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RESPONSE

Hateful metrics and the bitterest pill of scholarly publishing

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Introduction

In responding to the Proposition by Harvie *et al.* (2014), I should first like to thank them for their contributions to the debate on academic publishing, and for their commitment to enhancing access to knowledge. Their Proposition, 'Publisher, be damned! From price gouging to the open road!' is an important and valuable work of scholarship. A well-constructed analysis of the academic journal publishing industry. Acknowledging the excellence of their analysis and the quality of their writing, when it comes to their recommendations, I respectfully differ.

In essence, I find that their solution to the academic publishing problem is not very pragmatic. We agree that the scholarly publishing environment is in a state of crisis, and that certain commercial publishers engage in what many characterize as 'price gouging'. My Response comments on and provides reaction to their recommendations, including a discussion of their comparison of academic publishing with the music industry; an acknowledgement of the importance of academic journal metrics (which drives the journal publishing market); and a recommendation regarding strategy, focusing upon aggressive coalition building for academic libraries, and support for other alternative methods.

Before going any further with my response and analysis, I would just like to note that I am not an employee of the academic journal publishing industry, nor do I have financial connections to any academic journal publishing companies. As an academic librarian supporting graduate research in business and public administration at a state-affiliated university in the United States, and as an author, I am a stakeholder in

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this process. Like Harvie *et al.* (2014), I wish to see a more open and accessible universe of scholarly knowledge.

Comparison between scholarly publishing and the music industry

With the release in the UK of the 2012 Finch Report on scholarly publishing, *Accessibility, Sustainability, Excellence: How to Expand Access to Research Publications*, debate is taking place on the approach of the report and its recommendations (Gargouri *et al.*, 2012; Harvie *et al.*, 2014). While there are hybrid arrangements, there are essentially two open access (OA) models by which authors can make their research available: gold access and green access (Suber, 2013). The gold access approach is one in which authors pay a fee for publishing their articles (often over $1000 per submission), while the green OA approach permits authors to publish their research in a journal of their choice, but allows authors to self-archive the articles in their institutional OA repositories (Ptolomey, 2013, p.32). The Finch Report, as its first recommendation, promotes a policy to support publication in OA gold journals, or journals that are based on an article publishing charge (APC) model. Finch clearly supports the gold option, stating that it 'should be the main vehicle for the publication of research, especially when it is publicly funded'. In a skeptical retort to the Report, Harvie *et al.* (2014) state: 'It is not far-fetched to suggest that the Finch Report is simply an attempt to respond to, and harness for the benefit of the publishing industry (i.e. commercial publishers), a bottom-up shift in the nature of academic publishing'. They relate the comments of a blogger who refers to the Report as 'a Trojan horse, a successful case of lobbying by publishers to protect the interests of publishing at the expense of research and the public that funds that research' (Harnad, 2012). I do agree with these voices that the Finch Report is in error in relying so much on the notion of gold OA, while the rest of the world appears to be moving in the opposite direction (SPARC Europe, 2012). In the debate on transforming the scholarly publishing business model, it is important to remember who the stakeholders are. According to the Finch Report (2012), stakeholders include researchers, universities, funders and publishers. Is the commercial publishing industry a legitimate stakeholder, or simply a predatory one?

What would Harvie *et al*. do to cope with the scholarly publishing crisis? They suggest that the scholarly community do nothing since doing nothing may be part of the solution. Doing nothing actually has some merit, but not for the reasons Harvie *et al*. specify. With the advent of Google Scholar (GS), the *h*-index and various Open Access (OA) initiatives, social and technological forces are already at work to enhance and democratize the universe of information. Thus, doing nothing on one level will allow these forces to influence scholarly publishing without interference. But doing nothing will do just that – nothing – to realize their expectation that sharing scholarly articles will bring down the costs of subscriptions much as has happened in the world of music.

