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Demand sharing and the power of pull

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Credit: Rachel Smith on Flickr CC. Notes from a John Seely Brown talk

Unleash the “power of pull” for your science research

“In a closed society where everybody’s guilty, the only crime is getting caught. In a world of thieves, the only final sin is stupidity” (Thompson 1971).

“Pull allows each of us to find and access people and resources when we need them, while attracting to us the people and resources that are relevant and valuable, even if we were not even aware before that they existed” ([Hagel](#) 2010; Accessed February 26, 2020).

“Sharing” gone massively wrong: academic publishing

Why is Demand Sharing so important to open scientists like you? We are going to explore this question here. Let’s begin with the poster-child for research-sharing-gone-

wrong: “for-profit science publishing.” At the same time you’ve been perfecting your demand-sharing techniques in the classroom, you’ve surrendered your research to one of the strangest marketplace transactions in modern times.

Academics give their research to publishers; give the publishers their copyrights; and also donate an additional sixty-eight million hours a year (Nature News Sept 7, 2018: <<https://www.nature.com/articles/d41586-018-06602-y>>) reviewing the work of others for free. Academic libraries must *each* pony up millions of dollars a year to keep their subscriptions current. The public gets dinged thirty to forty dollars (US) a pop just to read a single article. The process of selecting articles often leads to months or years between discovery and publication, and warps the output toward positive (and false-positive) “sexy science” results. The remainder of research results go unpublished. “Economists may not have terms adequate to describe a market as dysfunctional as the one operating for academic publishing” [Neff](#) (2020; Accessed February 26, 2020) notes.

How did this happen?

Potts (et al. 2017) points to a failure of the publishing capacity of academic societies to scale with the blossoming of science output after World War II:

“The wartime and post-war expansion of public research funding and consequent expansion and globalisation of research communities were soon exploited by an entrepreneur-led proliferation of increasingly specialised journals, following the lead of Robert Maxwell’s Pergamon Press ([Buranyi](#) 2017). The small society presses, struggling to cope with growing scale, were supported and then largely supplanted by the ‘Big 5’ commercial presses: Elsevier (which acquired Pergamon in 1991), Wiley, Springer, Taylor & Francis and Sage. These newly-empowered players brought an industrial approach to the publication and dissemination process, for the first time realising the benefits that these specialised capital and skills could provide by operating at a scale that was unprecedented to that date. The successful publishers grew (and consolidated to grow further) alongside a pre-Cambrian explosion and specialisation of journals to create the modern landscape in which the majority of journals is owned, controlled or at least produced by a handful of globalised companies.”

A committee at the National Academies of Sciences (2018) offers additional historical information:

“The 1990s brought a wave of consolidation among scientific publishers, as Netherlands-based Elsevier acquired Pergamon, leaving it in control of over 1,000

journals (Buranyi 2017 [ibid]). Further increases in subscription prices and the advent of “big deal” agreements between publishers and libraries followed in the late 1990s. Under these agreements, publishers agree to provide online access to a bundle of their journals, including all back issues, priced at a discount to the sum of the individual journal subscriptions (Bergstrom et al. 2014). Despite paying lower per journal prices, total outlays by libraries increased to the point where this has been called the “serials crisis” (Panitch and Michalak 2005[white paper is no longer online]). In 2015, Larivière et al. found that the five most prolific publishers, including Reed-Elsevier, Taylor & Francis, Wiley-Blackwell, Springer, and Sage, control over one-half of all the scientific journal market, and that the profit margins of these companies have been in the range of 25 to 40 percent in recent years (Larivière et al. 2015). According to one economist who studies the industry, this situation ‘demonstrates a lack of competitive pressure in this industry, leading to so high profit levels of the leading publishers that they have not yet felt a strong need to change the way they operate’ (Björk 2017a)”.

Both of these accounts point to older, established cultural practices based on demand sharing within the academy being disrupted and displaced by marketplace profit seeking. By the end of the Nineteenth Century, the academy had taken control of its own research sharing practice through the advent of hundreds of member-run professional societies—each with their own publishing effort. Within these societies, members freely gave up their research for review and publication. University presses added their capacity as well.

