INTRODUCTION

Christensen: What do scholarly communication initiatives such as protocols.io, The Winnower, Altmetric, and Open Library of Humanities have in common?

And how about ventures such as Ubiquity Press, Open Access Key (OAK), Hypothes.is, Science Exchange, Dryad, PubPeer, Authorea, Center for Open Science (COS), Scalar, and Publons?

Not sure? Well, not only do they represent new innovations in scholarly communication, but they also share the distinction of being launched independently of existing publishers.

In fact, research by Kramer and Bosman clearly shows that driving forces in publishing innovation are not publisher led—at least not by existing publishers. (To chart this changing landscape in scholarly communication, Kramer and Bosman are currently running a survey to learn more, which I highly recommend you take part in.)

Which brings me to the crux of this post: To share the dynamic, sometimes humorous, definitely charged and energizing discussion that took place around this topic at the recent annual meeting of the Association of American University Presses (AAUP) in Denver. Kevin Hawkins and I framed a panel session titled “When Publishers Aren’t Getting it Done” (no doubt a title worthy of a masochism award at a publishers meeting!), and I then invited a lively group of scholar-led innovators to be a part of our panel.

Rather than opt for a lecture-style format, I prepared questions for the panel and the audience instead. As the panel kicked off, the room was full of jokes and curiosity from panelists and audience. The panel consisted of voluntary sadists Lenny Teytelman, a biologist turned cofounder of protocols.io; Joshua Nicholson, a PhD in cell biology turned cofounder of The Winnower; Stacy Konkiel, a librarian turned marketing and metrics maven, formerly of PLOS, Impactstory, and now with Altmetric; and last but definitely not least, Martin Paul Eve, Senior Lecturer in Literature, Technology, and Publishing, and cofounder of the Open Library of Humanities. Oh, and me, Neil Blair Christensen, Director of Digital
Business Development at UC Press and part of the Collabra team (and who may also qualify as a sadomasochist for convening this panel to begin with).

The following is a collection of answers written by the panelists after the event. It may not do justice to the dynamic discussion at the event, but it may provide some ideas that publishers, and in particular mission driven university presses, should consider.

Research by Kramer and Bosman on innovation in scholarly communication shows that the largest share of innovation in academic publishing does not come from existing publishers. From your perspective, why are existing publishers not responding to new opportunities as others do?

Nicholson: Existing publishers have not been forced to respond to new opportunities. They currently have enormous profit margins and because of this don’t need or don’t want to test different models. Much of the innovation going on in scholarly publishing has arisen not from a primary desire to make money but to improve scholarly publishing. Major publishers have figured out how to make a lot of money, we want to figure out how to make scholarly publishing make sense.

Eve: I think the main reason that innovation often occurs outside of established centres of practice (in this case, publishers), is to do with risk and the different types of risk at different institutions. Indeed, “publishers” is not one homogeneous category. Some publishers do make an extortionate amount off the backs of academic libraries. Their motivation will be to increase their profit margin in line with market forces. Other publishers, like university presses, are often only one lawsuit away from bankruptcy with a relatively small staff-base. Their priority will be to protect the jobs of those friends and colleagues around them while serving their mission-driven focus to help scholars communicate and publish.

In both types of publisher here (representing just the poles on a spectrum), there isn’t a huge degree of scope for “innovation”. For those doing well, the incentive is a situation of “if it ain’t broke, don’t fix it”. For those at the more precarious end of the spectrum, changing the one thing keeping them afloat may not seem the best proposition.

With this type of logic in mind, I do not find it surprising that pushes for radical change come from outside these spheres. Starting new organizations limits risk and enables us to try things. Of course, the risk of missing the opportunity cost may become too large for traditional publishers at some point...

Teytelman: I would ask a different question. Why do we expect the publishers to innovate? We don’t expect the cable television companies to launch Netflix, don’t expect NPR to create Pandora, don’t expect Hilton to develop Airbnb.

Publishers are content providers, not software developers. A tech startup’s strength is user interface, design, mobile/web development. Glance at the Nature website, and you quickly realize these are all publishers’ weaknesses rather than strengths. [PeerJ is a notable example to these deficiencies, but then it’s a startup...]Moreover, a publisher is often just not in the position to succeed with an innovative effort. Take post-publication peer review. Even PLOS, a juggernaut of innovation, couldn’t do this. They rolled out comments and there was essentially no uptake. That’s because authors don’t want to log in to three thousand different journals to comment. But once PeerJ, PubMed Commons try it, suddenly it works. And hypothes.is is doing it right and I am very eager to see their rollout.

