New Roles for the Road Ahead: Essays Commissioned for ACRL's 75th Anniversary – Draft for Comments

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This document is an initial draft. The authors encourage comments and discussion through a CommentPress site at http://acrl.ala.org/newroles/.

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Section 1: Framing the Road Ahead

Introduction: Rules and Roles

By Lorcan Dempsey

Rules and roles aren't what they used to be. In fact, they change reflexively as education, technology and knowledge creation practices change, and change each other. Academic libraries have to make choices about priorities, investment and disinvestment, in a complex, continually emerging environment. They have to learn how best to position their resources, and more difficult maybe, they have to unlearn some of what has seemed natural to them. We open this section with some brief notes on education, technology, and scholarly publishing.

Education. Academic libraries are a part of the changing education enterprise, and the character of that enterprise is what will most influence an individual library's future position. There is pressure on university finances as public funding continues to fall, as costs increase, and as the value of a four year residential experience is being questioned. At the same time, educational options diversify as a variety of providers

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looks to meet vocational and other needs. Learning, teaching and research practices are evolving. Blended, online and flipped classroom models are common, in various combinations with residential provision. Data- and computation-intensive STEM research is carried out in large scale collaborative digital formations. Increasingly, scientific knowledge is digitally recorded in, and dependent on, the complex infrastructures where the research is done. Digital scholarship is variably enacted in the humanities and social sciences. Recent developments point to a future where credentialing, course creation and teaching may be unbundled, as different providers and provider models evolve. This background is reshaping planning in higher education institutions, as they consider what their distinctive contribution should be, and the combination of approaches that makes sense for them. It is likely that we will see increasing differentiation. A research elite will concentrate scientific research, and ensure that they have research infrastructure connected to global circuits. Career- and convenience-based colleges will focus on student success and relevance, offering ongoing learning opportunities. Some institutions will focus on a particular disciplinary, social, or community strength. Others will have broad-based regional roles, as important social and economic hubs. Against this context, it is no surprise that there is a lively public and public policy discussion about the purposes of education, its value and its values.

Technology. The network and digital technologies are now central to academic enterprise. Research, learning and knowledge creation practices are enacted in

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technology environments, and are inseparable from them. This has major consequences. It dramatically reduces interaction costs making new forms of collaboration and service provision possible. Think of shared research infrastructure in the sciences for example. Think of the emergence of network level information and workflow hubs (Google Scholar, Wikipedia, Khan Academy, SSRN, ResearchGate, Amazon, GitHub, GalaxyZoo, and others). As more of the research and learning life-cycle is carried out in a digital environment, the points of intersection with learners and researchers multiply, and the opportunities to provide support for creation and curation grow. We have grown used to new forms of connection and sharing through social networks, and these are now spreading into scholarly behaviors. As work is increasingly carried out in digital environments, activities leave a data trace, which can be aggregated and mined to provide analytics which may be used to support a variety of goals (student retention, resource usage metrics, and more). Together these trends make it important for libraries to think about their own systems and services in ways that interconnect with the communication and publishing mechanisms that are common on the web. They also need to more actively support resource creation, as well as curation and consumption.

Scholarly publishing. We have been used to thinking of the scholarly record in terms of the final output, the published article or book. However, in the digital workflows of today, we are interested in more than this. The process of creation generates models, research data, educational resources or working papers which are themselves of

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scholarly or learning interest and become materials to manage and disclose effectively to interested parties elsewhere. The heightened interest in communication of research results by national science policy bodies, the historic sourcing of academic reputation management and validation with publishing organizations outside the academy, and the growth of interest in data, have combined to sharpen discussion around the current model of scholarly publishing. This is in turn is an elaborate apparatus of commercial, educational, and not-for-profit elements. Publishers and related organizations are developing workflow and research analytics services. In parallel with this, universities are looking at supporting original digital scholarship, embarking on publishing initiatives, and creating organizational frameworks for better organizing the range of institutional materials to share with others (from digitized special collections, to research data and preprints, to open educational resources).

This is the context in which libraries are now working, and it makes choices about resource allocation, skills and priorities more pressing. This section explores that context in more depth.

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Evolution in Higher Education Matters to Libraries

By Steven Bell

Take Nothing for Granted. In the spring of 2014 the Middle States Commission on Higher Education (MSCHE) proposed radical revisions to standards for colleges and

universities contained in its *Characteristics of Excellence* (MSCHE, 2006). This action generated considerable angst among academic librarians who reacted to the unexpected insertion of new language that completely eliminated any mention of librarians or information literacy from the standards. As one of the first national accrediting bodies to move from input/output measures for libraries to the incorporation of information literacy into its standards, MSCHE was considered among the most forward thinking of its peers. Mid-Atlantic region academic librarians were quite rightly puzzled by the turn of events.

Owing to a well-organized advocacy network, academic librarians were able to generate considerable comments in response (Bell, 2014b). At town hall meetings throughout the regions, academic librarians turned out in force to speak their concerns about the revised standards. At the Philadelphia town hall MSCHE representatives indicated their intent to rectify what they termed as an "oversight" with respect to libraries and information literacy. At the town hall that followed, in Albany, the officials allowed only one librarian to speak in representation for the many present, in a symbol of acknowledgment that the message had already been heard loud and clear.

Ironically, the academic librarian community was so effective in advancing information literacy into the curriculum, that in their desire to streamline the standards, MSCHE assumed that language was no longer necessary. As higher education experiences radical change, in what other ways will academic librarians demonstrate the curse of

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being too successful for their own good? Faculty and students are so accustomed to the highly efficient delivery of digital scholarly content to their desktops and devices, that they no longer question its point of origin and simply think that it flows effortlessly through the institution network as electricity flows magically out of wall outlets.

Though a small event in the overall scheme of where academic libraries fit into higher education, the story speaks to the rapidly evolving change in higher education. Forces that are causing accrediting bodies to transform their standards and role as the gatekeepers of quality higher education are just one piece of how the entire industry is subject to disruptive forces, mostly external. Yet we can see how even a minor change, one that may be of little interest to the majority of higher education stakeholders can significantly impact the future of academic librarianship. What the Middle States episode proved once again is that academic librarians are effective advocates for their community members, and they will organize and raise their voices to support what is in the best interest of those members. That role, while not new to us, will grow in importance as education, publishing, technology and related industries evolve in ways that may challenge our interests.

Higher education is still in the infancy of great period of experimentation. Writing at the Chronicle of Higher Education, Jeff Selingo observed that higher education is currently in an "evolutionary moment" in which early experiments will fail but that "without these early experiments, we can't ever evolve to what comes next." (Selingo, 2014a). As with

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any period in which many new ideas and methods are being put to the test there are great opportunities but also the danger that following these new paths will lead us astray from our mission and core values. Whatever new roles academic librarians adopt in this evolutionary phase, they must all carry some element of change awareness. When things change quickly, the danger is that the comfort of complacency will leave us on the outside looking in as opposed to being active participants in the change process. That's a lesson the profession needs to take away from the Middle States episode. The academic librarian community assumed that because Middle States was a supporter of information literacy and was a pioneer in reflecting it in their standards and accreditation process, that their standards would always include language about libraries and information literacy. Had a few librarians not taken a closer look at the new proposed standards, things might have turned out quite differently.

Alt-Higher Ed. The higher education industry has seen its share of troubles since the great recession of 2008. The assault on public higher education has led to deep financial setbacks at even the most venerable of state systems and their flagship institutions (Bell, 2012). Fast forward to 2013 and Moody's Investor Services issues a negative outlook for all of higher education that includes even the most elite institutions (Moody's, 2013). Nothing changed in higher education to convince Moody's to adopt a more optimistic perspective in 2014 (Troop, 2014). In the intervening years fundamental questions about the nature of college are asked with regularity. Sparked by the public outcry about high tuition and student debt, pundits and scholars began to

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ask, in 2011, if college was still worth the investment. (Bell, 2012a). They questioned if everyone needed a college diploma. Gates, Jobs and Zuckerberg obviously gave proof that not everyone did. The authors of *Academically Adrift* (Arum & Roksa, 2012) sparked a debate about the value of a college education, whether students actually learned much and what does it actually mean to be college educated. In response to these questions, billionaire Peter Thiel famously created a reverse scholarship program that paid students to drop out of college and join his entrepreneur's academy. This re-examination of the fundamental value of higher education led to even more focused questions about the value of the liberal arts and whether the humanities were still relevant in an age when students needed career skills in order to pay off their student loan debt (Bell, 2014a).

What emerged from all this questioning was an acknowledgement that, yes, for the vast majority of Americans, there was value in obtaining a diploma and that it still did make sense for high school students to aspire to attend college (Carlson, 2013b). Student debt continued to loom large in the minds of mainstream Americans and the media, and it contributed to the launch of a wave of experimentation in higher education. What emerged was a new, somewhat parallel system of alternate higher education that would grow to exist simultaneously with traditional higher education, and would offer students multiple tracks to navigate on their way to a diploma. (Bell, 2012b). Whereas traditional higher education is linear, as shown in figure 1, with students starting their education as freshmen and proceeding to earn the appropriate amount of credits at a single

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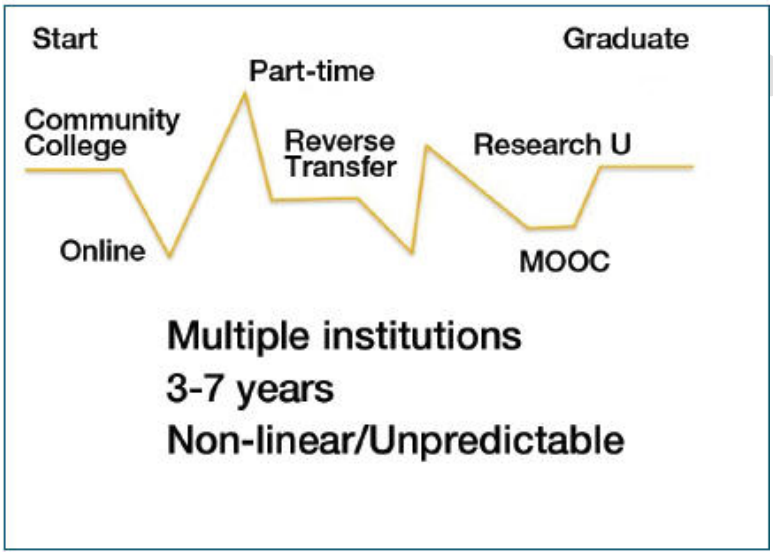
institution until they accumulate the number needed to graduate, alternate higher education is non-linear and may include time spent at multiple institutions, as shown in figure 2. Alt-higher education is where the evolution of higher education, of which Selingo spoke, is happening.

FIGURE 1: **TRADITIONAL LINEAR MODEL**

FIGURE 2: **ALT-HIGHER ED**



Among those who contributed to the growth of alt-higher education was Sebastian Thrun, founder of Udacity. A Stanford professor who admired Salman Khan's use of technology to disseminate learning, Thrun decided to open his online course up to the

world and in doing so made MOOCs an integral component of alt-higher education. Within 18 months of Udacity's start, two other large-scale MOOC providers formed, Coursera and edX, the *New York Time's* declared 2013 the Year of the MOOC and the rest is history. At one point Thrun boldly predicted there would be only 10 higher education institutions in 50 years. Within a year, much to the delight of his detractors, Thrun declared that his MOOC offered a "lousy product", and shifted Udacity's focus on corporate continuing education while also announcing its remaining MOOC courses would begin charging for certificates of completion (Chafkin, 2013). While the naysayers pointed to this turn of events as a sign of the demise of MOOCs, it was just one step in the evolution of higher education to which Jeff Selingo referred.

Librarians Look Ahead. In the search to define and shape new roles for themselves, academic librarians were quick to engage with the world of alt-higher education. In 2013, across multiple platforms, they explored what role they might play in the MOOC environment. Through symposiums, conference presentations, articles, webinars and informal discussions, academic librarians shared ideas for how they could integrate library and research services into the design, delivery and support of alternate forms of higher education. As is often the case when our profession blazes a trail into new territory there was information to share about initial projects and future possibilities, but also the uncertainty about whether or not academic librarians could truly connect with learners in the alt-higher education space - and what these developments might mean for our current and future relevance. The big question on everyone's mind

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remains “What are concrete examples of how academic librarians can help with MOOCs and other forms of alternative higher education?” Answers are beginning to emerge.

While academic librarians may be grappling with how to make licensed database content available to students who hardly fit our traditional notions of an enrollee, they are making advances in helping faculty develop learning objects, providing support for copyright clearance or directing faculty to open resources, creating resource guides and connecting students with local sources for research support. Instructional support for course research is another service that academic librarians are successfully transferring to the distance learning world, but it’s less clear how to make it available to the massive learning space. As other types of alternate higher education systems emerge academic librarians will need to determine if they can fit their traditional service package onto a form of education meant to break the constraints of the way it’s always been done. Competency-based higher education, for example, while advantageous to certain students, presents considerable challenges to academic librarians who want to serve the students. It is quite possible that students can earn competency-based degrees without ever attending a traditional class setting, in person or online. How exactly does an academic librarian connect with those students?

Looking ahead, current trends suggest that alt-higher education will expand and increase in offerings. Factors such rising tuition, fear of student debt, uncertainty about employment, need for flexible learning arrangements, expectations of learning while

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working full time, desire for competency-based programs and other concerns pushing degree seekers towards more affordable options and flexible options will all move higher education in new directions. Libraries that stay committed to traditional service delivery will experience difficulty in making the shift to the new road. In the long-term there will always be families that will pay private institution tuition in order to gain access to the traditional college residential experience, and those institutions that can provide it will no doubt offer the types of libraries to which we are now accustomed. Over the next decade, predictions are that as many as 1,000 regional, tuition-driven, non-distinctive colleges and universities, both public and private, will close for lack of students. (McDonald, 2014) Those that manage to survive will likely do so by transitioning to alternate forms of education, and their library services will no doubt be quite different from what we see today.

With more students swirling their way through higher education it is possible that library service may shift from an institutional to a consortial focus (Selingo, 2012). How, for example, might we deliver library instruction to a student who may only be with us for a few select courses or who is receiving credits for competency-based learning and is gaining more credit for learning that happens outside the classroom. Knowing that students are shifting from institution to institution, physical to virtual, fee to free and credit hour to competency, academic librarians may want to respond with more aggressive cooperative services. This way, we may have some assurance that students are exposed to a shared instruction system and therefore gain some skills that can be

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applied to research at nearly any institution. To avoid the constant creation and termination of accounts, perhaps a student has a single account that is honored by any consortial member. Just as we now have academic librarians dedicated to delivering services to distance learners, we may see special positions in academic libraries for Creative Learning Specialists who focus on responding to the needs of alt-higher education students for whom higher education is achieved with multiple institutions with all types of delivery platforms. The job of the Specialist is to provide the level of support that gets the students through programs and successfully graduate.

SIDEBAR: *New Roles - Creative Learning Specialist*: Academic librarians traditional roles were defined by traditional functions, such as reference or instruction, or perhaps by a subject specialty, such as English or education. For the road ahead, we are likely to see many more highly specialized functional areas within the academic library. While these new roles will likely reflect some of those traditional skill areas, such as reference or collection building, they will be shared responsibilities among all staff and far less the defining element. Rather these new roles are largely defined by the special function they encompass. As higher education evolves to include many different types of delivery systems, each allowing for different segments of the learner market to match themselves to the system that best suits their lifestyle and learning needs, academic libraries may want to design a new position for the Creative Learning Specialist (CLS). The CLS is a librarian with strong skills in instructional design and technology, and is able to identify and communicate with other faculty those pedagogies,

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methods and assessments that will best help integrate research skill development into the curriculum.

The Student Body is Changing

By Steven Bell

Demographics matter to all of higher education, and are vital to tuition-dependent institutions. The rate of population growth—0.7 percent in 2013—has not been this low since the 1930s. After many years of a growing or stable population of traditional age college students, the numbers are shifting and the tide is turning against those institutions whose fates depend on maintaining a constant or growing enrollment. Nationally, in spring 2013 college enrollment was down nearly 1 percent, continuing a 2.3 percent decline over the previous year. (Mangan, 2014). Demographers are predicting with great certainty that the number of graduating high school students will decline in the Midwestern and Northeastern states and will remain so for at least the next ten to fifteen years. For every 100 18-year-olds nationally, there are only 95 4-year-olds. Every indicator suggests that colleges and universities will face a shrinking pool of applicants. (Lipka, 2014).

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Not only will there be fewer potential students for colleges to battle over, but the pool itself will go through some considerable change. Looking at high school graduates, there will be fewer Black and White students and more Hispanic and Asian-American students. Many of the next generation students will be the first in their families to attend college and will more likely be from a low-income household. In addition to population shifts, as the economy recovers from the 2008 recession, more adults return to the workforce further depleting enrollment at community colleges and for-profit institutions. The colleges and universities that stay healthy are those that will learn to adapt to these changing demographics and the new population of students it will bring. They will need to find a way to attract students from beyond their own regions. They will need to accept classes with greater numbers of at-risk students. They will need to recruit international students more aggressively. (Hoover, 2014).