In demand sharing, a “demand” is a culturally-grounded request

As academic institutions, the societies and universities demanded research finding from their members, in much the same fashion that students can demand knowledge from their professor in the lecture hall. Sharing is both expected and normative. Merton (1973) noted that:

“The institutional conception of science as part of the public domain is linked with the imperative for communication of findings. Secrecy is the antithesis of this norm; full and open communication its enactment. The pressure for diffusion of results is reenforced by the institutional goal of advancing the boundaries of knowledge and by the incentive of recognition which is, of course, contingent upon publication.”

Societies provided both the means of building the shared, public, academic corpus, and the platform for recognition. Yet this individual recognition was also tempered with the larger sense that all knowledge is interlinked and historically accumulated. Merton (*ibid*) writes: “The communal character of science is further reflected in the recognition by scientists of their dependence upon a cultural heritage to which they lay no differential claims.”

Demand sharing on the open web

Open science efforts in the last twenty years have been centrally focused on refactoring the means of academic publication to take advantage of the opportunities provided by the internet, and to remove the foreign, marketplace, logic in order to reassert the “communal character” of science publishing, grounded in the logic of demand sharing (although they haven’t called it that). Unlinking the act of giving research results back to the science community—which has long been a community norm—from the more recent practice of giving away research results to the marketplace—to own from there forward—restores these results as internal “gifts” within a community guided by demand sharing. There is more. At the same time that open science releases the academy from its recent marketplace bondage (freeing up financial resources in the process), a new, *networked* marketplace for “ideas” in and out of the academy is also challenging the notion of organizational knowledge ownership, in favor of what Hagel (et al. 2012) calls the “power of pull.”

Large corporations, fledgling start ups, and, yes, even ivory tower universities can access an explosion of shared knowledge and lateral learning when they decide to pull information from global networks. “Institutions can significantly amplify the power of pull, making it far easier to connect with a broader range of people and resources and to learn faster from each other than we ever could in the absence of institutions. We must therefore reclaim our institutions—whether from the inside of existing ones or by creating a new generation of our own.” (*ibid*) Open science works to reclaim the academy as learning hubs that can pull information from academy commons resources across the planet.

Goldman and Gabriel (2005) observed that “innovation happens elsewhere”; that the crowd- and network effects of open communities could assemble more talent, a greater variety of knowledge, and effective collective intelligence(s) well beyond those that any company/university/lab could afford to assemble internally. Their arguments were informed by Bill Joy, a co-founder of Sun Microsystems, who wrote in the 1990s: “no matter who you are, most of the smartest people work for someone else” ([Wikipedia](#)).

This is known in management theory as Joy’s law. And it holds ever more strongly for your university, your agency, or your laboratory.

Many corporate management experts point out that openly sharing ideas across corporations (Golden and Gabriel 2005; Leadbetter 2005

<https://www.ted.com/talks/charles_leadbeater_on_innovation?> Accessed April 21, 2019), and gathering ideas from customers and external sources (Bissola et al. 2017), will lead to better, faster corporate innovation. In fact, you can say, with some authority, that the future of innovation in the academy will require the logic of demand sharing.

The marketplace logic of intellectual property ownership and practice of demand sharing for knowledge are antithetical. They do not play well together. For-profit efforts to include “open practices” invariably lead to open-washing, and the final closure of collected resources as intellectual property (Neylon 2017). Open for them means “free to acquire” and mainly serves to lower their resource costs. Demand sharing is an older practice, older in the academy, and still older in the species, being a primary form of cultural practice over thousands of years. It privileges internal goods over the external goods and incentives of the market.

To understand this further, jump to (See: *Gifting and Reciprocity*), where you can explore how each act of demand sharing builds a social bond that can be used to stimulate other occasions of sharing. The academy also needs to break completely from seeking to own intellectual property inside individual organizations ([*Against Patents in the Academy*](#)) in favor of academy-wide ownership supporting a shared resource commons for intellectual property. Current work on the creation of “Civic Trusts” offers a productive way forward for the academy (See: The [Civic Trust](#); Accessed February 26, 2020).

Bibliography: Open Scientist Handbook References