In comparing the scholarly publishing environment to the music industry, Harvie *et al.* note that the commercial market for music is still booming: 'despite a background of 35 years of dire warnings from the music industry that home taping and/or piracy is killing music, more music is being produced and reaching more people than ever before at a much lower price'. They explain that a vinyl single in 1979 cost about the same as a digital download in 2010, and that the 'market is booming with over 150 million singles sold in 2009'. Acknowledging that digital music sales

are rising, I would note that the illegal file sharing of music has been shown to correlate negatively with music industry revenue (Bustinza *et al.*, 2013). The music industry is reeling downward and has yet to find a business model that will stop the free fall caused by illegal downloading. According to estimates from the International Federation of the Phonographic Industry, 95% of the 40 billion music downloads in 2008 infringed copyright (Seidenberg, 2010, p.55). The electronic transformation of music, motion pictures and software has resulted in devastating erosion of profits and jobs as a result of piracy. Copyright piracy of sound recordings, motion pictures and video games in 2005 was estimated to have cost the US economy US$58 billion in output; 373,375 jobs, US$16.3 billion in earnings, and US$2.6 billion in federal, state and local tax revenue (Institute for Policy Innovation, 2007, p.1). Because of digital piracy, the music industry is clearly anything but thriving. There are major differences between the music industry and the scholarly journal publishing industry, and it is misleading to compare the two. Specifically, these differences concern indexing, the customer base and measurement.

A major difference between the transformation of the music industry and that of the scholarly publishing industry is the importance of indexing and cited referencing for academic/scientific journals. For scholarship to be effectively shared, there must be structure and organization of information. It is the organization of information, through the process of indexing and classification, that provides the value-added of many subscription databases. Without a proper taxonomy and/or classification system, we enter the realm of chaos. While I agree that the gold access OA approach as supported by the Finch Report may not be sustainable, and that the green OA approach may hold more promise (Gargouri *et al.*, 2012), I question the notion of excluding the publishers as stakeholders in this situation. The commercial journal publishers have created a structure upon which the chaos of research can be organized. While this structure may include the access to citations and in some cases full text articles, it is the classification of these articles within the databases that provides accessibility. It is an open question whether we still need the journal as a container, even in electronic form, with a volume number, issue number and so on, but what are the realistic alternatives?

Another contrast between the transformation of the music industry and that of the scholarly publishing industry is that scholarly journals are mainly supported by large institutional subscribers, in the form of academic libraries, while no such support exists in the music industry. The success or failure of musicians depends on individual sales. We have moved beyond the point where scholars are citing works from journals based on personal subscriptions. For academic journal publishing, ultimately the change must come about not only by scholars, producing the content, but also by academic libraries (which serve as the middleman between scholars and journal publishers) providing access to the content as institutional subscribers. The idea that scholars can simply trade academic works with one another, thus causing the price from legitimate sources to fall, ignores the fact that legitimate customers, such as academic libraries, will be forced to continue to subscribe to these publications. Then there is the point that scholarly publishing requires peer review, while the production of music does not. Music, as a product, is simply not comparable with scholarly research in that scholarly research advances the development of knowledge and intellectual discovery through peer review, classification and cited references (metrics).

Journal metrics

Academic publishing is driven by scholars, who simultaneously serve as consumers and producers of knowledge (in the music industry there is a separation between groups). Essentially, scholars drive the market, which is harnessed by scholarly societies and publishing companies. (I have discussed the structure of the industry in a previous paper, which I shall not cite to avoid the sin of self-citation!) The quality of the product in the academic journal publishing market – although I acknowledge the term 'market' may be objectionable to authors – is measured by such metrics as the ISI impact factor.

We live in a world of rankings, however hateful we may find this. Traditionally the ISI journal impact factor (JIF), a ranking associated with the Web of Science (WOS) citation index databases now owned by Thomson Reuters, has served as a key measure for appointment, promotion and tenure in universities (Harzing and van der Wal, 2008). Other impact measures have been developed, including Elsevier's Scopus and Hirsch's *h*-index, which uses Google Scholar. While Scopus, Elsevier's database providing access to millions of abstracts, provides citation data only for items indexed by the database, Google Scholar provides broader coverage, although it does not provide information about the number of records indexed or about time coverage (Bar-Ilan, 2008, p.258). Other metrics exist, but are all associated in some way with either WOS or Scopus. Garcia *et al.* (2012) examine various indicators of journal of prestige, such as Scimago journal ranking; *h*-index; impact factor; five-year impact factor; immediacy index; Eigen factor score; and article influence score. The first measure is derived from Scopus, while the last five measures are based upon WOS data. The only metric that is associated with Google Scholar is the *h*-index.