Sebastian Thrun's prediction exaggerates the demise of most colleges and universities, but there may be some merit to it given a few recent closings. While it has been quite rare to hear of a college or university laying off faculty, merging with another institution or closing entirely, in 2014 and beyond this news will become more commonplace. For small to medium-sized tuition-driven colleges and universities, even a slight decline in expected enrollment can be disastrous. Depending on its size, a loss of just 15 to 20 students can have a major financial impact on the institution. Enrollment at Pennsylvania's 14 state schools of higher education is down 6 percent in the last three years resulting in the closure of academic programs, faculty layoffs and talk of possible

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reorganization of the system. The title of a news report from Bloomberg spoke volumes about the seriousness of the situation. Titled “Small U.S. Colleges Battle Death Spiral as Enrollment Drops” it profiled Dowling College as an example of the typical struggling institution. (McDonald, 2014). Dowling is just one institution reeling from demographic change. But it’s not just small institutions that are at risk. Quinnipiac University, in spring 2014, laid off 16 faculty owing to lost revenue from declining enrollment.

Changing demographics and employment patterns will lead to greater competition among regional institutions. For example, Widener University, a private, tuition-driven institution located in a suburb of Philadelphia, reported being 70 students short of its enrollment target for the incoming class of fall 2014. In attempting to better understand the forces behind the significant decline from the previous fall, the enrollment manager discovered that other private colleges and universities were also falling short of targets, and it resulted in a ratcheting up of the merit offers being made to prospective students. In other words, to fill the fall class the institutions were trying to outbid each other’s offers in a shared enrollment pool. Students with GPAs under 3.0 and with SATs below 1,000 were being offered discounts up to 80 percent on the tuition sticker price. It’s as if these non-elite institutions are behaving like competing car brands, each fighting for the consumers by cutting the price or increasing the incentives. This story provides a glimpse into the future of higher education where efforts to poach students with offers too good to refuse may become more commonplace. (Rivard, 2014).

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Make a Difference. There may be little academic librarians can do to combat the change in demographics, but changes in their roles might help their own institutions to be more competitive in a troublesome demographic future. Academic librarians are experienced at working in consortia to share resources. This role may need additional emphasis when enrollment declines, and additional efficiencies are needed to sustain the library and institution. It may require an intensified level of resource sharing, and negotiating better licenses that are more hospitable to the sharing of electronic resources.

With fewer students enrolling, retaining existing students – each both an investment made by the institution and a revenue source - will be more critical. Academic librarians can expand on their approaches to engaging with students in ways that will keep them from dropping out. That's why today's research and program experimentation into the role of the academic library for improved student retention and persistence to graduation will be critical on the road ahead. Existing research demonstrates that when institutions identify their at-risk students early on and then provide point-of-need support, it makes a significant difference in keeping them retained and academically successful. Academic librarians can develop new roles that will allow them to participate in these efforts by being early responders to provide students with research support. Opportunistic academic library administrators will capitalize on opportunities to get librarians integrated into every campus strategy for enrolling and retaining students in a world where there are both fewer students and they are no long defined by traditional

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age, race, gender and ethnicity factors.

Technology Co-evolves with Organization and Behaviors

By Lorcan Dempsey

This section is in two parts. The first considers ways technology has been stitched into the fabric of organization and behaviors. The second part builds on this observation to look at some ways in which technology is influencing library direction and organization. The focus is broad, and looks at how technology is co-evolving with the systemwide organization of libraries, with materials and workflows, and with interactions between people, resources and libraries. These are examples of trends that are more far-reaching than specific technologies or applications, and need to be considered more purposefully by libraries as they position themselves in changing research, learning and information contexts.

The fabric of organization and behaviors. We often think about technology in a way that seems to belong to an earlier period. We think of it as distinct from organization, behaviors and activities, as an identifiable, separable factor in the environment. This means that we often think of it in terms of events (the introduction of a new discovery layer) or of a set of interactions (the use of social networking by libraries). This is natural

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enough, and of course we need to think about some things in this way for practical management purposes (specifying, operating, etc).

More generally, however, this creates a misleading separation between behaviors and organization on the one hand, and technology on the other, and results in a narrowing of focus and even occasional distortion. Information behaviors, services and their organizational contexts all co-evolve with the network and with technology environments. This means that we are now in a phase where we need to think of the network or digital technologies as constitutive rather than as external, as part of the fabric of organization, work and behaviors (see Orlikowski & Scott, 2008). Technology does not have to be visible to be influential.

Think of three quick examples which make this clearer: workflow, discovery, and space. In each case, technology and behaviours emerge together in practice.

*Workflow***.** In a print environment, students and researchers had to build their workflow around the library if they wanted to interact with information resources. However, information activities are often now rebundled with a variety of digital and network workflows. For example, discovery may happen in a research management system like Mendeley, or in Google Scholar, in Google itself, or in Wikipedia, all services which are a part of general network use behaviors. Resources may be found through recommendations on Amazon, or through interactions with friends or colleagues in

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FaceBook, or through a question and answer service like Yahoo Answers. Scholars may organize their work around central disciplinary services like PubMed Central, or ArXiv, or SSRN. Convenience is highly valued in this environment (Connaway & Faniel, 2014) and in a reversal of the earlier model it becomes important for the library to think about how it builds services around user workflow, rather than expecting prospective users to come to the library, whether we think of the library as a building, as a set of people, or as a website. There is no single identifiable 'technology' at play here: the network and digital workflow tools provide the material base for new behaviors to emerge, and those behaviors in turn influence further development. In this way, understanding workflow, and the variety of ways in which it is enacted, becomes important for the delivery of library services. The ability to integrate ebook platforms with research or learning workflow, for example, may be more important than specific technical characteristics of those platforms.

Discovery. Discovery effort in libraries has focused successively on the catalog, on metasearch, and on discovery layers. However as noted above, these library-provided services now account for a part only of discovery activity. Discovery often happens elsewhere (Dempsey, 2012), and apart from anecdotal or local investigation (e.g. Fransen et al., 2011) we do not have a general sense of the pattern of discovery activity within learning and research workflows. However, we do know that information provider referral logs show traffic coming from multiple sources. Library discovery

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services account for a low single digit percentage of JSTOR referrals, for example (Heterick, 2014).

At the same time it is becoming clearer that libraries should be more actively disclosing institutional resources for discovery where their users are, by more actively pursuing SEO (search engine optimization) strategies, or by sharing metadata more broadly, or in other ways (Arlitsch & O'Brien, 2013; Fransen et al., 2011). These resources include research and learning materials in so-called institutional, or other, repositories, researcher expertise and profiles, unique or rare materials from special collections or archives.

This is a good example where a focus on a particular visible technology, 'library discovery', has caused a narrowing of focus, to the extent that we do not have a good holistic view of how best to facilitate rendezvous of scholars and students with information resources, or of how libraries should effectively disclose institutional resources to make them more generally discoverable. Discovery is an activity which is woven through behaviors in a variety of ways, and to support its role the library has to think more broadly about how potential users are connected with resources.

Space. Library space used to be configured around library collections, and access to them. Now it is being configured around experiences – group working, access to specialist expertise or facilities, exhibitions, and so on. Of course this is for a variety of

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reasons. A major one is that the use of collections has changed in a network environment, making the proximate storage of large print collections less necessary as usage shifts to digital. At the same time, technology is an integral part of new space design. Think about wireless, facilities for group work, access to communication, visualization, and so on. Again, technology is part of the fabric; thinking about it as an additive external factor is misleading.

The challenge for libraries and librarians, then, is to think of technology not only as particular visible 'systems' which need to be designed and managed, but also to think of technology as an integral part of service and organizational design more generally.

SIDEBAR*: New Roles – UX Design Librarian*. Moving beyond the User Experience Librarian, this position actively designs the user experience in advance of the user experiencing it. Using assessment data, software technology, interface design, and an understanding of user needs and workflow, shape the ways users experience the process of discovery, of creating knowledge, and of the use of resources, tools, data, and more in the context of the work of the user.

Libraries and some general technology directions. Against this background, then, it is not surprising that technology is a core part of library configuration, even where we

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don't always explicitly call it out. In the remainder of this section, we discuss some broad technology trends and how they affect libraries.

One pattern recurs. There is a balance between concentration (the network favors scale) and diffusion (the network favors fine-grained interactions and peer to peer connection). This creates an interesting dynamic for the library, as it is to some extent squeezed in the middle between the webscale and personal poles of network experience.

We discuss three general trends:

1. Bundles and boundaries: reconfiguring systemwide organization.

As patterns of distribution and interaction change in a network environment, so does the organization of work, resources and behaviors. Activities may be unbundled and rebundled, and boundaries shift. This is both in the backoffice where functionality may be collaboratively or externally sourced, and on the user side, where information behaviors are being changed by network level services, workflow tools, and a variety of information resources.

2. An informational future: facilitating creation, curation, consumption.

A dynamic informational environment is replacing a more static 'document' based world. Our activities leave traces, which can be gathered and mined. The creation and diffusion of information resources is a part of many activities in a digital environment, and the

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contact points between library services and learning and research workflow multiply. Libraries will facilitate creation as well as curation and consumption.

3. The power of pull: decentering the library network presence to connect people and resources

The library is working to be visible and active in a decentralized network of people, resources and organizations.

This discussion draws on Dempsey (2012), Dempsey and Varnum (2014) and on Dempsey, Malpas and Lavoie (2014). The overarching theme is that we need to prepare for systemic changes by better understanding how organizations and behaviors are being reshaped by the network.

Bundles and boundaries: reconfiguring systemwide organization. Library services and organizations were formed in an era of physical distribution and interaction. The digital network reduces transaction costs, potentially changing those patterns of distribution and interaction. Transaction costs are the costs incurred in the interaction between organizations – the effort, time, or money expended in interaction with others. Although we do not usually think about it in this way, transaction costs in a network environment are actually a major driver of library development.

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The economist Ronald Coase (1937) famously argued that an organization's boundaries are determined by transaction costs. For example, at one time it was economical for an organization to manage its own payroll. However, now, many organizations have unbundled that functionality and contract for it externally. Lower transaction costs, driven by the network, have greatly enhanced the ability to unbundle particular functions and source them externally in this way. This dynamic has facilitated the emergence of complementary, specialist providers who can achieve economies of scale by supplying multiple organizations with a particular service (ADP for payroll, for example). It has also facilitated the emergence of a collaboratively sourced model, as, for example, in Wikipedia, where the reduced cost of coordination in a network environment creates new possibilities.

How does this relate to libraries? In a physical world, a major role of libraries was to assemble information materials close to their users. It was convenient for each university to internalize a collection of locally assembled materials, to organize it, and to interpret it for its users. The alternative, where students or researchers were individually responsible for all of their information needs would be inefficient and expensive: the aggregate transaction costs would be very high. Transaction costs could be minimized by placing collections close to learners and researchers. This led to multiple local collections. It also meant that the bigger the local library was, the better it was seen to be, because it satisfied potentially more of local needs without having to go outside the institution. This gave rise to the model of the library that has dominated

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university perceptions until recently: that of a building which houses print collections and of an organization vertically integrated around the management of those collections.

As transaction costs came down in a network environment, there have been several waves of systemwide library reorganization, as it made sense for activities previously a part of library infrastructure to be unbundled and sourced in consolidated platforms. Notably, these successively included the development of shared cataloging and resource sharing networks (provided through collaborations, or as in Europe and other parts of the world, through shared public infrastructure), the move to a licensing model for the journal literature (with parallel consolidation of aggregator, agents and publishers), and the trend to cloud-sourced discovery and library management environments. Of course, the business arrangements and service configuration in each of these cases is different, but they share the drive of reducing transaction costs by unbundling institutional functions and consolidating them in shared network platforms. At the same time, negotiation and licensing moved partly into shared or consortial settings.

This trend is also familiar to us from the broader environment, and has accelerated in recent years. Whole industries have been reconfigured, as the physical distribution of functionality and expertise to multiple local sites is no longer always required. At the same time, consolidated platforms can concentrate functionality and data, and deliver the benefits widely. Think of the impact of Amazon on retail, or of Expedia on travel.

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Think of how UPS, ADP, Etsy or Square have allowed businesses to focus on what is distinctive to them, as they facilitate unbundling of local infrastructure and its rebundling in the shared platforms they provide. Or think of how cloud providers (Amazon Web Services, Windows Azure, Rackspace, etc.) can accelerate organizational development by providing computing and applications capacity to startups and other organizations. As the need for physical distribution of expertise and materials diminishes, there is a trend to achieve economies of scale and greater impact by moving to network level hubs.

The reduction in transaction costs continues to drive change across the library system. Think of this from both infrastructure (supply side, where there is a trend to concentration to achieve economies of scale) and user (demand side, where there is a trend to diffusion, to integrate with workflows) perspectives.

Infrastructure. Libraries will increasingly collaborate around systems infrastructure (as in the growing interest in cloud-based shared management systems) and collections (such as the growing interest in shared print management arrangements), or unbundle these activities and externalize them to third parties where it makes sense (JSTOR, Portico, etc.). As transaction costs continue to fall in a network environment this trend accelerates, and richer patterns of sourcing emerge as libraries collaboratively build capacity, or externalize to third parties. This trend favors concentration of shared operations in specialist providers and accelerates inter-library interactions. Think of HathiTrust. A few years ago, it is likely that many libraries would have individually built

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infrastructure to manage digitized books and store them locally. Now a shared model is more compelling, as the network has reduced the transaction costs of creating and interacting with a single shared resource. Concentration is a deliberate strategy: Heather Christenson describes it as a "research library at web scale" (Christenson, 2011). Think about the shared system infrastructure within a network of libraries like the Orbis Cascade Alliance (Helmer, Bosch, Sugnet, & Tucker, 2013).

In this context, Courant and Wilkin (2010) talk about a growth in 'above-campus' library services and Neal (2010) talks about a growth in 'radical collaboration'. New collaborative and institutional frameworks are emerging to support this move, as we discuss when talking about collaboration. In considering this trend, it is again notable that organizational models co-evolve with network affordances.

Library Users. On the user side, the change has been much more sudden and far-reaching. Whereas information creation and use may have been organized around the library, it is now coming to be organized around network level services that support individual workflows. For researchers and learners, the transaction costs of creating and using information resources have declined considerably. Access is no longer via a small number of physical gates, but has diffused across many network resources. Think of this selection of very different services:

- arXiv, SSRN, RePEc, PubMed Central (disciplinary repositories that have become important discovery hubs);

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- Google Scholar, Google Books, Amazon (ubiquitous discovery and fulfillment hubs);
- Mendeley, Citavi, ResearchGate (services for social discovery and scholarly reputation management);
- Goodreads, LibraryThing (social description/reading sites);
- Wikipedia, Yahoo Answers, Khan Academy (hubs for open research, reference, and teaching materials).
- GalaxyZoo, FigShare, OpenRefine (data storage and manipulation tools)

These network level services are important components of workflow and information use for researchers and learners. A large part of discovery activity has been unbundled to Google, to Google Scholar, to Amazon, and to other services.

Some library directions. How libraries coordinate to get work done is changing as transaction costs are reduced in a network environment. And, although we don't normally think in these terms, these changes have been, and will continue to be, far-reaching. They are a central feature of how technology is an important part of library development, although here the 'technology' may be less visible. The implications are many. Here are two important ones.

Conscious coordination: A trend towards shared services makes the structure and planning for such frameworks more important. This is an important area requiring

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conscious coordination among libraries and higher education institutions[1]. The governance of the organizations to which these responsibilities are entrusted also becomes a critical community issue. Why this is so should be clear, but upheaval in scholarly communication underlines the issue. Scholarly publishing is discussed elsewhere in this volume, but the sourcing of academic publishing with a range of external publishers provides an interesting example of control and governance. Publisher-sourced operations raise issues around the curation of the scholarly record, about sharing of materials, and about assuring the type of access that is compatible with use and re-use in research and learning. One strand of this scholarly communication discussion is about rebundling publishing with the university, to address perceived deficiencies of the current model.

Disintermediation and the shift to engagement. There has been some discussion about how the library has been disintermediated in this network environment, as students and researchers build workflow around a range of network tools and services. Configuring the library resolver to work with Google Scholar re-intermediates the library, this time not as a discovery venue but as a fulfillment venue. This is an example of how the library has to think differently about creating value for its users. A high level characterization might be that we will see a greater shift at the library level from infrastructure provision to richer engagement models (Dempsey, 2013a). This underlines the twin trend to concentration, or scale, and to diffusion. It is likely that more infrastructure provision

[1] The phrase 'conscious coordination' was introduced in this context by Brian Lavoie.

(systems, print collection storage, expensive shared facilities) will move to shared environments, or be sourced with third parties. At the same time, library user workflows are diversifying, as people assemble information environments from multiple network resources and tools. In this context, and as those workflows are increasingly digital, engagement with research and learning behaviors becomes crucial - around curricula, research data management, new forms of scholarly publishing, and so on.