I think some of the big publishers are recognizing that this innovation is nearly impossible to foster internally at a large corporation. Elsevier purchased Mendeley. Wiley partnered with Publons. Timo Hannay of Digital Science spent many years at Nature trying to innovate, only to realize that it’s futile, and hence Digital Science.
Konkel: You can’t write innovation into a strategic plan with positive results, but that’s exactly what most organizations try to do. Publishers (and many university presses) tend to be large, traditional, top-down organizations (or part of such organizations—i.e. universities). In these kinds of organizations, everything has to be planned for well ahead of time and failure often isn’t seen as being acceptable (in the case of commercial publishers, failure is a waste of stockholder money; in the case of universities, it’s a waste of taxpayer money).

Aversion to failure is a barrier to innovation. To truly innovate, you need a) to be willing to fail until you succeed, b) an organizational culture that’s flexible and responds quickly to change, because you also need c) a whole lot of humility—you need to be willing to admit that what you thought you knew about scholars’ needs is totally wrong, and the grit to walk away from something that you spent the last few years building in order to “pivot” (i.e. start all over again, sometimes from scratch).

Take on the other hand, the approach of Digital Science—essentially an incubator like Y Combinator, giving access to expertise, connections, and (importantly) the capital and stability needed by startups (including the company I work for, Altmetric). Digital Science provides funding and the access to the infrastructure of a large company (giving us desks to sit at, an internet connection, etc.). But Digital Science also allows each of the companies it supports to operate independently, setting our own goals, growing our own products, working along our own timelines, and so on. As Lenny points out, it’s a way for a very traditional organization to innovate.

So, I guess there are two ways that traditional organizations can innovate. Incubators are one way to foster innovation, another way is to reconfigure the way your organization is managed. I’d recommend reading Reinventing Organizations for that.

Christensen: Though I’m not a panelist, I have an urge to share my own thoughts to this question. When I left commercial publishing to join University of California Press, I wrote down three commanding principles: 1) solve the problems of the academy first, publishers second; 2) facilitate, don’t control, and 3); don’t be greedy. If you turn these statements around, you have a baseline for what I think many publishers are getting wrong. They get caught up solving their own problems first; they design to control knowledge exchange; and their margin expectations make them defensive and unmatched for the risks and opportunities inherent to innovation. To visualize this dynamic, a publisher once told me to imagine someone standing with one foot on a pier and the other foot on a boat. The boat is not moored and is starting to slip away, but it’s not yet uncomfortable enough to jump, and the person may wait until it’s too late. That to me sums up much of what is going on. A related problem is that many smaller publishers with opportunities to change look to an oligopoly of bigger publishers for inspiration. They seem not to recognize that the designs of bigger publishers are neither innovation nor intended to work for smaller publishers. Evidently, business is doing so well for large publishers that the motivation to innovate amongst these, who also pocket a large proportion of global publication spend, is subdued as evidenced by Kramer’s and Bosman’s research. Change is coming but they’re hooked on a very lucrative model that customers, despite complaints, continue paying for.

There seems to be a stereotype persona emerging in scholcomm innovation of a PhD, often in biomed, with coding ability who experiences a need first hand and decides to design a solution because no one else is. Does that fit your experience, and can you reflect on why you, or those you work with, got into changing scholarly communication?

Nicholson: I do have a PhD in biomed but I have zero coding experience. I founded the Winnower because so many aspects of scholarly publishing are broken…. that is broken for researchers, not publishers.

Teytelman: I don’t personally fit this well. Yes, I am a math major, computer science minor, genetics
PhD. But that just means I can analyze your genome. Ask me to make a website or an app for you, and I will break down in tears.

What is true is that there are countless examples of founders who identify the need. Venture capitalists call this the “pain point.” And good investors typically look for teams that have a deep experience in a particular problem and their solution is borne out of a serious frustration with a problem. Since scholarly communication today is basically a series of outdated frustrations, it’s a fertile ground to startup ideas.

**Eve:** I am a (tenured-equivalent in the UK) literature professor but also a computer programmer by professional background. I write some conventional literary critical work, some history of technology material but also develop unsupervised XML typesetting software and am particularly interested in non-classical-economics-based solutions to scholarly communications economics. So, I’m not biomed, but I tick a fair few boxes. I feel convinced, though, that at least part of my drive is strongly humanistic; I believe in the power of the humanities disciplines to enrich human lives and understanding and it frustrates me that we have increased technological capacity to disseminate work more widely, but don’t.