Putting aside Scopus, which is the Elsevier product that delivers access to the Scimago journal ranking index, we are essentially left with WOS and the Google Scholar *h*-index rankings to measure concepts of impact or prestige. ISI's journal impact factor has its limitations in that coverage of journals for each discipline is restricted; books and book chapters are excluded; and English is really the only language covered (Cameron, 2005). It is unfortunate that many universities still rely on the JIF as a measure of productivity and impact. As related by Harzing and van der Wal (2008), Google Scholar is a better source of citation data, although it has its own problems, such as the inclusion of non-scholarly citations, double counting of citations, less frequent updating, uneven coverage across disciplines and less comprehensive coverage of older citations (Harzing and van der Wal, 2008). A major difference between the two, of course, is that Google Scholar is freely available while WOS requires subscription.

While I do not question the deficiencies of impact factors to establish an author's or journal's importance, they are a fact of life for the authors who are simultaneously consuming and producing scholarly knowledge. Rightly or wrongly, the metrics exist as a measurement, or a perception, of the quality of academic journal articles. While this remains the case, metrics will continue to drive the current paradigm of academic journal publishing in which academic libraries subscribe to content from publishers and deliver that access to authors. Continuing to pay institutional subscriptions is a bitter pill we are forced to swallow.

A multi-faceted approach

It appears sensible to resort to a multi-faceted approach to this complex problem. While the Finch Report does support multiple approaches, it relies too much on gold open access as a panacea. I would argue that a three-pronged approach to the problem would create an environment more favorable to authors, libraries and scholarly societies. This approach includes strengthened buyer coalitions to bargain aggressively for better subscription prices; research libraries assuming the role of publisher; and continued support for green open access initiatives. For the purposes of this paper, emphasis is placed upon the buyer coalitions since I see that as the most important tactic.

The creation of a super coalition of academic libraries in the US would shift power from the publishers to the buyers. I do not see why this cannot also take place in the United Kingdom, and in other countries as well. Library consortia have a long history of linking institutions for the purpose of sharing information and resources, and for engaging in various collaborative activities. However, their impact on the scholarly publishing system and journal price escalation has been minimal: 'While consortia provide an equitable distribution of resources to their member institutions, they do not address systematic ills in the scholarly publishing system' (Fernandez, 2003, p.290). While the Association of Research Libraries, an alliance of the major research libraries in the United States, would remain essential as a policy-related organization focused on changing the environment of scholarly communication, an actual buyer group representing all the institutional subscribers to academic journals would have direct impact on negotiating favorable prices. The problem is that library consortia have become too numerous and fragmented to be effective.

In the United States, the sheer number and fragmented nature of consortia diminishes their bargaining power. Most consortia are based upon geographic criteria, such as the Boston Library Consortium and the Connecticut Library Consortium. A few are based on organizational characteristics, such as the Community College Libraries Consortium and the Adventist Libraries Information Cooperative. And many are based upon both academic and regional identification, such as the Pennsylvania Academic Library Consortium and the Arizona University Libraries Consortium. Membership in the International Coalition of Library Consortia (ICOLC) includes over 200 organizations, many of these of both regional and academic. As an umbrella organization, ICOLC does not negotiate with publishers and serves mainly as a forum for information exchange among organizational members (International Coalition of Library Consortia, 2013).

One consortium exists that should provide the framework for the super coalition in the US and possibly beyond. The Committee on Institutional Cooperation (CIC) is one of the most important consortia of large research universities in the US. The CIC is a consortium of the Big 10 (now 12, and mostly based in the Midwest) teaching and research universities in the United States. The CIC is responsible for initiating various cooperative projects involving member libraries, such as the Google book search project, the shared print repository program, and the reciprocal library borrowing program (Committee on Institutional Cooperation, 2013). The CIC's Center for Library Initiatives has been a leader in cooperation by linking the catalogs of member research libraries, supporting the preservation of journal collections through cooperative archiving, and initiating best practices and standards in academic librarianship. However, the CIC represents only a dozen of the major research university libraries in the United States.