An informational future: facilitating creation, curation, consumption. Manuel Castells uses ‘informationalization’ and ‘informational’ on the model of 'industrialization' and ‘industrial’. Informational activities are activities where productivity is maximized through the use of knowledge, gathered and diffused through information technologies. 'Informationalization' is visible at all levels. Doors open automatically, physical currency is disappearing; the collection of digital documents is an integral part of health and other fields; the flow of materials is monitored by tracking systems; domestic and office environments are becoming more ‘intelligent’; distribution chains, the disposition of goods around retail floors, investment decisions, these and others are increasingly influenced by behavioral data. Flows of people and materials follow the flows of data.

In this way, just as in our discussion about technology, our behaviors increasingly have an informational dimension. As this happens, issues of information creation, curation and consumption become increasingly pervasive of a broader range of activities.

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In our immediate context we can see this trend manifest itself very clearly as the **scholarly record** is diversifying to include not only the traditional outcomes of research (articles, books), but the products of the research process itself (primary materials, data, methods, preprints, etc.), and the aftermath of research (derivative, repurposed, and aggregate works) (Dempsey, Malpas & Lavoie, 2014). Increasingly, scientific knowledge is digitally recorded in, and dependent on, the complex infrastructures where the research is done. While patterns of activity across disciplines, practitioners and institutions vary, support for the creation, curation and use of the scholarly record poses interesting challenges.

As we move from a relatively static 'document' based world to a more dynamic informational one, strategies to cope with scale, or abundance, emerge. Consider some examples.

A **computational** approach is becoming more routine. Think of what is involved in managing repositories of digital materials, video recordings, and archives of web materials. For example, we will programmatically extract metadata from resources, as the volume of resources to be managed makes it difficult for manual processes alone to cope. We will mine text and data for patterns and relationships. In Franco Moretti's term, 'distant reading' will complement close reading, as we programmatically analyze large data sets and text corpora. (Moretti, 2014).

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Resources are social objects that become nodes in a network environment. Think of 'bibliographic' services: Amazon, Goodreads, LibraryThing, WorldCat, Mendeley. They each provide functional value: they get a job done; however they also provide network or social value as people make conversation and connections around resources of interest or importance to them. This in turn enhances the value of those services. Similarly think of a reading list or a bibliography or a resource guide: they frame resources in the context of particular research or pedagogical interests. Or think of a course, and the development of interaction around it in online environments.

Analytics is now a major activity, as transaction or 'intentional' data is aggregated and mined for insight. We have become used to recommendations based on buying or navigation patterns. As more material is digital, as more business processes are automated, and as more activities shed usage data, organizations are manipulating larger amounts of relatively unstructured data and extracting value from it. Within the library field, patterns of download, holdings or resolution are being mined to improve services. Within the university, there is growing interest in learning analytics to facilitate retention and student support (Siemens, 2013).

From Strings to things. This is a phrase of Google's which signals a growing interest in more semantic approaches involving entity recognition, ontologies, clustering of like items, and so on. Google, and other search engines, are interested in establishing a singular identity for 'things' (e.g. people, places, historic periods) and creating

relationships between those things. This enhances their abilities to provide rich responses to queries. To see this in practical terms, see how Bing and Google show 'knowledge cards' in results. More broadly, an interesting example of this trend is the interest in author identifiers. A general framework for author identity facilitates a variety of search, profiling, assessment and other services to be built more confidently than relying on string matching only.

Some library directions. In a network environment where information is abundant, where informationalized workflows support research and learning practices, where researchers and learners create as well as consume, our sense of information management and user engagement shifts.

Collections, from consumption to creation. As information use and the locally managed collection are decoupled, it moves the library towards a set of services around creation, curation, and consumption of resources that are less anchored in a locally managed collection, and more driven by engagement with research and learning behaviors. In a digital environment, the intersection points with research and learning behaviors multiply, to include, potentially, support at all points in the life-cycle. Examples in a research context are the support for data curation, copyright, new forms of scholarly publishing/curation, bibliometrics and research profiling, data mining and visualization, and so on. In a learning context, support for research skills or curriculum development come to mind, as well as the types of support required for a range of new learning and teaching models. Consider the recent emphasis on the flipped classroom, online

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learning or MOOC developments, and the support requirements they raise. The library becomes more interested in supporting creation alongside curation and consumption. Vinopal (2014) presents an interesting pyramid of services, noting a spectrum from standard enterprise support (e.g. text scanning), to standard research services (e.g. data analysis tools or web exhibits), to enhanced research services (e.g. custom-designed UI), to applied R&D that might be supported by grants.

Decision support. This trend has major implications for discovery, selection, acquisition, and management of collections. Consider the relative roles of DDA (demand driven acquisition) and library selected material, for example. Think of literature searching in an environment where researchers belong to several recommendations 'networks' (e.g., Google Scholar, Mendeley, GoodReads, ResearchGate, etc.). Group or consortial environments are especially interesting in this regard, as the systems apparatus on which they run becomes more integrated and data-aware. Think of the data available to a group of libraries sharing interlibrary lending, acquisitions, discovery, and DDA operations. We are looking towards an environment where this data will be used to trigger acquisitions, collection balancing between institutions, digitization, consolidation in shared print environments, disposal, and so on. Analytics have become central, and the connections between usage, management, and purchasing/licensing decisions will become firmer as intelligent workflows are connected to networks of shared data about resources, usage, and people.

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Bibliographic infrastructure and the web of data. There is at once an opportunity here, and a challenge. Important intellectual work has been done by libraries on describing people, works and other entities yet ways must be found of mobilizing that work in this new environment. Our bibliographic infrastructure is evolving towards a more entity-based approach, as we think about modeling and exposing data about entities of interest (works, authors, places), rather than shipping around bundles of data about titles (records). Work on data modeling, linked data and related issues is being carried out by multiple agencies, with the goal of integrating bibliographic practices more fully with the web.

The power of pull: decentering the library network presence to connect people and resources. As information creation and interaction diffuse through network workflows, and as gravitational hubs emerge which concentrate use (Wikipedia, Google Scholar), the library has to position itself in the network differently. It has to place services and interaction in the flow of research and learning practices. It has to exercise what John Hagel and colleagues (2010) call the 'power of pull'.

We note two important trends here, each of which decenters the library network presence, aiming to place library services in the flow of the researcher or learner. The first of these is unbundling communication to various social networks; the second is syndication of metadata and services to other environments. A major part of this is a shift from managing 'knowledge stocks', in Hagel, Brown, and Davison's terms, to being

able to participate in 'knowledge flows'. There is a centrifugal trend, as interaction is pushed out into the network, becoming more diffuse to reach researchers and learners in their workflows.

Each of these developments is pre-strategic in library terms, an emergent trend which so far escapes established service categories and standard organizational patterns. Again the technology is not something external to be managed; practice emerges naturally in a network environment.

Social networking. Libraries have very clearly moved beyond early experiments with FaceBook or Flickr. To a varying degree, libraries have unbundled some communication activity from the 'centered' library website', and have rebundled it with social networking tools. So, a library may have a presence, or several presences (e.g. different departments, such as special collections, may have their own presence), on Facebook, on Pinterest, on Instagram, on Flickr, and so on. In this context, it is worth noting a move from 'push' (unilateral communication) to 'pull' (attracting an audience to you), as active engagement is emphasized over simple information availability.

Social networking may be used to intersect with and attract internal library users, to attract external scholars or other users to valuable local resources, or to engage related professional audiences. While initial approaches were opportunistic and informal, there is clearly an awareness of the importance of social networks for engagement and

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communication, which has raised issues of resourcing, branding and formality – issues reflecting permanence in strategy and priority for libraries.

Libraries value objectivity and neutrality. The collection or the library website may be the product of expertise but that expertise is not on display. However, there is growing awareness that if libraries want to be seen as experts, then their expertise must be seen. One of the characteristics of the network is that it connects people, to each other and to resources, in new ways. People are resources in a network environment.

Again, Hagel and colleagues provide some interesting context here (Hagel, Brown & Davison, 2010).

> It's not so much about finding which information is most valuable, as many of those who fret about information overload would have it. Improving return on attention is more about finding and connecting with people who have the knowledge you need, particularly the tacit knowledge about how to do new things. […]
>
> These people and the knowledge flows they generate can then become effective filters for information more broadly. [..] Since we deeply understand their contexts and passions, we can begin to determine when their recommendations are most reliable and increase our return on attention for both the tacit

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> knowledge they offer and the information they recommend to us. Our personal social and professional networks will be far more effective in filtering relevant knowledge and information than any broader social-technology tools we might access.

It is interesting to note the extent to which success is seen by the authors to be bound up with network participation – networks of people and resources facilitated by digital networks. The future, they seem to suggest, favors – in Dave White's phrase – the 'network residents'. White and colleagues discuss a spectrum of network engagement from visitor to resident (White & Le Cornu, 2011). A visitor has a functional view of network resources, visiting them when required – to book a flight, to search for something, to do taxes. For the resident, on the other hand, the network is an important part of their identity, of how they communicate, get work done, and relate to people and things. Researcher and learner behavior varies along this spectrum, but again, for the resident, technology is not divorced from behavior.

This variation in behavior creates interesting questions for the library in terms of how it attracts different classes of users to its services.

Syndication. We can define syndication as creating connections to library information services in other environments, by placing data, content or services in those other environments. Library resources may be made available, for example, as plugins in the learning management system, or as apps for mobile phone and tablets. The library may

syndicate data to other environments, through OAI-PMH harvesting or newer linked data approaches, or by more active transfers to aggregator services (WorldCat or DPLA, for example). The library may configure a resolver to ensure well-seamed access from Google Scholar or Pubmed Central, which is also a form of service syndication. While it is clear that syndication is a significant activity of libraries, it has not crystallized as a clear service category with a recognized name and a singular organizational home in the library.

In this context, there is an important distinction to be made between 'outside-in' resources (books, journals, databases, and so on, bought and licensed by the library for their institution) and 'inside-out' resources (digitized images or special collections, learning and research materials, research data, administrative records, and so on, which are generated within the institution and shared with external users) (Dempsey, 2012). Access to the former is provided through discovery layers. How effectively to disclose the 'inside-out' material is also of growing interest across the universities of which the library is a part. This presents an interesting challenge, as here the library wants the material to be discovered by their own constituency but often also by a general web population (Arlitsch & O'Brien, 2013). The discovery dynamic varies across these types of resources. A significant contribution of the University of Minnesota report is to explain how the dynamic differs across types of resources and to develop response strategies (Fransen et al., 2011). Effective disclosure of unique institutional resources to

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the web, search engines and other agents is a key area for attention. It is a necessary response in a changed technology environment.

Some library directions. Where researchers and learners may not go directly to the library website, how do you place expertise and resources in the flow of what they do? Hagel et al talk about 'attracting' relevant and valuable people and resources to you. This is done through personal engagement, participation in campus activities, but it also has a network dimension. Here are some questions:

- Are library resources visible where people are doing their work, in the search engines, in citation management tools, and so on?
- Is library expertise visible when people are searching for things? Can a library user discover a personal contact easily? Are there photographs of librarians on the website? The University of Michigan has a nice feature where it returns relevant subject librarians in top-level searches.
- Are there blogs about special collections or distinctive services or expertise, which can be indexed and found on search engines? Are links to relevant special collections or archives created in Wikipedia. Can researchers configure a resolver in Scholar, Mendeley or other services?
- As attention shifts from collections to services, are library services described in such a way that they are discoverable? On the website? In search engines? Is SEO a routine part of development.
- Is metadata for resources shared with all relevant services?

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Conclusion. As research, learning and knowledge creation practices are enacted in technology environments, and are increasingly inseparable from them, libraries are thinking differently about their services and their positioning. The library no longer wants to be a destination, it wants to be an active participant in the networks of people and resources through which scholarly and learning work is done.

Public Knowledge and the Role of Academic Libraries

By Barbara Fister

Most academic libraries exist as a palimpsest of past and present. The public investments made in higher education and the advancement of knowledge following World War II created what many think of as the traditional and timeless academic library: a vast collection of printed volumes housed in buildings that were expanded over the decades to absorb more. The value of a library was measured in volumes. Caverns of book-filled stacks were the training ground for many of our scholars, particularly In the humanities and in some of the social sciences, and those scholars continue to have their worth measured by how many books they publish, preferably from a distinguished university press. (The "tenure book" seems still an entrenched expectation in many disciplines, and on some campuses one is not enough.) In other fields, journal articles are coin of the realm, and the growth in journal publishing has

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matched the expectations that scientists and scholars will publish their results to advance both public knowledge and their careers, with a growing emphasis on careers.

Bound up in academic publishing are the values assigned to the quantity of publications and the prestige of the publisher. Twenty years ago physicist John Ziman (1996) warned that the fundamental values underlying science were endangered when "academic science," which provided society with impartial and rigorous knowledge in exchange for public support, was being replaced by an environment within which problems would be set by funders and the record of their discoveries would be transformed into intellectual property rather than widely-shared public knowledge. To a large extent, his predictions have come true. As public funding for research at the local level has dwindled, federal funding agencies play an increasingly important role in deciding which problems will be tackled. These funding decisions are often political. In 2013, politicians in the U.S. Congress cut funding for social science research from the budget of the National Science Foundation (NSF), singling out political science research which, they felt, should not be supported unless it directly advanced the economic or security interests of the nation (Mole, 2013). More recently a bill has been introduced in Congress that would give legislators greater control over NSF funding, including the power to eliminate funding for all social science research and for climate research (Basken, 2014).

The number of publications each scholar and scientist is expected to produce to demonstrate professional competence today seems subject to runaway inflation, in part

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because the employment secured by such industriousness is increasingly precarious. This precarity has increased publication expectations for faculty just as budget cuts have made it harder for libraries to provide access to their published scholarship.

Over the past three decades, academic librarians have adapted to the growth in published scholarship and to the decreasing financial support available to them by developing robust protocols for sharing catalog records and materials, embracing access to licensed digital information over ownership, developing shared print models to ensure the preservation of print materials while reducing duplication and storage costs, participating in mass digitization projects, and pioneering the preservation of digitized scholarship through LOCKSS, CLOCKSS, and Portico.

Throughout these efforts to adjust library collections and preservation activities to the shift toward digital publishing, librarians have also promoted a shift from subscriptions as a business model to open access, a long-term project that has made slow progress but which has accelerated recently. This support takes the form of establishing and populating institutional repositories, supporting publishing activities in the form of journals, conference proceedings, and other publications, providing funding for appropriate author-side article processing fees, making open access publications discoverable alongside proprietary information, and helping faculty authors understand and exercise their rights in the complex world of copyright and intellectual property.

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As librarians continue their efforts to make knowledge accessible now and for future learners and researchers, they will have to acquire new skills to participate in and shape a newly-emerging knowledge environment. They will have to negotiate the disposition of print collections to ensure their current usefulness and future preservation through collaboration (Dempsey et al., 2013; Malpas & Lavoie, 2014). They will have to continue to license access to selected digital materials produced by commercial and scholarly publishers. They will have to provide leadership and in-the-trenches support for emerging open access publishing opportunities and adapt to emerging forms of publication. Librarians will be called upon to manage public data repositories and support the creation and preservation of digital projects in the humanities, social sciences, and STEM fields. Making all of these forms of knowledge discoverable will be a major challenge for the future, as will helping students and faculty navigate such a complex multi-layered system.

Librarians' instructional function, which is increasingly important to academic library directors (Long & Schonfeld, 2013), will require a significant rethinking of what it means to be information literate and why this form of learning matters. Librarians will have to serve the immediate and pressing need to help students succeed academically by helping students find and use library resources to complete course assignments efficiently. But librarians will have to go beyond mere information consumerism (Pawley, 2003) to prepare students for a world in which they will produce and share knowledge themselves. The emerging Framework for Information Literacy (Association

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of College and Research Libraries, 2014) challenges librarian-educators to help students transition from low-level consumerist engagement with sources to a more advanced grasp of how knowledge is created and what role they play in making meaning.

Academic library collections currently are a mix of physical materials, licensed materials, and locally-produced digital content. The emergence of open publishing practices will add a new layer to the library palimpsest, which will require the adoption of a number of new roles and the adaptation of librarians' skills and values to new platforms and scholarly practices. Despite the added complexity, these emerging identities promise greater access to knowledge beyond institutional walls, benefitting students, faculty, alumni, and the citizenry at large, offering librarians a chance to put their values to work as they dismantle their walled gardens and collaborate for a more open, accessible, and public-facing library.

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Section 2: Shifts in Positioning

Introduction: What Comes Next? Shift!

By Steven Bell

A book titled *The Future of the Research Library* sounds just about right for our times. Given the number of essays, articles, conference presentations, podcasts, blog posts,

and interviews dedicated to the pondering of our library future, academic librarians, at times, appear obsessed about the future. This particular book was published in 1946 as part of the Windsor Lectures in Librarianship, a lectureship dedicated to Phineas L. Windsor, the Director of the Library and Library School of the University of Illinois - and also the first president of the Association of College & Research Libraries. Not unlike contemporary academic librarians, our predecessors pondered how they would adapt to a world of exploding content, the need to transition from local self-sufficiency to resource sharing, new fangled technologies such as micromaterials and photocopiers, and of course the impending word of data processing. Not unlike our own times, with so much change on the horizon, academic librarians were likely wondering what would come next for them and how their role in the academy would adapt to fit the times.