That said, I am not a technological determinist. All the problems of scholarly communications are social, not technological.

**Konkiel:** Are all scholcomm innovators biomed coders? Yes and no.

On the one hand, you do have biomed coders with PhDs, who founded companies to address a “pain point” that directly affected their lives. Examples of this group include Impactstory, Altmetric, ResearchGate, and rOpenSci.

On the other hand, you’ve got entrepreneurs who see that there’s an opportunity in the market. The folks at Plum Analytics and Google Scholar fall into this group.

And then there’s groups that form from members of the larger scholarly community who don’t necessarily code themselves, but want to alleviate a “pain point” and perhaps have the political capital to found a non-profit, apply for funding, and then pay others to code a solution. Groups that fall into this category include PLOS, ORCID, and Zotero. Put another way: Harold Varmus likely wouldn’t have been able to hand-code the Open Access publishing platform that runs PLOS publications. But he was instrumental in securing the money and community support needed to launch PLOS as a non-profit, OA publisher.

As for why I got into scholarly communication: I’m a librarian by training, and most librarians are called to the field because we believe in the power of access to information. That’s what drew me to working in institutional repositories and OA publishing at PLOS. And while I PLOS, I learned about altmetrics, which resonated for me because, at their core, altmetrics are about valuing the work of all scholars, not just those that meet very specific, traditional criteria.

**University presses are extensions of their parent institutions, but when looking at their involvement in campus innovation, some say they have lost some sight of the needs of parent communities beyond traditional formats and models. From your experience, what could they do differently to engage with innovative people at those institutions? Are there meaningful roles for university presses to collaborate with scholcomm innovators, which commercial publishers and investors are not filling? What would you like to see university presses do/not do?**

**Nicholson:** University presses have an enormous potential to influence scholarly publishing. They have illustrious reputations and accordingly hold considerable weight in the eyes of scholars. Even if
they do not have the financial resources to support new initiatives, they could help by leveraging their reputation for good. Presses and startups should be proactive in forming working relationships.

**Konkiel:** To Josh’s point about being proactive, these relationships are best formed when both presses and startups “get out of the building” (that is, when they actually talk to scholars to learn about what they’re working on and what they need.) Even innovative people like startup founders can sometimes work with blinders on, assuming they know best. Presses should get to know their potential authors, subscribers, and readers by literally knocking on doors, asking researchers and librarians what the most difficult things about publishing are, and then working with startups that address those difficulties. And by knocking on doors, sometimes presses will also get the chance to meet nascent scholcomm startup founders at their institution. Getting out of the building is a great opportunity to make connections.

**Teytelman:** There is a tremendous opportunity. Getting venture capital for something like protocols.io is extraordinarily hard. Life science VCs invest $20m and up in vaccines and drugs; they don’t do software. The generalist software VCs know nothing about scholarly communication and biomedical research, so most won’t touch us.

Furthermore, adoption in the academic community can be helped by the stamp of a University Press. Scientists are afraid of startups backed by VCs - afraid of startup going bankrupt or doing nefarious things with the data. As mission-driven publishers, their backing can be a great boost for a startup.

Speaking of adoption, as publishers the university presses have an understanding of academia and how long adoption can take. Where venture capitalists who invested in Linkedin expect 50,000 new users a day, publishers know that 5,000 new scientists in a year is great for a scholarly communication startup.

**Eve:** I like and value university presses, although they are (in my anecdotal experience) sometimes fairly conservative. Again, though, it’s also important to note that UPs are not a single group. A few are very profitable and return income to their (usually already-wealthy) parent institutions. The remainder are usually not so well funded. Many are expected to pay their own way and do not receive institutional subsidy. That’s a hard world in which to be radical, from either side.

The thing that unnerves me most in the UP sector at the moment is the rise of new UPs at institutions for reason of brand and student recruitment. Indeed, I predict we will see a wave of new UPs forthcoming in coming days, driven by the availability of (excellent) free software and technological providers. These presses will be born digital and born OA, which is to be applauded. The institutional drive to create them, though, is usually as an arm of the university’s reputation and brand: prestige! (Which, as I have written elsewhere, fuels many of the economic problems of ScholComms.)

