librarians* may be the library’s loss of centrality in the scholarly communication process. The centrality of the library, or at least the standards and tools that libraries have created and are developing, will make interdisciplinary work more effective; if there is no central platform, there is more opportunity for the balkanization of disciplinary knowledge. Knowledge production today benefits from cross-fertilization between the disciplines. Subject repositories and self-archiving are certainly not a problem, but there needs to be some method of centralizing those articles and data, which might simply mean ensuring standardized metadata and tagging. Thwarting corporate domination will ultimately require a concerted and unified effort.

Finally, this argument for the central role of the library is linked to democratic culture. Librarians have the tools to make scholars’ work findable. Presently, there are simply too many redundant forms for communicating knowledge: users do not necessarily want both journals and repositories, and they are confused about when they can put their work in a repository in a way that conforms with publishers’ contracts. Librarians’ professional values of intellectual freedom and increasing accessibility to information are aligned with scholars; right now, workflows and logistics need to be established to create democratic communication flows.

## **Conclusion**

Do commercial publishers add value? Yes, they do. It would take a lot of effort for librarians across many universities to create a platform that would replace publishers. Scholars across the spectrum would need to decide that it is time for the system to change. Such a change would not be structured and orderly at first, but the end result would be a sort-of Marxist utopia—an unlikely scenario,

even though removing middlemen from scholarly publishing would create a more sustainable, democratic future for scholarly publishing.

Revisiting Anderson's (2013) list of 73 things that publishers do, we might reconsider what would change if publishers (the middlemen) were cut from scholarly journals. There are a number of tasks that could be eliminated or that could be performed by scholarly associations—for instance, detecting the audience and cultivating readers, establishing a brand, making money, and maintaining a reputation. But a scholarly journal does not really need to make money; it needs to break even, and that could happen through membership fees or small subscription fees. Scholars, as peer reviewers, can handle accepting and rejecting submissions, manage the peer review process, and edit content. Librarians can manage statistics, register copyright and DOI, tag articles, gather analytics, track metrics, host/archive content, and protect the server. These new roles, though, might require some effort in shifting funding from purchasing access to electronic materials to storing materials; smaller schools (and even large universities) might need to form consortia or share repositories.

Do people still want physical copies of journals? Research says that electronic access is more important than physical copies (Liu 2006). However, if libraries were able to spend less on journals, they would have increased monograph budgets; this would help university presses, which in turn might take on smaller print runs of journals as well should print copies be desired. Libraries could always print a version of each item put in the repository to prevent problems associated with data-rot (though multimedia projects might prove more difficult to store physically).

Librarians have always worked with technologies that enable scholarship. Many librarians are already leading the way in the efforts described above. One section of the puzzle is still askew, though: the university administration, the requirements of tenure and promotion, and the competition among universities for higher positions in rankings. University administrators would need to reconsider what it means to be called a productive faculty member, and measurements would need to be adjusted. Some options might include requiring fewer (though better) publications, promoting more engagement with the public, and giving equal weight to different kinds of scholarship, such as monographs and digital projects. This would likely positively affect peer review, as well, as better articles would be submitted.

Castells (2009) discusses a common culture of the global network, one “not made of content but of process, as the constitutional democratic culture is based on procedure, not on substantive programs” (38). The power of the network made possible by new communication technologies lies in its potential

to expand global participation. The network is profoundly democratic on its own; it does not discriminate. The goal of scholars and librarians should be to foster its democratic nature, to fight the forces that try to stifle equal participation.

In the end, we—both librarians and the individuals within scholarly communities of interest—must decide whether the purpose of scholarly production is for sharing or for profit. If, indeed, the purpose is for sharing, scholars should be working with librarians in order to build viable systems that meet their needs and disseminate information as widely as possible.

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