Verner Clapp, the author, defines the research library as an entity that "enables inquirers to identify library materials relevant to their inquiries and to supply them with copies of that material for their use". (p.11). Through much of the book Clapp considers how to extend that function to a world where academies extend their gatekeeping function beyond their own walls and to a world thirsty for information access - and where a growing post-war research enterprise would need vast information support. Just as we do now Clapp and his colleagues needed to explore how their libraries would reflect the fundamental practices needed for a drastically different future, yet managing to maintain the legacy functions required for preserving and sharing rich collections. Perhaps not unlike our own times, the future of the past was largely about "shift" -

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migrating from existing infrastructures in which we have significant investment to discover new ways to engage and collaborate with our communities.

In this section we give our attention, as Clapp did, to considering how the role of the academic librarian will shift to meet new and somewhat ambiguous expectations. As in Clapp's time, it is up to our profession to define and shape how we will position ourselves and our libraries as we find the balance between our legacy collections and responsibilities and the rapidly developing demands of the digital future. We will explore the implications of change to our technology infrastructure, our physical space, our role as a community center, our growing responsibility for digital curation, our growing emphasis on being a partner in the teaching and learning process, and assessing our effectiveness across the dimensions of service - all of it happening in a rapidly shifting scholarly publishing environment. One rather different challenge we face in the 21st century is meeting the demand to disinvest from a variety of infrastructures in which we are currently heavily invested and instead think about places where new engagements or collaborations are necessary to reduce the expense to each institution. It will require us to scale and make sustainable new programs, systems, and services and develop collaborative institutional frameworks across organizations to make it work. We are on the road to a massive shift in the positioning of the academic library.

Repositioning Library Space

By Barbara Fister

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Scott Carlson's 2001 story in the *Chronicle of Higher Education*, "The Deserted Library," kicked off a heated controversy. Were libraries as spaces becoming obsolete as their collections moved online? Would administrators, reading that startling headline but not the body of the story, think libraries were now irrelevant and costly white elephants? Were our libraries really deserted?

These questions, raised just as libraries were looking to bookstore models to rethink their spaces (Coffman, 1998; Feinberg, 1998) were timely ones, and throughout the next decade the "library as place" was a hot topic as librarians reconsidered how the library as a physical facility could shed its functional identity as a warehouse for collections and better facilitate student learning. Library cafes replaced prohibitions against food. Stacks were moved to make room for information commons, which in turn became learning commons as a technology focus gave way to partnerships with learning support offices such as writing centers, advising, tutoring, and (yes) tech support. Many librarians looked to sociologist Ray Oldenburg's concept of the "third place" (1989) to inspire their thinking, seeing libraries as a place that is neither home nor workplace but a space for self-directed community engagement and a sense of belonging. Ethnographic approaches to research in the field blossomed as librarians at many institutions embraced qualitative methods to understand student perspectives (Foster & Gibbons, 2007; Duke & Asher, 2012; Connaway, Lanclos, & Hood, 2013). Librarians began to

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seriously consider the library in the life of the user rather than the user in the life of the library.

Changing librarian roles also have space implications. The number of support staff has shrunk relative to librarians (State of America's Libraries, 2014, p. 36). Technical services now requires less space, both in numbers of staff and room required to process materials. The reference collection in many libraries has gone largely digital and reference services may no longer be offered at a desk but rather at a common service point with related services or by consultation appointments. Unique materials found in archives and special collections are becoming increasingly visible and valued by library constituents, and using these materials in courses requires new kinds of classroom space. Assisting students and faculty with digital scholarship requires flexible workspaces and equipment that can accommodate group projects. Embracing visual formats may require space for film editing and production as well as spaces appropriate for displaying and viewing work created by students and faculty.

Creating space for these new activities often requires hard choices, and the decisions that libraries make are not always popular. Faculty and students at Syracuse University, the University of Denver, and other institutions have protested the move of collections to offsite storage, arguing that access to printed volumes remains a function more valuable than additional study spaces, conference rooms, digital labs, and student learning support offices. Some libraries have partially alleviated this concern by using

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compact on-site storage with automated retrieval robots that provide fast service and entertainment value. However, storage (whether onsite or off) will often set off heated defenses of the purpose and identity of libraries as places where books should matter and open stacks should foster curiosity and serendipitous discovery (e. g. Schuman, 2014). Though some dismiss this resistance as nostalgia, Heather Lea Jackson and Trudi Bellardo Hahn (2011) studied student responses to the idea of an academic library using methods drawn from the psychology of religion, finding that libraries are positively associated with "sacred spaces" that inspire in ways hard to measure through standard analytics. Their qualitative study concluded that "spaces deemed as "sacred" or "sanctified" produce affective benefits for people that extend beyond attitudes and into the realm of behavior . . . being around the books makes them feel more scholarly and connected to the institution's educational mission" (p. 436).

As librarians reduce their printed collections and open up more space for students to use or for new programming, campus leaders often rush to take it over for their own purposes. Rick Anderson (2014a) has advised librarians to be judicious about welcoming external services and offices into the library when space is freed up for programming or new services. Any vacant space in a library will attract external interest like a sponge. Anderson cautions, "the pressure on the library to make room for other services and programs will be strong and constant, and the library administrator will be continually faced with difficult political, practical, and strategic choices." A wise library director will say "yes" to hosting offices and programs that will benefit from synergy with the

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library's programs. Saying "yes" without being defensive also gives a librarian sufficient political capital to say "no" when the relationship is not a good fit or when the space that was vacated has already been dedicated to planned library programs.

Scott Carlson (2009) returned to the issue when he profiled Goucher College's new library-cum-student-center, dubbed The Atheneum, which made a newly constructed library building also the site of a much-needed student center. He opened his profile of the new facility with a general statement about academic libraries:

> Today's academic-library buildings, more than any other campus structures, have to be all things to all people—places where social and intellectual pursuits collide, places that serve the community and the individual simultaneously. Dig into a book. Get a latte. Collaborate on a project. Nap during a study session. College libraries are a destination for those activities and more.

Goucher's new library, as he describes it, went even further, making it a true center for the institution by preserving the identity and functionality of the library while including in the same building the amenities a separate student center would normally provide.

The James B. Hunt, Jr. Library at North Carolina State University, opened in 2013, extrapolates the changing face of academic library spaces and services, with its visualization labs, technology rooms, and robotic book retrieval system. A survey of library buildings called it "an experiment in what to do with an abundance of space and a mandate for technology and collaboration" (Agresta, 2014).

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In 2013, Scott Carlson revisited his "deserted library" question, reviewing the way that academic libraries had proven the value of their place on campus, arguing that the only libraries that were deserted deserved to be, by virtue of being "outdated, unimaginative, and sterile places." Vibrant libraries, which he believes are plentiful, offer a lesson for higher education as a whole at a time when it is beset by anxiety about MOOCs and other distance learning, funding, and other economic and technological disruptions. He writes, "will campuses and traditional teaching disappear because we now have MOOCs? No, because that defies the human yearning for meaningful places and the real benefits that come with them. We see it in the migration to cities and in walkable neighborhoods. We see it most of all on college campuses." In his view, the library as a physical place is a part of the campus landscape that has firmly asserted and renewed its value during the first years of the 21st century.

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Building Community through Collaboration

By Steven Bell

Nicholas Kristof, New York Times Op-Ed Columnist, ignited a firestorm among faculty with the publication of his February 15, 2014 column "Professors, We Need You." Commenting on the increase of American anti-intellectualism, Kristof called on faculty to engage in more public discourse. Leave your cloistered medieval monasteries, urged Kristof, suggesting that faculty should engage the public in a better understanding

of the issues of the day. Though understanding Kristoff's good intentions, the professoriate reacted strongly to rebuke what they claimed was Kristoff's failure to acknowledge all the work faculty were already doing to connect with their communities. (Potter, 2014). Many who commented on Kristoff's column pointed to the growing popularity of science cafes (Reiss, 2012). Faculty and even academic librarians appeared as guests on media programming to provide expert insights and explain the everyday impact of their research (Bell, 2012d). The conversation pointed to the important role that colleges and universities play in contributing to the intellectual and social liveliness of their communities.

Higher education institutions must shed their image as isolated, ivy-covered towers where aloof intellectuals commune, ignoring their immediate surroundings and those who live in these communities. Those days have passed. Enlightened presidents and trustees now realize that the colleges and universities that receive support from neighboring communities are the ones who pay attention and strive to build good relationships with community members (Goral, 2006). They also invest in the infrastructure by funding improvements to schools, retail and housing. What form that relationship takes may depend on the nature of the surrounding environment and how much help the college or university can provide. "Town-gown" relationships are a familiar source of tension between higher education institutions and the neighborhoods or cities in which they are located. Now these areas of potential conflict are moving beyond the payment of property tax or rowdy students creating noise at 2:00 am. The

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stakes are much higher as communities expect colleges and universities to provide significant resources, both financial and human, in helping the community thrive.

SIDEBAR - *New Roles - Neighborhood Liaison and Public Education Specialist* - Connecting with the external community, call it the surrounding neighborhoods if you will, requires establishing relationships with those external leaders who are able to leverage people and resources to create sustainable services. This specialist may work through an existing college department of community relations or it may require an entirely new outreach initiative to identify, locate and communicate with the people who can get things done. This Liaison is the face of the library that extends beyond the campus, but the focus is on extending the education mission of the academic library to the neighborhood. The Specialist accomplishes this by establishing locations where satellite computer access, job information, technology support and other services can be delivered. The Specialist also seeks out community partners to help improve the quality of access to information in and beyond those neighborhoods immediately adjacent to the campus.

Academic libraries, both public and private, are well positioned to adopt or expand their role in supporting the institutional mission to serve the surrounding community. To what extent they do so would most depend on the nature of the community and its needs. Those most likely to benefit from support from an academic library are those suffering from urban neglect, low-income households, high unemployment, a significant

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digital divide and other urban ills, though rural areas may be equally susceptible to these same problems. Among the ways in which academic librarians can establish a role for their library as a community support are computer and internet access, inviting community members to use the library's physical resources, extending borrowing privileges, providing job assistance and making the community welcome at library social and cultural events. When it comes to delivering these types of services to the external community, the academic library is often the best suited unit on campus to organize and offer community outreach, though it does create opportunities for collaboration with the community relations department, an office more commonly found within the academic administration.

SIDEBAR: *New Roles - Outreach-Community Engagement Specialist*. As the competition for prospective students heats up, and regional colleges and universities battle each other for their share of those students who will make up the next freshmen class - as well as transfer students - institutions will be open to new ways to boost enrollment. While the library is said to be a factor that students and parents consider when making the college choice, it could be doing more than just opening the doors and allowing prospective students and their parents to take a tour of the building. The new road calls for a more aggressive approach by the library in this more competitive environment. Imagine a new and expanded role that embeds a librarian in the community beyond the institutional walls. The Community Engagement Specialist is

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tasked with connecting with high school students and their parents at the schools, community meetings and at public libraries. The Specialist is there to create more recognition for his or her institution, and to demonstrate that the Library is an active participant in contributing to student success.

Accepting the new community service role is good for the library and the institution. As state and federal funding declines, local governments struggle to adequately support the public library system. Under-funded public schools are deciding to eliminate books and librarians. When academic libraries support the community it in no way aims to replace the public library, but it can provide some additional service to those who might otherwise be shut out. It also helps to make the case for the benefits that higher education institutions give back to their local community when there is increasing pressure among local governments to question if colleges and universities should be paying taxes or fees for municipal services. With many more citizens taking online courses and self-educating, academic librarians can serve these individuals as a source of learning support that contributes indirectly to the betterment of the community.

In this role shift academic librarians will find themselves with some new challenges familiar to their public library colleagues. Embracing a new community service role requires a willingness to be truly open to all. That means everyone from those seeking computer help, to the homeless, teens and latchkey children. It can require rethinking

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access policies and existing security measures. With proper planning and thoughtful consideration, academic librarians can adopt this new community service role without degradation of existing services to their primary population of students and faculty. Here are some factors to think about:

- Provide staff with the proper training and development to equip them with the skills needed to deal with difficult situations that might arise from dealing with community residents who suffer from mental illness, poor health or any other issues that might lead to friction;
- Review policies to ensure they accommodate the public without infringing on the service expectations of students and faculty. Minors wandering the building, for example, may call for a policy requiring them to gain access only when accompanied by adult guardians.
- Put in place the appropriate technology that enables staff to serve community residents who will lack the familiar campus networking credentials. To maintain order and control over who is using computers, and most academic IT departments will require monitoring, consider computer control software of the type used in public libraries.
- Anticipate community members lacking the computer know how taken for granted with average college students. Consider adding student workers who can serve as “tech tutors” to help the less computer savvy to use e-mail, download documents or fill out online forms (e.g., job applications).

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- Reach out to public librarians who also serve your community to share information about services to the public. In transitioning into a new community center role, collaborating with other community providers will help avoid offering competing rather than complementary service, as well as providing an opportunity to learn from the experience of those providers.

While academic administrators are unlikely to expect their librarians to establish a bond with the external community in the ways that might be expected of faculty or the community relations department, the library can emerge as a premier campus service that community residents will truly appreciate. Adopting this new role on the road ahead may seem intimidating to some because of fears that it will turn the academic library into a public one. Opening up the library to the public community will invite in challenges that the walls of academia traditionally keep out. But in communities where the social fabric is beyond fraying and support networks are failing, be they inner city or remote rural, the academic library has the potential to be a grassroots campus leader in demonstrating that delivering value means more than contributing to student and faculty success. With proper planning and execution, transitioning to a community center will have rewards far beyond the walls of the campus.

A New Information Management Landscape: From Outside-in to Inside-out

By Lorcan Dempsey

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We have discussed how the character of research and learning practices has changed as digital workflows generate a variety of outputs, including research data, course materials, video, and preprints. Information creation, management, curation and discoverability are getting more attention across the university, with a corresponding emphasis on new infrastructures and organizational structures. We have discussed how it is important for the library to position itself as an advocate for good practices and as a collaborator with other campus units with a stake here (CIO, University Press, Research Office, and so on).

This emphasizes an important distinction, which will cause libraries to think differently about how they organize to manage collections and where they put attention. This is a distinction between outside-in resources and inside-out resources (Dempsey, Malpas & Lavoie, 2014). This overlaps with Rick Anderson's discussion of commodity and non-commodity resources (Anderson, 2013).

The dominant library model of collections has been an outside-in one, where the library is buying or licensing materials from external providers and making them accessible to a local audience (e.g. books and journals). This is a natural model where the central acquisition of commercially available materials reduces costs (transaction and financial) across the institution. Libraries will continue to explore licensing and acquisition strategies to favor the institution. At the same time, a trend towards managing

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reduction in local print collections is underway and a variety of shared frameworks are emerging (Dempsey, 2013b).

In the inside-out model, by contrast, the university, and the library, supports resources which may be unique to an institution, and the audience is both local and external. The institution's unique intellectual products include archives and special collections, or newly generated research and learning materials (e-prints, data, courseware, digital scholarly resources, etc.), or such things as expertise or researcher profiles. Often, the goal is to share these materials with potential users outside the institution.

The level of support provided will vary depending on how the library is situated within the university, and will depend also on the university's scale and mission. The level of attention to 'inside-out' resources will become an important differentiator between libraries (and the universities they support). Research institutions, specialist libraries, and others with a mission to share their resources with the world will focus more attention these services. Institutions more focused on supporting learning and student success may choose to make less of an investment here.

New challenges - research and learning materials. Libraries have been building and managing digital infrastructure for some time. It is now common to have a repository for digitized materials, and an institutional repository for scholarly and related materials. There may also have been some specialist development or procurement

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around particular local requirements (e.g. video). However, the demands of the current environment are moving beyond this institution-level response. As research and learning shift in the way we have discussed, it is now important to look at more conscious coordination - both at campus level and at systemwide level, as institutions seek to realize the benefits of scale.

While **Institutional repositories** are now a routine feature of academic libraries, there is ongoing discussion about purpose and scope, incentives for researchers to deposit, and their role within 'green' open access. This is not the place for a full treatment, but a couple of points are worth making. First, while most repositories are home to versions of research papers, scope varies across institutions. For example, some repositories may take a 'campus bibliography' approach, including links to publisher splash pages. Some repositories may include other categories of material, institutional records or archival materials, for example. Given the lack of standard methods for designating material types and rights information this may make it difficult for an aggregator of repository content to distinguish scholarly material or to determine allowable actions. Second, there is a close connection between repositories and national education and science policy regimes, so the dynamic of development has been differently influenced in different regimes. For example, where there are national research assessment programs in place, institutional interest in repositories may be higher (MacColl, 2010). Shifts in US federal policy with regard to research funding and access to outcomes will have an

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impact here resulting in a more organized approach to research information management and disclosure.