This is coupled with the fact that the model that they are usually opting for -- article and book processing charges -- is not really scalable, especially in the humanities disciplines. It can thrive at a certain level (when funders will provide the money) and exist there, so it is sustainable. APCs/BPCs, though, tend to concentrate costs. They ask institutions to bear the entire cost of publication. Subscriptions, by contrast, spread cost and risk. This makes it hard for APCs to grow in all but the wealthiest institutions and departments. So, I’m a little more sceptical that many of the new presses are truly “innovative”, but rather riding the inevitable wave of an open future, clinging to a business model cut off by the incoming tide.

**Are catalyst/seed/venture/ fund programs at parent institutions a potential sandbox for scholars and university presses to forge innovative scholcomm relationships (finding each other, sharing ideas, coaching, and funding?) Do you see those potential relationships being forged before, after, or outside those programs?**
Nicholson: I was wary to do anything with campus funding or support as I was uncertain what they’d want in exchange. Would they take control? Even if these concerns are unfounded, the fear alone kept me from reaching out to them. Alternatively, no one reached out to me to offer support or guidance beyond an interview, which I did appreciate doing.

Many institutions also seem to think they already have a solution to any problem presented to them. Student publishing? We have a student journal or a repository! Starting a journal? Use what all these other publishers are using! Institutions need to listen to understand not just listen to fix. It’s a library or institution’s form of “mansplaining.”

Teytelman: The campus-based programs can make a world of difference. It’s about the culture of support for innovation and startups, not about trying to profit off of a possible exit. Many universities are right now realizing how helpful they can be for first-time founders, and for scholarly communication innovation, partnership with a University Press can be a heavenly match.

Eve: Incubation of innovative scholarly communication projects at universities is a great idea. But, they need long-term economic models that spread costs among institutions while remaining openly accessible. This is the challenge.

I, personally, think VC is a very bad idea if you want to remain mission focused. Everyone needs initial capital to do good work, but the corrupting influence of a need for an exit strategy strikes me as too focused on profit and not enough on education. Philanthropy and grants (with a long-term business plan so grants are not needed in perpetuity) are my favoured routes but, of course, they can’t fund everything.

Konkiel: I think catalyst or incubator programs can be successful, but you need involvement from the larger community to really make it work. Funding alone is not enough; what many founders really need is access to a “brain trust” that can give them good advice.

What does that look like in practice? Well, program “alumni” should be involved, giving advice and mentorship to current program participants. Members of the larger state and national startup communities should also be involved as mentors, even if they’re not working strictly in scholcomm, as they can help make connections to funders, legal expertise, and crucially can help founders apply “real world” experience in an academic startup context.

There are two simplified lines of development approaches: build it yourself or partner. What would your advice be to publishers interested in advancing their role and mission, and can you share some successful examples of that approach?

Nicholson: Because our model is different than most out there, we’ve had to build much of the Winnower from scratch. Nonetheless, we don’t wish to reinvent the wheel for everything and hope to build off of open-source tools available that may benefit us.

Teytelman: Of course I am biased as a startup founder, so take my answer with a grain of salt. As I said above, it’s strange to expect the Hilton Hotel chain to develop Airbnb. University Presses are not software developers, and the risk and challenge of creating an amazing product/solution for scientists seems like a poor fit for the publisher. Partnering with and supporting the startup on the other hand...

Konkiel: I’d advise to leverage others’ solutions whenever possible, especially open source solutions. It’s not quite the same as partnering, but also not as resource-intensive as building it yourself.

In my experience working in libraryland, there’s a lot of “not invented here” syndrome in academia, to the point that it hinders innovation. For example, sometimes you’ll see libraries insist on (very slowly) building institutional repository software from scratch to meet their very specific needs, rather than
leveraging open source solutions like the Hydra-based Sufia platform, which can get an IR running up and quickly, while allowing one to focus their efforts on adapting the code to address specific use cases and functionalities. Doing the former is, by and large, a waste of time and efforts.

Christensen: There is a time and a place for everything, but my experiences in publishing tell me to partner when possible - in particular for publishers who have their eye on mission. Right now, at University of California Press, I think we have promising collaboration examples in Collabra and Luminos working with a range of partners, incl. Ubiquity Press and Open Access Key. Other collaborations, include a very interesting initiative with Scalar, a Mellon funded project with California Digital Library, as well as a nascent clinical reference project with stakeholders in medicine. Together, you just get more done.