A super coalition of academic libraries is required to fortify the bargaining position of buyers. Buyers can force down prices, bargain for better services, and reduce the profitability of the industry from which they purchase goods when a buyers' group 'is concentrated or purchases large volumes relative to seller sales. If a large portion of sales is purchased by a given buyer this raises the importance of the buyer's business in results' (Porter, 1980, p.24). US academic libraries account for a large portion of sales of academic journal publishers. In 2002, US academic libraries accounted for approximately 60% of the global market for academic journals (Morgan Stanley, 2002, p.3). In terms of authorship, the US remains the largest player, although China continues to increase its scholarly production: 'In 2008, 218 countries produced over 1.5 million research papers, from Tuvalu's one paper, to the UK's 98,000, China's 163,000, and the USA's 320,000' (Royal Society, 2011, p.14). A forceful strategic stance by a strong US coalition, focusing upon a single, medium-sized publisher at first, to cancel all bundled subscriptions of every single journal unless total cost was significantly reduced, would have a huge impact.

What form would such a super coalition take? It would have to include all the significant buyers to be effective. The CIC, as an institutional consortium deeply involved with collection development, should be able to provide guidance. The CIC has the experience and the status to assume a leadership role in this undertaking. The ICOLC, as a collective of most of the major library consortia, could form the institutional organization for such a new institution, or assist with linking consortia and institutions to form such a super coalition under leadership of the CIC.

Research libraries are increasingly assuming the role of publisher, fostering a new business model of scholarly publishing. A survey conducted by the Association for Research Libraries (ARL) in late 2007 reveals a great level of activity in this area.

> The survey of ARL members verified that research libraries are rapidly developing publishing services like publication hosting and dissemination, production support, such as peer review workflow management and journal issue compilation, or digitization of back issues. By late 2007, 44% of the 80 responding ARL libraries reported they were delivering publishing services and another 21% were currently planning publishing service development. (Hahn, 2008, p.13)

Through inter- and intra-organizational partnerships, research libraries are utilizing open source publishing to develop publishing ventures. With open source publishing tools such as DSpace, developed jointly by MIT Libraries and Hewlett Packard Laboratories, libraries will be able to capture, store, index and redistribute scholarly content within an institutional repository (DSpace, 2013). The growing availability of such tools will have a major impact on the scholarly publishing system and the management of electronic journals.

Finally, various aspects of open access publishing need to be encouraged. The Scholarly Publishing and Academic Resources Coalition (SPARC), an organization that includes universities, research libraries and scholarly societies, has already initiated the process of change. Founded in 1998 by ARL, SPARC aims to be a constructive response to market dysfunctions in the scholarly communication system, and focuses upon policy issues related to this system. SPARC promotes policies and tools to organizations to facilitate alternatives to the current scholarly publishing system. SPARC has supported such initiatives as the National Institute of Health's public access policy, which states:

> The Director of the National Institutes of Health shall require that all investigators funded by the NIH submit or have submitted for them to the National Library of Medicine's PubMed Central an electronic version of their final, peer-reviewed manuscripts upon acceptance for publication, to be made publicly available no later than 12 months after the official date of publication. (National Institute of Health, 2008)

This is clearly a step in the right direction, and serves as a mandated form of 'green' open access for all research funded by the NIH in the US. Through such policies, SPARC encourages the development of scholarly publishing by supporting the scholars, scholarly societies and academic libraries.

Conclusion

In this brief essay, I offer a response from the perspective of an academic librarian in the US who acknowledges that the scholarly publishing environment is in a state of crisis. In reviewing the recommendations made in the Proposition by Harvie *et al.* (2014) and especially their comparison of academic publishing with the music industry, I argue that scholarly publishing is a unique industry because of its indexing, its customer base and its metrics. I recommend a strategy requiring coalition building by academic libraries, and the support of open access methods. Academic libraries, as the intermediary in this business model, need to be more aggressive in building buyer coalitions, in serving as publishers and/or repositories of scholarly content, and as supporters of open access. They should also be skeptical of the publishers' APC model. While I offer an opposing perspective, I praise Harvie *et al.* for their analysis and justifiable criticism of commercial publishers, along with their critical response to the recommendations of the Finch Report. In conclusion, I submit that academic stakeholders must engage with commercial journal publishers in a more strategic manner, however hateful or bitter that reality may be.

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