This highlights the relationship between the repository and emerging Research Information Management infrastructure, which will be an interesting aspect of the Share initiative in the US, for example. There is a growing university interest in **research information management** - the management, evaluation, and disclosure of research outcomes and expertise, which connects in various ways with internal evaluation and management goals, funding policy and compliance needs, and broader reputation management on the web. Often, this is led from the institution's Office of Research. Additionally, research analytics has become of more interest as institutions assess comparative research strengths, collaborations, or compare themselves to peer groups. Bibliometrics may be one strand of this activity. VIVO provides a community-based approach to managing and disclosing "researcher interests, activities and accomplishments", and Elsevier and Thomson Reuters market research information management systems as part of a broader suite of services. The interest in expertise and research profiles, and the increased attention to research metrics, make this an area where library support for researchers will grow. At the same time, researchers themselves are using research networking and profiling services to manage, disclose and share their work more widely, as well as to discover the work of others. ResearchGate, academia.edu, and Mendeley are widely used in this way, for example.

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The curation of **research data** has emerged as a major university and library concern. There are several motivations for this, including funder mandates and data re-use. There is a very active community of interest here, and an emerging body of best practice (see for example the work of the Digital Curation Centre). Again, the library is potentially a partner in a multi-stakeholder activity across a campus, and libraries are developing programs around data curation and dissemination. Of special importance here is the impetus given to this activity by the NSF's requirement to develop data management plans in association with applications. It is also interesting to note the emergence of service providers of different types to meet a need - FigShare and Dryad, for example. Libraries are more directly supporting faculty and student **content creation and publishing** (Palmer, 2010). Vinopal and McCormick (2013) characterize an enterprise array of standard services as follows: "tools and support teams for activities including high performance computing; geographic information systems; quantitative and qualitative data analysis; data finding and management; the digitization, creation, manipulation, storage, and sharing of media content; repository services; digital preservation; streaming media platforms; digital journal publishing; online collaboration; and intellectual property consultation." They further note that the library is expected also to support the creation and management of faculty or project-based websites. Many libraries now have organized support in departments for digital scholarship or digital humanities. At the same time, libraries are providing support for the production of learning materials in various ways, a trend that will also become more

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important as pedagogic models (the flipped classroom, for example) require more use of prepared materials.

Allied to this, some libraries recognize a mission-driven role to support **open access publishing** models. A recent survey of ARL and other academic libraries noted that "The vast majority of library publishing programs (almost 90%) were launched in order to contribute to change in the scholarly publishing system, supplemented by a variety of other mission-related motivations." (Mullins et al., 2012).

A note on special collections

Recent focus on distinctiveness has turned attention, if not necessarily additional resources, to special collections and archives and to their role within research and learning practice.

> With renewed focus on value-based library assessment, there is increased attention to how special collections and archives contribute to research and learning agendas. This has encouraged a stronger focus on how materials are exhibited in the online environment, not just as lists or pictures of 'treasures' but as coherent collections of materials that support undergraduate education and advanced research. The special expertise that curators have traditionally

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> directed toward acquisition and management of collections is increasingly turned ‘outward’ to help contextualize and characterize the value of institutional holdings (Dempsey, Malpas & Lavoie, 2014).

In 1998, 78% of respondents to ARL's survey of special collections in member libraries stated that the number of courses or campus programs making use of special collections had increased over the previous ten years (Panitch, 2001). Increased emphasis on such outreach was somewhat in its infancy at the time. OCLC's later survey, which included ARLs, revealed that the mean number of course presentations as of 2010 was 91 (Dooley & Luce, 2010).

It is interesting to think about parallels between the ‘old’ and the ‘new’ unique institutional materials, between special collections and institutional research and learning materials. Each is a distinctive contribution of the institution; each is the institution's responsibility to preserve to the extent it wishes; each involves use of a metadata and repository apparatus, whether locally created or collaboratively or externally sourced; each involves engagement with learning and research practice in new ways; and each brings to the fore the archival concerns of provenance, authenticity, and context. Each also involves disclosure from the ‘inside’ to an outside world of users; for many of these resources, it is likely that there are more interested users outside the institution than inside it. For this reason, the management of these resources is often linked to reputation.

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Some questions

Rightscaling. Until recently, it was usual to provide systems support locally, and digital infrastructure is still fragmented by campus unit, or by type of material (e.g. research data, institutional repository, digitized images, video), or by workflow. However, as we have discussed there is a trend for infrastructure to be unbundled and consolidated in shared platforms, for management, preservation, or discovery. This may be collaboratively sourced (think Hathi Trust, for example) or sourced with a third party. At the same time, faculty and students may use a variety of network services to meet needs (FigShare or SlideShare, for example). As new infrastructure and information service needs emerge, the question of scale comes to the fore. What is the balance between institutional activity and subject-based repositories or PubMed, for example, in relation to preprints or research data? Jisc in the UK has developed a national level 'data archiving framework', which reduces the transaction costs of finding and negotiating for reliable data archiving capacity. Similarly, DuraSpace provides DuraCloud, a managed service for archiving data with various backend suppliers. DANS in The Netherlands provides national-level data archiving services. The Australian National Data Service is a collaborative response to data needs. In the US, we have seen the nascent Academic Preservation Trust (APTrust) and Digital Preservation Network (DPN) emerge as shared venues for coordinated preservation. APTrust, a consortium of leading US research libraries, is advancing work on a shared preservation repository in which research

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materials from many universities will be aggregated. In parallel, DPN is developing a federation of independently governed repositories.

Institutional organization and boundaries. Given the university-wide reach of these materials, they raise some interesting boundary and partnership questions on campus for the library and its relations with other divisions. As the creation, management, manipulation, and disclosure of digital collections of various types have become integral to a wide range of university activities, we have noted that a variety of campus divisions assumed information management roles. Collaboration across campus units becomes key.

From discovery to discoverability. There is something of a mismatch between discovery requirements for outside-in and inside-out resources. In the former case, the library wants to make known to its users what it has purchased or licensed for them, maybe alongside pointers to other materials. In the latter case, the library often wants to share materials with a broader community, with researchers elsewhere, with professional colleagues, and so on. This places an emphasis on effective disclosure, thinking about search engine optimization, syndication of metadata to network hubs, and so on. The University of Minnesota has done some interesting work on this question, identifying in which network resources it would like to see metadata for its various digital resources (Fransen et al, 2011). There is also a desire to have network level discovery venues, which pull together this material. This is done to some extent in Google Scholar, in

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Worldcat.org, in initiatives such as DPLA and Europeana, and in a range of disciplinary resources such as ArXiv. Effective discovery means syndication to search engines, to disciplinary resources, or to other specialist network level resources (e.g., ArchiveGrid, ARTstor). Libraries have to become much more interested in the discoverability of their resources.

Reputation and value shift. The role of these materials in enhancing the reputation of the institution is an interesting one, and one that is relatively underexplored or quantified. Special collections, research and learning outputs, and faculty expertise attract people to the university. A related issue is the shift in institutional resourcing that will be needed to support an 'inside-out' turn in the library. If there is a reallocation of the type we discuss here, it needs to be justified within the institution, which will require advocacy and persuasion. The case for curation and disclosure of institutional assets is supported in some instances by university mandate or faculty policies (such as required deposit of pre-prints).

Rights. There are two aspects to consider here. The first is that it becomes important to be explicit about rights as materials are disclosed so as to meet goals of reuse. The second is that there is a growing need for advice on campus, as publishing models and use practices shift.

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Libraries as Catalysts for On-Campus Collaboration

By Barbara Fister

Librarians are likely to roll their eyes when they hear the old cliché, "the library is the heart of the institution," not because it isn't a valid sentiment but because it ignores the all-too-common benign neglect of library budgets and library accomplishments. As a profession, librarians are less skilled at self-promotion than they are at ironic eye-rolling, with which they get a lot of practice. Libraries are assumed to be necessary to college campuses, but many decision-makers don't use them and therefore tend to view libraries through a personal historical lens, as places full of books and with technology that runs to nothing more novel than typewriters. They are traditional places, right? So probably they're more of a nostalgic artifact than a current and relevant resource.

Not all administrators take this view, of course. According to a survey and set of interviews with chief academic officers (Fister, 2010), respondents were proud of their libraries and of the work librarians do to help students learn in multiple ways. They were aware that massive changes are underway in the ways we create and share knowledge, and while they faulted librarians for failing to advocate for themselves effectively, they largely saw librarians as a positive and responsive force on campus and the library as a prime site for learning. That perception appeared to be largely based on the ways that libraries have partnered with other campus constituents to create a space for synergy.

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Perhaps the primary partnerships are between librarians and faculty in the disciplines. For decades, librarians have considered collaborations with faculty crucial for building collections that support the institution's mission and to support students' use of those collections in their learning. The interest in collaboration is asymmetrical (Christensen, Stombler, & Thaxton, 2004) – faculty have little incentive to tap librarians as experts, but librarians are highly motivated because faculty are key to reaching students in a context in which they are primed to care about how to find and use information. Librarians, as generalists, are often more able than faculty in the disciplines to help novice researchers get a handle on unfamiliar topics and research tools.

Students are a major constituent of academic libraries and are routinely consulted through surveys, focus groups, and other attempts to learn about their perspectives in order to improve library facilities, programs, and services. A recent survey of library directors (Long & Schonfeld, 2013) found that helping undergraduates learn how to develop information literacy skills and dispositions was perceived to be the most important of many critical library functions at all kinds of academic libraries but most strongly at baccalaureate institutions.

A similar survey of faculty was less conclusive (Housewright, Schonfeld, & Wulfson, 2013). Only 20 percent of faculty believed it was librarians' responsibility to help students learn how to locate and evaluate sources. Less than half felt librarians help students develop research skills. Responses varied significantly by discipline, with

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scientists least interested in involving librarians in their students' learning and humanities faculty most receptive. The same survey suggests that faculty feel the library's most important function is funding access to the research publications they need. Interestingly, this role, while still the most important to faculty, is less important than it was in previous faculty surveys. As it grows easier to share digital texts, interlibrary loan is often seen as less efficient than simply emailing a friend or taking to Twitter with the #icanhazpdf hashtag. Perhaps those workarounds have contributed to a decrease in library directors' prioritization of meeting faculty research needs since the 2010 director's survey, with significant drops at all types of institutions other than research institutions, where such support remains a strong priority.

However, recent years have seen a strong and growing alignment of library organizations with offices supporting student learning. Collaborations have grown more common involving the first year experience, academic advising, tutoring, writing centers, and support for English language learners and students with disabilities. To some extent, the long-term association of libraries with academic programs is now being joined by growing connections with student life and non-curricular academic support units.

Interdisciplinary and emerging areas of research and inquiry are also finding support in many libraries. The library director survey points to growing interest in utilizing locally important and unique special collections and archives materials with researchers and

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students, with a concomitant decline in more traditional roles in acquisitions, cataloging, and reference services. In many cases, libraries are becoming hubs for interdisciplinary digital humanities initiatives, either through consultation, tiered service programs, or by establishing digital humanities labs with staffing provided by the library (Maron & Pickle, 2014). In other cases, such centers have a broader remit, offering digital scholarship centers designed to serve a wide range of information needs regardless of disciplinary affiliation (Lippincott, 2014). For many smaller libraries, inviting faculty to use local unique collections in their courses and supporting students as they learn to use primary sources in digital projects may be a manageable approach to supporting and promoting digital humanities when hiring new staff is out of the question.

Student learning, lifelong learning, and partner in pedagogy

By Barbara Fister

There's nothing new about academic librarians perceiving their libraries as sites of learning. "A librarian should be more than a keeper of books, he should be an educator," Otis Robinson wrote in 1876 (as cited in Holley, 1976). "No such librarian is fit for his place unless he holds himself responsible for the library education of his students . . . All that is taught in college amounts to very little, but if we can send students out self-reliant in their investigations, we have accomplished very much."

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Though perhaps it is self-evident that academic libraries are meant to be educational, librarians have been avidly pursuing ways to make learning in the library a formalized and frequent curricular experience. Librarians feel committed to engaging with students as they learn to navigate information for school and beyond, though with rare exceptions, the practical limits of librarians' teaching role leads to a focus on helping students be successful as students, hoping that kind of learning has life-long benefits.

What we call this pedagogical role has changed over the years. An early name was "library orientation" (traces of which can still be found in the name of LOEX, the non-profit organization best known for its annual LOEX conference, first held in 1971). The term "bibliographic instruction" was used in the 1980s (and though it has fallen out of use, many librarians continue to refer to their classes as "BI sessions"). Now the phrase "information literacy" has been widely adopted to describe the library's pedagogical efforts. Some have argued that "transliteracy," the ability to communicate in multiple modes using various platforms (Newman & Ipri, 2011) or "metaliteracy," which emphasizes fusing multiple literacies that contribute to producing and sharing content in a more participatory Web environment (Mackey & Jacobson, 2011) offer ways to supplement or broaden information literacy to embrace a full range of skills and dispositions needed today. But time will tell what terminology will be embraced in the future.

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Library-directed instructional efforts are most strongly identified with programs that involve librarians in formal teaching. A common site for this teaching is within the context of courses taught by faculty in the disciplines, meeting with the class once or more to introduce research tools and processes that will help students with a research assignment or (in the case of first year composition) introduce them to the basics of finding sources for college-level writing. In some cases, librarians teach one or more credit-bearing courses. In other cases, they may be embedded in a course by co-teaching it, teaching a lab section connected to a course, or by simply being available and involved in the course throughout the term. Though librarians have long criticized the inadequacy of single instructional sessions within a course (colloquially known as "one-shot instruction"), that format remains a mainstay of many library programs and is particularly systematic in first year writing courses. Indeed, a recent study from Project Information Literacy about the first year of college found that librarians and writing instructors play a significant role in introducing first year students to college-level research (Head, 2013).

Support for student learning is not limited to the classroom. It also includes improving user experience design of the library's Web presence, publishing subject and course guides, designing tutorials, creating spaces within the library building conducive to learning, and providing instruction for specialized resources such as archives, special collections, datasets, GIS, or multimedia. It's interesting to note that the traditional site of one-on-one point-of-need learning, which James Elmborg (2002) called "perhaps the

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most natural constructivist teaching environment in our schools" (p. 463) - the reference desk - is on the decline. As basic information is more easily retrieved without special skills and as the overall number of positions in libraries decreases, scheduling librarians to be available at a specific location has increasingly been called into question. When projecting what areas would see growth in the next five years, library directors prioritized instruction over all other roles, but were nearly as likely to reduce reference roles as to invest in them (Long & Schonfeld 2014, p. 30). In many cases, the functions carried out at a reference desk have been relocated, with the time professionals have devoted to being available at a centralized location for a diminishing number of interactions reallocated to other instructional tasks, with tiered reference and reference consultations by appointment providing one-on-one coaching and personalized assistance.

Looking back at the literature of library instruction, it's clear that encouraging deeper conceptual learning, designing effective active learning techniques, developing greater coherency in situating information literacy in the curriculum, and promoting transferable knowledge have been priorities for nearly as long as librarians have offered instruction. The current process of revising the *Information Literacy Competency Standards for Higher Education* (ACRL, 2000) is attempting to formalize those ambitions by articulating cognitively challenging concepts to serve as the anchors of a new framework. Both the 2000 *Standards* and the emerging *Framework for Information Literacy* have been proposed as joint ventures, not as marching orders for librarians.

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Both documents attempt to articulate the complexity of what we ask students to do when they encounter, use, and create information. They both suggest in accompanying material that this isn't something librarians will accomplish on their own. Yet when librarians embraced the *Standards*, they often did so as if all of them had to be taught and assessed by librarians, who didn't always find them useful as an invitation to an institutional examination of the role of such learning in the curriculum - or who, perhaps, grew discouraged when such overtures were rejected. The new *Framework* is intended to promote cross-campus conversation, but it's not at all clear at this point if that will be more likely with the new document than with the old.

Susanna M. Cowan (2014) characterizes this conundrum as "the battle we won that we lost." In her analysis, librarians began to embrace their pedagogical role in an era when information was scarce and finding it was hard. Cowan argues that information seeking is now woven into the fabric of everyday life. Indeed, in a June 2014 Supreme Court decision, Riley v. California, Chief Justice Roberts commented that cell phones are "now such a pervasive and insistent part of daily life that the proverbial visitor from Mars might conclude they were an important feature of human anatomy" (p. 9). Given that profound change in how people use information, Cowan questions whether our continual advocacy isn't actually narrowing our focus by asserting a continuing special expertise that artificially binds what we teach to the library itself. "Information literacy," she writes, "must, like so many other library services, enter the *educational commons,* in the sense of a collaborative network of pedagogies and practices that crosses internal

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and external institutional boundaries and has no “home” because it lives in no one place” (p. 30). She suggests that we either reinvigorate our efforts to give faculty and students ownership of this kind of learning or simply stop trying so hard to develop programs of our own and take the time to step back and observe how our communities discover, use, and create knowledge so that we can consider whether our efforts are actually contributing to information literacy.

If Cowan is right that our long, successful establishment of information literacy programs as an important role for academic librarians has been overtaken by a cultural and digital environment in which information is ubiquitous, knowledge is abundant, and librarians no longer have a special responsibility for it, then what comes next? Is it possible that highly-developed library-led initiatives will actually defeat our purpose by making information literacy a library project, isolated from the wider world of information? To a large extent, this is a longstanding problem for librarians. We know this kind of learning is critically important. We believe opportunities for becoming information literate aren’t adequately provided in the curriculum so that students will gain systematic exposure to and get practice using and creating knowledge in multiple contexts. We have a wide-angle lens on the issues that our siloed disciplines lack. But we seem trapped in a model of servant leadership that sets up a tension between leading and serving. Our most common route to students’ attention is through service to the courses they take in other departments, but that route is circuitous and often reduces our contribution to introducing a database full of content our graduates will

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lose access to, or orienting students to the vagaries of a particular library's organization, making it difficult to consider more cohesively where knowledge comes from, what social and economic factors influence it, how students can develop a sense of agency in posing problems that matter to them, and how they can develop a voice of their own within the framework of scholarly conversation. That work is most likely to happen in the classroom and in research apprenticeships, but we don't entirely trust faculty to take it seriously or bring to it a wide enough angle on a changing information environment.

While we have succeeded in making student learning a priority for our profession and have brought it to the attention of the academy writ large, seeing it adopted by higher education organizations and included in accreditation standards (only to see it disappear), we haven't yet mastered the art of infiltrating the curriculum and sharing both ownership of the work and a belief that it's fundamentally important with those who have the greatest influence over students. Perhaps the next step will be recognizing and exposing the value faculty see in this set of skills and dispositions that they care deeply about, but rarely identify as "information literacy." Perhaps we can help them get a broader perspective on the information environment in which their scholarly conversations occupy a valuable but parochial territory, and think more intentionally about the value of this kind of learning for students who will likely leave that part of the landscape behind on graduation, equipped to find their way through unfamiliar, undiscovered lands.

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In addition to local and national advocacy on the part of academic librarians, developing a better understanding of how students learn and why this learning matters will help make this thing we call information literacy a shared enterprise. At the local level, assessment (discussed below) can provide faculty with insights into their students and their learning provided it is driven by curiosity and an interest in improving learning, not by institutional self-defense (as "return on investment" rhetoric so often frames it). At the national level, Project Information Literacy (PIL) deserves special recognition. Though the library literature is full of published research, it suffers from its own parochialism. PIL is the first multi-institutional set of studies in our field to gather a significant body of data about undergraduates using sound methods, addressing its findings to higher education generally. From projects such as this, local insights gained through effective assessment, and a commitment to sharing findings and discussing solutions with faculty, perhaps librarians will be able to provide leadership that is not based on library organizational structures or on a suite of services, but on a shared commitment to making students ready to engage a world in which information is abundant and their ability to make sense of it and contribute their own insights might just make it a better one.

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Assessment of Student Outcomes and Systemic Analytics

By Steven Bell

Assessment may strike the reader as questionable subject matter in a 2015 collection of essays about new roles for academic librarians. Academic librarians, after all, are hardly strangers to the topic, and some fill campus leadership roles in adapting assessment mechanisms to the delivery of services. In the past decade the position of Assessment Librarian or User Experience Librarian has emerged as one of those most frequently added to the organization chart, conferences are dedicated to assessment, articles abound in the professional literature and the Association of College & Research Libraries is developing proficiency standards for assessment librarians. Thus it would seem that assessing student learning, resource effectiveness or any other of dozens of quantifiable and qualitative library services is firmly fixed territory within the academic library landscape. Granted, as a profession we can improve our mastery of collecting and analyzing data in support of better decision making. Despite all the gains made in the assessment arena, from conferences to dedicated discussion lists and hundreds of journal articles, there is still more work needed to deliver the type of assessment that will enable academic librarians to target their support services to those most in need of it - the academically struggling student at risk of losing it all. Looking down the new road, the signposts point the way to an infusion of new technologies that academic librarians will adopt to aid them in assessment.

Much of the current assessment taking place in academic libraries is the summative type; the focus is on assessing our impact at the end of the learning or service delivery

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sequence. To what extent did our intervention impact the student's grade or their grade point average? Did our instruction session cause the student to choose better resources to include in their research paper bibliography? Does the arrangement of the study area furniture contribute to an improvement in study habits? There are endless questions for assessment projects. Owing to new technology developments in the area of learning analytics and automated assessment software, academic librarians may be able to shift to more formative assessment that allows them to intervene at the point of need when students are struggling academically. As higher education assessment becomes more systematic and predictive, academic librarians can add a new dimension to their portfolio of assessment activity.

Higher education institutions began experimenting with learning analytic software a few years ago. Purdue University, an early adopter of this technology, developed a system in 2009 called Course Signals. Using a combination of data, including grades, demographics and interaction with learning material, analytics software uses algorithms to produce, on demand for a student, an indicator signaling an instructor to take action. For example, a yellow signal may prompt the instructor to contact the student by email or arrange for a meeting to review that student's course performance. Research on Course Signals shows that this type of formative assessment increases student retention by using early warnings to intervene at the point where a student is struggling (Arnold & Pistilli, 2012).

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SIDEBAR - *New Roles - Preemptive Support and Response Specialist* - While they are somewhat rare today, more colleges and universities are looking into software systems that provide analytical analysis of student performance for early warning of academic difficulty and potential failure. Both two and four year institutions are adding "Fly in Four" type programs where at-risk students are pooled and assigned to advisers that help them get past the initial fear of failure that often leads students to dropout as freshmen when they first encounter the academic rigor of college that differs so greatly from high school. Research from Project Information Literacy demonstrates that when it comes to doing college-level research, many students lack confidence in their abilities and it leads to procrastination and failure. Just as analytical and early warning systems look for signs of potential failure, such as missing classes, a poor midterm grade, too few submissions to the course discussion group, etc., the Library Preemptive Support and Response Specialist receives and monitors student performance on research assignments and identifies as-risk students who needs additional attention and personalized assistance. This Specialist helps the institution to retain students by equipping with the skills needed to be a successful researcher as well as helping those students build a relationship with a librarian.

Using both library-generated and institutional data, academic librarians could develop similar analytics systems or collaborate with faculty who use them as well. As library assessment efforts go beyond the counting of inputs and outputs, they shift to measuring the extent to which librarian services and resources contribute to student retention, persistence to graduation, research productivity and overall academic

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success. Harnessing analytic technology could allow librarians to establish an intervention role when the algorithm identifies students struggling with research assignments. While students drop out for many reasons, from financial to family challenges, academic failure is one of the top contributors to an early departure. It is more common among low-income and first generation students who may arrive at college feeling prepared, but who often give up early on if they suffer academic setbacks.

Findings from Project Information Literacy reinforce that the transition to college-level research can easily overwhelm college freshmen. The 2013 report "Learning the Ropes" studied the freshman transition to the college library and found that the lack of confidence in research skills and dependency on Google search contributes to an aversion to research (Head, 2013). According to the report, many freshmen do eventually develop the capacity to exceed the limitations of their high school research experience. What about those who remain limited to Google and Wikipedia searching, and as a result fail to develop the necessary research skills for success? The Report makes good suggestions, such as better connections between high school and college librarians, but better assessment through analytics is not among them. That's not to fault the PIL researchers though because too few academic librarians have adopted a preemptive approach to identify the students who need the most support making the transition to college-level research. But the PIL research clearly points to a need for such intervention if it were technologically possible.

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American higher education is under great pressure to introduce reforms that will make a college diploma accessible to all those who desire it. That means keeping tuition affordable, helping students persist to graduation and developing new paths for earning degrees on campus and online. If colleges and universities are unable to do this voluntarily, they can expect even more pressure to make it happen thanks to some new "tough love" initiatives, as evidenced by the Obama administration's proposed college rating system (Gardner, 2014). By design it will impose more stringent accountability measures while forcing institutions to improve accessibility, graduation rates and even post-graduate success if they want to improve their ratings. New approaches to assessment are an important piece of the strategy to help students avoid dropping out too soon or staying on too long, both of which are costly to colleges and universities. The rise of special intervention programs such as the Texas Interdisciplinary Program at the University of Texas, which uses analytics to identify at-risk students and track their academic performance so advisers can be notified if students need special assistance, are likely to become more common at both public and private institutions. Those academic librarians who embrace assessment should adapt well to an evolving role in which analytic methods are used to identify students when they are at the point-of-need for research support. That evolving role may expand to include new responsibilities for academic intervention or working on teams with administrative or college-linked assessment professionals to coordinate the delivery of support services to students.

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However, our profession's inherent concerns about the importance of protecting privacy and the unwarranted mining of student data might challenge our ability to adopt this new role. It is part of our professional DNA to safeguard any data about our community members' library activity. These fears are understandable owing to repeated higher education security breaches, many owing to human error, that have exposed private student data. But should we allow those fears to create roadblocks to potentially beneficial services to students, particularly if we could introduce the types of security measures needed to protect our community members' right to privacy? In an opinion piece for EdSurge in 2014, Steve Rappaport addresses these exact issues of the data debate. He acknowledges the profound distrust for those who seek to mine big data in any sector of American education. There is another narrative that he says is often overlooked, in which data use is central to the mission of the education system whether for the proper administration of courses or managing financial aid. The desired outcome is properly managing data for use in the service of teaching and learning without sacrificing privacy or security.

There are two scenarios in which academic librarians could manage the use of student data in learning analytics technology to balance the need to help students achieve academic success with concerns about the library tracking student data, and correlating it with academic records to create intervention opportunities. First, it could be an entirely opt-in choice for students. Many students who achieve academic success

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independently and demonstrate no need for additional support could completely opt out. First-generation students, those from low-income households and others in at-risk situations may prefer to opt-in to allow monitoring by the library in order to give themselves an advantage when it comes to getting personalized research assistance at the point of need. Second, learning analytics will likely be a requirement for students that enroll in specialized support programs like the Texas Interdisciplinary Program. When colleges and universities invest funds in these programs to boost student success and persistence to graduation, they will seek to implement analytics to keep students on track and it is a trade-off students will likely accept. In order to receive a scholarship, extra support or preferred advising, students will understand that their academic performance will be closely monitored. In exchange for allowing their data to be mined by predictive analytics systems, the students receive a better shot at getting a diploma.

The transition from counting inputs and outputs to focusing on the library impact on academic performance is still in an early phase. At present, there are multiple academic libraries that are slicing and dicing student record data along with library usage data in order to demonstrate that library use by students contributes to higher grade point averages, better retention and any other indicators where the academic library does matter when it comes to student academic success (Soria, Fransen & Nackerud, 2013). If academic librarians are able to master predictive assessment techniques it may complement efforts to promote adaptive learning for library research skills. It is, quite simply, software that allows a more personal form of learning, offering an

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individualized consultation activity. Imagine an adaptive learning system that, using analytics, could detect when a student requires additional instructional content on locating scholarly articles or avoiding plagiarism, and could deliver librarian-produced tutorials at the point of need or automatically create an appointment for a consultation with an academic librarian.

SIDEBAR - New Roles - *Adaptive Learning Specialist* - May work closely with the *Preemptive Support and Response Specialist* to identify students in need of personal attention because their individual learning analytics indicate they need more academic support. The Specialist works with instructors to customize an adaptive learning process for the student. While adaptive learning systems are relatively new in American higher education, more colleges and universities are planning to adopt them. The Specialist is a library staff member who focuses on creating adaptive learning activities for college students who need to improve their research skills. The Specialist adaptive learning technology skills to the academic library.

Adaptive learning systems can pave the way for learners to complete their degrees with greater independence and a curriculum more finely tuned to their academic interests. In the *Chronicle of Higher Education's* special report on *The Innovative University: What College Presidents Think About Change in Higher Education*, when presidents were asked which innovation would have the most positive impact on learning, 61% responded that adaptive learning would revolutionize personal learning (figure 8, p.19) (Selingo, 2014b). Presently, most adaptive learning technology is produced by commercial publishers and is used primarily by for-profit higher education institutions

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to allow their students to customize their learning while reducing the need for routine presence by instructors (Fain, 2014). In this setting computers are being used to accomplish learning tasks conducted by humans in traditional higher education, a highly controversial application. When or to what extent the rest of higher education would implement these types of personalized learning systems is uncertain, but if they prove successful in reducing cost while boosting graduation rates, it is likely that college presidents would encourage adoption. When that happens, academic librarians may be able to use these systems to offer a more personalized approach to library instruction that incorporates better technology for assessment and learning analytics. As is often the case with what we see traveling down the new road, it will require us to rethink our roles and determine how we can best preserve our noble past as we adapt to a radically different higher education future and find a balance between the two.

SIDEBAR: Flashpoint - Analytics and Adaptive Learning: Beneficial or Boondoggle

Steven: While I understand the concerns that academic librarians have about keeping student data private, I think you have to look at the big picture of what's happening in higher education. When you do that you see that it's a change we have to seriously consider, and the use of these tools is already happening. It's just a question of how does the academic librarian leverage these technologies in a way that create a balance between do something that benefits the learning in need while keeping private data

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secure. That said, I do believe that the application of such technologies should be transparent and allow students to opt in or out. Not every student will need these technologies to be academically successful but for the ones that do, I believe they are beneficial.

Barbara: As Edward Snowden said during an alternative to the Queen's Christmas speech in 2013, "privacy matters." Some citizens may have been lulled by the entertainment value of "free" social platforms (actually paid for with loads of aggregatable personal information and targeted advertising) into believing privacy is a thing of the past. Facebook officials have said that privacy is an archaic social norm and is no longer relevant and if you are so concerned about it, you're probably doing something you shouldn't. They weren't so casual about privacy when we learned that the NSA was data mining massive amounts of personal information, but the problem wasn't invasion of privacy; it was the damage done to Internet security protocols and to the reputations of American companies. As librarians, we know privacy matters because it's a condition necessary for intellectual freedom. Participating in schemes to use personal behavioral data to "improve ~~the customer experience~~ student learning" is capitulating to the unproven notion that analytics are smart and subtle enough to identify and fix difficulties students are having. I would argue that human beings are much better at doing that (as unpopular as that notion is in the era of adjunctification), and that learning is more complex than algorithms might suggest. Libraries should be

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places where learners pose problems of their own and practice freedom. Yes, I'm alluding to Freire's *Pedagogy of the Oppressed*, but that's because this current obsession with analytics is a modern-day high-finance banking concept of education. Try reading Gradgrind's speech in *Hard Times* by Charles Dickens, substituting the word "metrics" for "facts" and you'll see where I'm coming from. [2]

Librarians Supporting the Creation of New Knowledge

By Barbara Fister

Though libraries have always supported the creation of new knowledge, librarians' involvement in that process is shifting. Skills that helped librarians bring the world of knowledge to the local community are now being reexamined and retrofitted to support the processes of creating knowledge locally. Librarians are increasingly supporting students and faculty who are gathering original data, creating visualizations, developing digital humanities projects, and sharing their scholarship through publication. This change in perspective shifts the focus from sourcing finished products from publishers to providing the infrastructure to produce new things locally and make them available globally.

[2] "'Now, what I want is, Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else, and root out everything else. You can only form the minds of reasoning animals upon Facts: nothing else will ever be of any service to them. This is the principle on which I bring up my own children, and this is the principle on which I bring up these children. Stick to Facts, sir!'"

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This requires new skills and new programs. One area of growing importance is the provision of data services, both to support the use of data (including geographic information systems and other kinds of data visualization) in student and faculty research and to assist in the management and preservation of original data generated by researchers. Increasingly funders and publishers expect data related to published research to be maintained and publicly available. Libraries, in collaboration with IT and researchers, are seeking to identify their role in supporting this non-textual form of information.

In some cases, libraries are expanding their definition of information literacy to embrace quantitative literacy, visual literacy (including moving images), and archival literacy, which provide additional opportunities for collaboration and curricular synergy, as well as new ways to explore the meaning of information in multiple dimensions (Steen, 2001; Brown, Bussert, Hattwig, & Medaill, 2013; Brooklyn Historical Society, 2013; Yakel & Torres, 2003).

Finally, librarians are increasingly providing various levels of publishing support, including hosting journals, publishing conference proceedings, supporting student publications, partnering or merging with university presses, establishing funds to assist researchers who want to publish in open access journals that require author-side fees, or even founding new scholarly presses, as Amherst College has done. In a more

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classical vein, the Colorado College library partners with academic departments and the Press at Colorado College to provide students with a thematic minor in the book. The Marriott Library at the University of Utah has a books arts program, offering credit-bearing courses, workshops, and outreach to local schools. An organization formed to support these forays into publishing, the Library Publishing Coalition, has a mission to "support an evolving, distributed range of library publishing practices and to further the interests of libraries involved in publishing activities on their campuses." Its directory, which lists over 100 publishing programs in academic libraries, is going into its second edition.

Conceptually, the library as an organization, a physical and digital location, and a well-recognized cultural institution, is a natural setting for supporting the creation of new knowledge. Libraries are perhaps uniquely positioned as a campus crossroads where all of the disciplines come together, where students socialize, study, and snooze, where the mission and the distinguishing characteristics of the institution intersect with the wider world of knowledge, past and present. Though the library as an institution is still popularly identified with books, it can also be an art gallery, a space for traveling exhibits, a performance center, a lab, a makerspace, and a press. It's a place where students can discover who they are as they begin to join the enduring conversations that define scholarship, a place where faculty can get support as they explore innovative and open ways to share their findings. The library, as the common ground for the campus and a local node on of a global intellectual commons, can embody and model

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values that connect and can make the world a place where all are encouraged to think freely, create, and share for the greater good.

SIDEBAR - Cautionary Tales

Often, a librarian hired to take on a new role, typically involving technology and/or new services, will fall victim to *new hire messianism*, a mistaken belief that the new person who is bringing new skills to the organization will naturally become responsible for every new thing the library might want to embrace. This isn't a problem in designing a position that's impossible; it's a failure of the organization to build the expectation of growth and change into all existing positions, and providing the necessary time and financial support so that library employees can embrace new challenges and constantly fold them into their work (Library Loon, May 24, 2011).

Another problematic affliction of some organizations is the *coordinator syndrome.* This malady afflicts librarians who are given responsibility for important and complex roles without being provided the authority and resources to accomplish those responsibilities (Library Loon, December 15, 2011). Librarians succumb to *coordinator syndrome* when introduced into arboreal environments in which other librarians have established deep roots in their roles and resist becoming entwined with others' roles as it is perceived as a threat. Coordinators thrive best in rhizomatic environments where root systems are far-reaching and interconnected (Painter-Moreland, 2013).

Finally, the *Bartholomew Cubbins Effect.* In smaller academic libraries, there are never

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enough librarians to separate out roles distinctly or add new lines as new needs arise. In such libraries, librarians are used to wearing many hats. With the proliferation of needs requiring new knowledge and skillsets, the number of those hats proliferates. As librarians at smaller institutions determine priorities, they must individually and collectively decide which new hats can be accommodated and which old hats are no longer worth wearing. This requires a keen eye for sorting valuable new haberdashery from that which is merely trendy and the ability to choose hats that fit. It also means being realistic: 500 hats is too many.

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Librarians as Guides to Information Policy and Trends

By Barbara Fister

All academic librarians need to develop the means to keep up with new developments in publishing, copyright, digital technologies, and the social and cultural environment for creating, sharing, and accessing information. But they should do more: They should develop a means to share what they learn with their local community so that students, faculty, and staff understand and can shape the world of knowledge beyond the narrow confines of their traditional disciplinary practices. Librarians have not had notable success capturing the attention of busy faculty, who often fail to connect their personal publishing practices with journals cancellations and are shocked to discover that in many cases they have no legal right to post online the articles they wrote (Peterson,

2013). It's frustrating for librarians who have labored for decades to educate their faculty about the problematic economics of journal publishing to see smart people fail to grasp what seems so obvious to us - you signed a publication agreement that explicitly transferred the copyright to the publisher, so why are you surprised that they are exercising that extremely profitable right that you donated to them? But that could be because librarians have failed to frame the issues as something much larger than a library problem. Likewise, we haven't positioned librarians as expert at anything other than running libraries.

This is an excellent time to shift those frames and position ourselves differently. Faculty are trained extensively by their mentors in graduate school to understand disciplinary practices for establishing one's reputation in the field. This reputation-building (which is crucial for scholars' careers as well as for the advancement of the discipline) is performed through a dissemination system that is highly specific to the community formed around fairly narrowly-defined subject expertise passed on traditionally. What is missing is the bigger picture, the connections among the publishing traditions (both scholarly and outside scholarly communities) that affect the entire ecology of knowledge. Librarians may be relatively ignorant of what the change in an editorial board signals to authors or why one journal is considered stodgy and another daringly cutting-edge because we are not disciplinary insiders. Yet we can see how certain traditional practices can inhibit or promote sharing knowledge beyond those privileged enough to have broad access to scholarship. We understand how it all connects: how

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the financial value of a chemistry society's publishing program affects the market for academic books in sociology or comparative literature, how one discipline's "essential" journals cost more than others because some disciplines are funded at a much higher rate than others. We can explain how a bill introduced in Congress might further tilt the constitutional balance between rights owners and the "progress of science and the useful arts" because we deal with the big picture daily.

Librarians need to get better at monitoring changes in this big picture and better at communicating it to those who are vastly more familiar than we are with some small piece of it and are understandably proud of their hard-won expertise. This requires being able to respect and be curious about disciplinary values while relating the way they are represented in the published record to larger economic systems. It means being *au fait* with copyright case law as it unfolds and developing channels for sharing the likely impact of those court decisions. It means being familiar with the four factors test for fair use and confident enough to offer advice that does not succumb to an overly-cautious stance. It means shifting from a passive service orientation that privileges "we'll do whatever it takes to get what you ask for" to "let's talk about why getting what you want is difficult and why that problem matters beyond this campus." We are not simply local handmaidens whose highest calling is obtaining published objects on demand. We're here to help our communities while ensuring the best possible environment for intellectual freedom for all.

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It's not fair to our students or faculty to keep our values to ourselves while locally acting as amiable purchasing agents for costly consumer goods. We are positioned to be educators in a broader sense than "we can help you find sources for that paper" and "let me show you this new technology that could improve your research productivity." As helpful as those things are, we can do much more. We can be cartographers of the big picture, helping students and scholars see how legal and economic trends influence the ways knowledge is shared and hoarded. We can make access to information and to the tools of knowledge production a matter of social justice and global stewardship.

Libraries are arguably the intellectual common ground of their campuses, welcoming to first year students and to senior faculty alike, providing access to ideas from every discipline. We enable connections as ideas mingle and collide. Our libraries are also local nodes in an interconnected knowledge commons that is threatened by privatization and commodification. We need to look beyond our narrow identities as local purchasing agents and walled gardeners and actively promote the health and viability of knowledge by sharing our understanding of the big picture both locally and beyond our own discipline. We can do much more to make our defense of the value of sharing and preserving knowledge a common cause.

Section 3: Responding to opportunity: Creating a new library landscape

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Introduction: The Value of Our Values

By Barbara Fister

The amount of change academic librarians have effected in their institutions over the past 75 years is astonishing. The more recent pace of change since the Web became a conduit for sharing information has been dizzying. The effort to redefine libraries as an essential part of our scholarly and educational cultures has been ongoing, and the tension between the old and the new has been constant. Yet, in spite of jeremiads about the necessity of change and the threat of irrelevance, in spite of brutal budget cuts and the difficult balancing act of taking on new roles while staff lines are eliminated, academic libraries continue to be essential to institutions of higher learning.

What is it that makes academic libraries an enduring part of higher education in an era when information is abundant and consumer mechanisms have made it easier than ever for individuals to discover and acquire it? (Anderson, 2013). It's not just inertia or nostalgia. Though libraries have changed greatly, they continue to provide access to curated information and an institutional common ground where students can learn to find information, analyze it, and practice the skills and dispositions that will enable them to create and share their own understanding. Regardless of whether they compose that meaning on a typewriter, a computer, a digital multimedia platform, or in some format we can't foresee, the fundamental challenges of making meaning remain the same, just

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as the fundamental purpose and character of the library as a social and cultural institution endures.

What makes the library durable isn't the content of its collections (though they matter) or the technologies that make that content discoverable, or the services and programs librarians provide to make the library a site of learning and discovery. Rather, it's a set of values that provide us with a sense of purpose and a common foundation for our actions. These values, described in a variety of policy statements developed by the American Library Association (2004), have been collected into a single list. In aggregate they describe cultural and intellectual principles that ACRL members will recognize as the foundation of their daily practice.

- Access
- Confidentiality/Privacy
- Democracy
- Diversity
- Education and Lifelong Learning
- Intellectual Freedom
- Preservation
- The Public Good
- Professionalism
- Service
- Social Responsibility

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Some of these values can come into conflict with others. The public good may be given less consideration than service to our institution when budgets are tight. Access to more information *right now* through annual licenses or by purchasing an article for the personal use of a patron may trump our interest in preserving that information for the future. Education and lifelong learning may seem hindered if privacy concerns inhibit the use of predictive analytics. It's not always easy to align these values when they are embedded in social and economic structures that put them in competition.

One could argue that the realpolitik of demonstrating our value to our parent institution in an age of austerity is in tension with libraries collectively serving the public good (Association of College and Research Libraries, 2010). This mirrors the conflict over the purpose of higher education. Is it an overpriced government-subsidized personal investment in a brand-name credential? A production line for a well-prepared workforce? An incubator for transferrable scientific and technological innovation? Or is it critical social infrastructure for democracy? That last option is difficult to measure and politically unpalatable. If making tuition more affordable again required reversing tax cuts, legislators would face the wrath of well-financed opposition. It's much easier to let wealthy philanthropists or market forces decide what's good for the country than to reform our taxation system. Likewise, the compromises we make in order to serve our institutional mission are far easier than holding out for values that require a longer view

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and a more inclusive vision of who we serve. As we navigate a succession of budgetary whirlpools, we may lose our sense of direction.

Yet a counter-argument could be made that libraries are in an unusually strong position to offer a valuable alternative to the privatization of public institutions and the commodification of knowledge. Libraries as social institutions have an unusually positive public image (Zickuhr, Rainie, Purcell, & Duggan, 2013). They present a model of cooperative sharing and public service that is traditional yet radical, given the dominant presumption that the action of markets drives human behavior. The idea of a library takes the "neo" out of both conservative and liberal, asserting the value of the commons, the importance of diversity, and the wisdom of offering intellectual freedom to all.

Academic libraries have a powerful platform from which to advocate for our values, but not just for the sake of libraries and not just for the sake of our user communities. The values we hold are of immense importance to a world in which knowledge has been transformed into intellectual property, the Web has been turned into a shopping platform, and social interaction online is used to collect and monetize our lives, with the unfortunate consequence of hastening what a former NSA official described as a "turnkey totalitarian state" (Bamford, 2012). As the invisible infrastructure of our technological future is taking shape, society needs library values more than ever.

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We have the opportunity to imprint our values on the future for the common good. What follows are some thought about how we might do that.

Intra-Institutional boundaries: new contexts of collaboration on campus

By Lorcan Dempsey

A major theme of this volume is that technology is changing how our work is organized across organizational units. As information management becomes pervasive of university activities, it is natural that other centers of digital information management have emerged on campus, either newly created (around support for digital scholarship, research data management, or online course development, for example), or evolving from existing units (the University Press, for example, or a broader role for the CIO's office). This creates organizational choices for the University in how it arranges information management services internally. It also becomes natural to think about how information management support services are aligned across these existing and new organizational units. While there may have been different original emphases and purpose, there are important convergences as work is reconfigured in a digital environment.

This means that for the library, new collaborations and configurations are emerging, although, again, strategies often appear to be emergent rather than deliberate, representing pragmatic accommodations between campus players and purposes. Local

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politics and personalities are likely to be very important, and there is yet no organizational pattern. It is even more important for the library to consider how it positions itself, and to be an advocate and partner. Scale is obviously also an issue here, as the dynamic may vary depending on the size of the institution and the capacities it has available.

Here are some examples that have arisen more or less successively in recent years.

Library and the CIO. Libraries and IT (variously named and structured) have interacted since automation began. As digital infrastructure has grown in importance, so has the role of the CIO. And now as universities look at securing the infrastructure to manage research data, video, and other digital institutional assets (locally or in collaboration), or as libraries look to move their systems infrastructure to the cloud, potential interaction points grow and evolve.

Library and learning. The learning and teaching support in a university will be managed in various ways, with various levels of library support and interaction. This has been discussed elsewhere in this volume. Most institutions now maintain one or more course management systems, and maybe other learning and teaching infrastructure. Of course, a range of information, communication and groupwork resources is also associated with that infrastructure. Interaction may revolve around informational needs (reading lists, resource guides and course reserves), or around making resources visible within course

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management workflows, or around managing course materials. Trends in distance learning, MOOCs, or flipped classrooms pose information use and production questions. And the need for copyright advice is greater. The contribution the library might make to learning analytics is under discussion in several places in this work.

Library and publishing. As publishing processes evolve, as institutional research and learning resources are managed and disclosed to the world, and as new modes of scholarly publishing are explored, so do boundaries between publishing, library and resource management become more fluid. The University Press, or new publishing initiatives, may or may not be associated with the library. The University of Michigan has an interesting collection of activities under the MPublishing label: " By bringing together the talents and resources of the University of Michigan Press, the Scholarly Publishing Office, Deep Blue (the University's institutional repository service), the Copyright Office, and the Text Creation Partnership, MPublishing builds upon the traditional publishing strengths of the University of Michigan while creating and shaping sustainable publishing models for the future."

Library and research infrastructure. As information generation, management, manipulation, and disclosure become integral to a larger part of research, universities are considering organizational management support for these. Data curation provides one example. In some cases these interests may have crystallized around a digital scholarship or 'digital humanities' organizational hub, or some capacity in a department

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or school; in other cases it is not formalized. Libraries are also developing services here and in some cases may host such units. It is interesting to look at the 'history' of the Center for Digital Scholarship at Brown University Library.

Library and research information management. Research Information Management is emerging as a service category as universities begin take a more coordinated approach to collecting data about the end to end research process: funding, projects, PhD students, research outputs, expertise, and so on. This may be driven from different places, but is often a concern of the Research Office on campus. This category is well-established in Europe and elsewhere because of formal research assessment regimes which tie public research funding to quality of research outputs, and require documentation. Promotion and tenure requirements, the emerging regulatory environment around open access to the outputs of federally funded research, and the desire to more effectively disclose institutional expertise are all more general drivers. It is interesting to see that Thomson Reuters and Elsevier has each made acquisitions to support a research information management system (Converis and Pure, respectively) as part of its suite of research management and evaluation services. Interest in Symplectic has grown, and the Vivo community is widespread. There is strong interest in research profiling and expertise systems, and the Share initiative will certainly highlight factors around research information management generally. Again, this is an area where the library role is likely to be carried out in partnership with other campus partners, and where positioning as a provider of expertise is important.

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It is also worth noting that as library space is no longer configured around collections, but rather is configured around experiences, this also opens up partnership and organizational issues, as other units on campus come into the library space. This may be the case as access to specialist equipment or communication facilities is made available, or expertise in publishing, data management or visualization, is housed in the library.

These developments have led to various well documented boundary issues - between libraries and IT for example, or libraries and e-learning. It has also led to really interesting new service configurations bringing together previously disparate service areas as common interests become clear. It is surely likely that these new configurations will become more common in the next few years.

Right-scaling and conscious coordination: new context for collaboration between institutions

By Lorcan Dempsey

Introduction. There is a rich history of consortial activity and a variegated pattern of consortial affiliation across North American academic libraries. A library may belong to a variety of consortia, which operate at different scales (e.g. university system, state, regional/national), include different types of libraries, and serve different needs (Malpas, 2014; OCLC, 2013; Guzzy, 2010).

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Consortia create scale. As libraries continue to leverage scale to increase efficiencies and impact, we will see consortial activity evolve and diversify. This is the context in which Wilkin and Courant (2010) talk about a growth in 'above-campus' library services and Neal (2010) talks about the benefits of 'radical collaboration'.

The motivations for such collaboration are clear: efficiencies and impact. Libraries create efficiencies through resource and system sharing, cooperative licensing, shared training, and so on. And they create impact by working together to amplify their reach (union catalog, consortial borrowing, etc).

An analysis of North American ICOLC members (85) shows the following as the most often mentioned consortium services: cooperative negotiation and licensing of electronic resources, training, interlibrary loan/document delivery, and collection sharing (Malpas, 2014). An OCLC survey of US consortia (101) reported that the most used consortia services were ILL/document delivery, shared online catalog, and cooperative purchasing. It reported the most valued aspects of membership by libraries as: professional networking and cost savings.

Looking at these numbers it seems reasonable to suggest three broad activity areas for collaborative activity: shared service infrastructure; cooperative negotiation and licensing; and professional development and networking. Here is a note on each.

Shared service infrastructure. It is natural to scale infrastructure provision in a network environment and this will happen in two ways. First libraries may unbundle activities and source capacity with third parties (preservation with Portico, for example). Second, libraries will look to collaboratively source more of their infrastructure within consortial arrangements. This will happen within existing consortia or within newly formed ones as new needs arise or where there is no available option. Recent examples of new consortial arrangements are HathiTrust for management of a shared digital resource or WEST for shared print. We noted earlier that libraries will increasingly collaborate around such systems infrastructure and that richer patterns of sourcing are emerging.

There is a variety of models of integration here. For example, the adoption of a shared library management system infrastructure by the Orbis Cascade Alliance involves tight integration between individual library operations (Helmer et al., 2013). A consortial borrowing system layered over individual library systems is less tightly integrated. While a completely shared infrastructure is not appropriate for all groups, we will see a growth in tighter integration as groups go to cloud-based shared infrastructure and benefit from more data sharing, group analytics, and streamlined operations.

The recent focus on shared print provides an interesting example of emerging shared infrastructure and decision-making (Dempsey, 2013b). The progression from discovery, to deliver, to shared inventory management is a natural one, so we can expect to see

shared print grow as an interest within existing consortia. At the same time, many libraries do not have a pre-existing consortial arrangement on which to hang this new interest, so we have also seen some new organizations emerge to manage shared print approaches. This is a naturally consortial activity as libraries prefer to manage down print in groups.

Another likely area of growth is infrastructure for digital preservation or data curation, and new collaborative structures are emerging here also. Consider the Digital Preservation Network (DPN) and the Academic Preservation Trust. This also illustrates a trend we have noted elsewhere, where library agendas increasingly overlap with those of other campus partners. At the same time, existing groups may extend their capabilities. In Ontario, for example, OCUL provides support for Dataverse, as part of the Scholars Portal suite.

Cooperative negotiation and licensing. Negotiation and licensing is the principal reason many consortia exist, leveraging combined buying power while reducing the interaction costs of negotiation. Changes in the commercial publishing environment are discussed elsewhere in this volume. While this remains an important role, it may change as publishing changes. Guzzy (2010) notes the high costs of such negotiations and reports views that the savings achieved may not justify the effort. At the same time, if the scope of shared activities broadens other negotiation and procurement areas emerge.

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Professional development and networking. Training is an important aspect of current consortium activity, which will continue to be the case in a time of change. However, the 'soft power' of consortia in allowing library staff to network with each other, to discuss direction, to come to shared decisions, to 'pool uncertainty' should not be underestimated. The costs of building new shared initiatives are high - building trust and good working relationships take time. Community cannot simply be created. Where existing consortia can provide strong trust networks and a platform for future development they should be well-placed to evolve.

In this context, consortia also have a role in providing a venue for staff development, exploration and sharing of experiences and learning. As they build new shared services, libraries are looking at ways of engaging more effectively with research and learning behaviors. They are building new research and learning support services and are developing new capacities. They are moving into areas where patterns do not necessarily exist. Consortial consultation and support is potentially valuable here, in providing a community within which to learn and develop.

Issues and directions. While we believe that consortia or collaborative activities will become stronger, there are some counter-pressures. Guzzy (2010) and OCLC (2013) both report that funding pressures are a principal concern of consortia, especially as many are tied to state or other public funding sources. This raises an important issue for consortia. Library activity is institution-based and it may be politically difficult for some

libraries to transfer activity to a shared setting. Or libraries themselves may be reluctant sometimes to cede control or responsibility to a shared framework. At the same time, libraries will need to find good ways to meet their administration's need to reduce cost or to reallocate resources to new forms of engagement with research and learning materials.

While we have spoken about consortia generally here, as requirements and network affordances change demands, it may be that some existing consortia are sub-scale or do not make the transition to a new environment. We have seen some mergers between consortial organizations. At the same time, as libraries' interests intersect with other campus players, libraries will be more involved in more general university initiatives. Ultimately, consortial activity is about right-scaling, finding the optimal level at which activities should be carried out. Libraries are going to have to think harder about both sourcing and scaling. What does it make sense to do at institutional level? What does it make sense to do collaboratively at a different scale? What should be left entirely to other providers? The recent decision to incorporate the Kuali Foundation as a for-profit enterprise is a signal of how these decisions are becoming more complex. It also suggests that there needs to be more conscious coordination of discussions around shared infrastructure needs, especially as core library responsibilities are transferred into shared arrangements. Shared print and digital preservation provide good examples here.

Professional development, expert networking, evolving professional identity, and the future roles of ACRL

By Steven Bell

On Monday an instruction librarian returned to work after attending a specialized conference, along with about 1,000 colleagues, dedicated to the practice of and research on teaching and learning information skills. While there he attended a pre-conference on how to integrate threshold concepts in one-shot instruction sessions. He also served on a panel presentation about collaborating with writing faculty to design flipped classroom learning content. On Monday afternoon, he followed up by uploading a slide deck to the conference website while downloading a few presentations he missed. On Tuesday our librarian participated in a virtual meeting of his professional association's committee that was tasked with developing new standards for learning assessment. After the meeting he spent 30 minutes reviewing Twitter comments from fellow instruction librarians commenting on their aspirations for the committee's final standards, and then exchanged some ideas with other instruction librarians on their e-discussion list. That night he reviewed new video posted for the MOOC he was taking on instructional design. On Wednesday morning he participated in a webcast led by a faculty member sharing new theories about brain science and how students learn. On Thursday afternoon he led an in-house brown bag discussion with other librarian educators on an article that challenged librarians to spend more time helping students understand how the scholarly communication process works. On Friday he attended a one-hour learning circle discussion at the campus Teaching and Learning Center where

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he worked with other faculty on developing skills for to help students discuss controversial subjects.

Given the explosion of options and technologies that support professional development for academic librarians, more of us are having weeks that strongly resemble the one experienced by our instruction librarian. For those who desire it, the learning never stops; professional development is deeply embedded into our practice. We can blend traditional conferences with virtual ones, and in between we can attend webinars, join informal online conversations with like-minded colleagues, teach to and learn from our academic colleagues and participate in formal course-based learning at our own institution or one sponsored by an institution a thousand miles away.

We can explore and dwell on the multitude of possibilities for new roles on the road that lies ahead of us, but we have only limited vision for where exactly that road will lead. One thing we know with some certainty is that navigating it smartly will require professional development. To neglect personal professional development is a failure to uphold our values of professionalism and commitment to excellent service. Professional development enables academic librarians to enhance existing and gain vital new skills needed to best serve community members.

If the richness of our current professional development environment is an indicator of things to come, the variety, diversity, accessibility and quality of the content and

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instruction will only get better. Academic librarians can take the lead in creating opportunities for themselves and their colleagues to explore and acquire the skills needed to morph into these new roles. It is reflected in the increasing interest in staff reskilling that will allow academic librarians to master emerging services such as digital scholarship, user experience design or library publishing. Library and academic administrators must lend their support to help staff develop the new skills that will set their libraries on a course to excel throughout the 21st century.

To get there academic librarians are taking advantage of an expanding realm of professional development options, everything from in-house programs to professional society continuing education. Technology's impact is significant. Obtaining professional development no longer requires access to specialized resources and trainers. It only requires an Internet connection. But with more options comes more confusion. We are inundated with e-mail announcing new professional development programs. Adopting a strategic approach to professional development will lead to a more optimal set of programs to aid staff in developing new skills, but it should be flexible enough to allow staff to take advantage of emerging opportunities. Despite whatever efforts administrators may make to facilitate and support professional development, it is ultimately up to each academic librarian to make a personal commitment to their own lifelong learning and professional development.

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F2F or Virtual. In the near-term future professional development for academic libraries continues to look much like what it does today, falling into three major categories: conferences; courses; collegial. Though traditional physical conferences will struggle to maintain or grow their attendance levels as travel budgets are constrained, academic librarians remain committed to the inherent value of face-to-face (F2F) professional development. ACRL's biennial conferences continue to offer strong appeal. Consider that for the 2015 conference, submissions for paper and panel submissions increased by 27 percent over the 2013 conference. In addition to their own professional conferences, academic librarians will continue to attend disciplinary and specialized conferences peripheral to their core responsibilities. The latter could include conferences on open educational resources, teaching and learning conferences or those dedicated to programming languages.

Though somewhat less popular with academic librarians, virtual conferences may offer a glimpse of the future conference experience. ACRL began offering a virtual conference that runs simultaneously with its biennial conference in 2005. That first conference attracted twelve paying registrants. As a reflection of the growing acceptance of virtual conferencing, the attendance now averages several hundred per event. (Bell, 2011b) What they lack in F2F connection, virtual conferences make up for it in convenience and cost savings. In addition, archives of sessions are available for review and can be shared with library colleagues. More academic librarians are attending virtual conferences

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owing to vast improvements in the hosting platforms, but it has yet to gain the popularity of the physical conference.

With capacity for text and oral chat, desktop sharing, real-time video and features that mimic traditional conferences, such as a vendor exhibits or participant networking, the virtual conference is the next best thing to being there. Major library conferences have yet to offer live, real-time streaming of programs. As the technology becomes more ubiquitous expect library organizations such as ALA and SLA to offer live conference presentations over the Internet, keynote speakers or essential meetings in real-time, not unlike viewing a major live sports event. Currently, many academic librarians avoid webcasts and virtual conferences claiming they lack the spontaneity of being at a live presentation. Live streaming conference programming could overcome that barrier.

Seeking Formal Education. With their positions subject to rapid change, or simply to satisfy curiosity or the desire to connect with other like learners, more academic librarians will seek formal educational offerings. Many colleges and universities offer a tuition benefit of some kind for formal education, and untold numbers of academic librarians added courses, certificates and degrees to their vitaes simply by enrolling at their own institutions. That will no doubt continue as a popular option, but the opportunities for more formal education grow by leaps and bounds. If their own institutions lack a desired course or degree, online learning through another institution is a possibility. This is especially true for those who may want to take additional library

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and information science (LIS) courses, but no longer live in proximity to a program - although the reality is that LIS programs are now largely online in order to deliver courses at the convenience of the students. Though many originally sought out MOOC courses to satisfy curiosity or to better understand how to deliver library services to enrollees, MOOCs are now a serious professional development option for academic librarians. Looking ahead, free or low-cost web-based learning options, will emerge as a leading platform for professional development.

Declining travel budgets and lack of time have taken a toll on attendance at many formal professional development programs. One response by professional associations is to take the continuing education out to the audience rather than waiting for the audience to come to the program. It is reminiscent of the Chautauqua method of education that was popular in the early 20th century. It featured organized exposure to educators who traveled around the country sharing knowledge about culture, reading and fine arts. That's why the "roadshow" approach to professional development has become more popular with academic librarians. It effectively combines the desire for face-to-face learning with the convenience of local attendance. Many academic librarians have experienced ACRL's Scholarly Communication Roadshow, which continues to be popular and is often requested to visit different regions of the country. Given the appeal of face-to-face interaction and the preference many librarians have for gathering with colleagues to engage in learning, as new areas for professional

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development arise, data research management and services for example, look for roadshows to help librarians evolve into new roles.

Webinars. For those less enamored with formal education a growing array of options allows for participation in one-shot or short duration web-based learning. ACRL, for example, has for many years offered a robust selection of e-learning webinars. Several other divisions of ALA offer them as well. ALCTS offered a four series webinar event on libraries and MOOCs. One reason why webinars are growing in popularity is that they make great staff development events where employees gather to participate in the webinar with their colleagues and then engage in conversation about the content. Many academic institutions are acquiring online learning tools for their employees so they can add new skills on an as needed basis. Online education providers such as Lynda.com, Atomic Learning and Treehouse offer video tutorials on everything from web programming to design methods to employee coaching. Designed to deliver learning in discrete chunks, more employers are offering on-demand professional development for staff who need to learn new skills to evolve in the workplace.

Free webinars delivered by academic librarians are quite possibly the fastest growing area for professional development. As their institutions acquire web technologies for the instruction of remote students, such as WebEx or GoToMeeting, academic librarians are using these systems to manage and deliver their own specialized webinars. *College & Research Libraries* now hosts webinars featuring selected articles as discussed by their

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authors. ACRL Sections, such as University Libraries, are organizing and delivering their own free webcasts where members lead discussions on the topics of the day. And some academic librarians are leveraging non-library webinars or Ted Talks as content for staff development programs. As the power to deliver informal learning grows, in virtual spaces and with little or no funding, our future consumption of professional development may be based more on how and when we want it than where it is being offered and at what cost.

Grow Your Own. Realizing that they need not always depend on formal organizations to deliver professional development, on the road ahead more academic librarians will make greater use of the collegial category of professional development. It is collegial because it is made possible by academic library colleagues joining together to organize a professional development opportunity that satisfies an unmet need or provides an alternative to what is perceived as formal learning that is too costly or restrictive. These collegial offerings can happen within an organized conference if a critical mass of participants is on hand to give it life. Otherwise a face-to-face activity could be arranged for any convenient location in any city if there are enough interested academic librarians or it might be developed as a virtual activity along the lines of a Google Hangout. For example, a group of librarians who served as panelists for an organized session at the 2014 ALA conference, began their conversations about the topic, digital badging, using a Google Hangout (I was a participant). Think of it as an e-mail discussion list on steroids. The format is real time and it's much more interactive than the

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alternatives. What remains the same is the learning that takes place when librarians engage in professional development.

What happens when formal opportunities for professional development are unable to respond to the demand for learning or might otherwise be too costly or present travel barriers? Academic librarians will forge ahead and figure it out on their own. Other examples of academic librarians joining together to create and offer their own profession are found in activities such as camps, hackathons and shadow conferences. These professional development gatherings are happening with greater frequency in response to an unmet need and a desire for individuals with shared interests to join together to explore mutual interests and learn from each other. For example, a group of academic librarians interested in open educational resources (OER) could, in the absence of formal professional development outlets, use web technologies to begin sharing their experiences and best practices with each other in any number of virtual meeting spaces. Though not yet that popular, shadow conferences, such as the one that occurred at the 2014 MLA conference, may be more common in the future. They happen when a group of professionals meet in the same city as the official association conference, but they hold a low or no-fee gathering in a location nearby the official conference site. This creates a viable professional development option for those who can travel to the conference city but are unable to afford the conference registration and other expenses. The shadow conference attendees communicate in advance to organize a parallel program that is open to everyone. It adds additional layers of

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organization beyond the unconference approach, and demonstrates the ongoing appeal of face-to-face meetings.

The real danger to our professional future is simply ignoring the importance of professional development. To stay a step ahead of user community members, academic librarians need to adhere to a regimen of professional development routines that will keep them at the forefront of their campuses. The responsibility to make sure this happens is both individual and collective. Each academic librarian has a professional responsibility to keep their skill set relevant to the needs of the community, and to sharpen and add to that skill set as needed. Academic librarians at all levels of experience can use professional development opportunities to give back to the profession by sharing their accumulated knowledge or introducing colleagues to the newest ideas, knowledge and technology. Library administrators must help to identify the next generation of leaders and make it possible for them to take advantage of our profession's multitude of leadership development programs. Front-line workers need to let administrators know the types of skills training and career education they need to deliver the best possible service to community members and establish paths for career advancement.

Professional development is a process to which we can all contribute, and it may simply start with building a set of habits to which we can commit. A daily "keeping up" regimen can include everything from a daily review of the news from librarianship and higher

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education to attendance at a mix of face-to-face and virtual conferences and workshops - and there are many options in between. Library employers share this responsibility. They must support it and create expectations and rewards that will motivate staff members to seek out professional development. If we do this right, as a profession and as library organizations, we should be well positioned to remain relevant and ready to contribute to the success of our institutions.

Networking and Establishing a Professional Identity. Whenever it conducts a membership survey, ACRL asks members (and occasionally non-members) what they value most about professional associations. Professional development is always among the top responses. The other frequently cited rationale for association membership is networking. In addition to the learning we share with each other, academic librarians find great value in building their professional networks. In ways similar to the evolution of professional conferences, networking activity that was once limited to formal structures is now happening with and without them. Academic librarians' professional networking has traditionally occurred through committees and other working groups they joined as part of their involvement in professional associations. For many of them, association work continues to be a primary vehicle for networking, but it is now either supplemented or replaced by other outlets. New technologies enable academic librarians to network in ways that bring them together from around the globe, and the result is a much larger community of networked academic librarians, a boon to the sharing of information and ideas.

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Networking and professional development really go hand in hand to allow academic librarians to mature as professionals, to build new skills and to develop relationships that lead to new accomplishments and professional satisfaction. It's the networking that allows them to establish connections with colleagues with whom they can mutually advance careers and contribute something beneficial to the greater good of the profession. When we need to find out how to enter new territory we venture into our networks for answers. Knowing there are colleagues in our networks coping with the same challenges we are makes it much easier to manage any new, uncertain situation. Through our networks we gain professional opportunities. With the advent of social networking media, we can instantly share thoughts with colleagues, quickly receive their feedback, stay on top of developing situations and find others with similar interests with whom to explore new professional opportunities.

Prior to tools such as Facebook, LinkedIn or Twitter, if an academic librarian wanted to expand his or her network, they usually started at the regional level, perhaps with local association chapters. The advent of e-mail discussion lists allowed academic librarians to participate in or merely lurk among a network of colleagues with similar interests, be it instruction, access services or integrated systems. Web-based communities, such at the Blended Librarians Online Learning Community, furthered the possibilities for virtual networking by offering a community for librarians with special interests. In the library 2.0 days a few librarians created their own social networks using freeware platforms

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and invited others to join. These networks were fine for information sharing and occasional virtual meetings, but without a true guiding force they could rarely achieve much more than connecting colleagues.

The demise of many of these homegrown networks was hastened by the growth of Facebook and Twitter, and to a lesser extent, platforms such as Friendfeed. Consider that the Library 2.0 network (created by Bill Drew, a librarian who at the time worked at Tomkins Cortland Community College, at the height of the Library 2.0 craze in 2007) once received as many as 50 posts a day. But Library 2.0, which used the Ning platform, was getting fewer than 5 posts a month by 2010 and was eventually terminated. A contemporary version of Library 2.0 remains, but it is primarily a community for the offering of free webinars and virtual conferences. While formal professional associations will continue to co-exist with social media, for many academic librarians the desire to network can be satisfied without the need for a formal professional structure. Given our profession's propensity to discuss, debate, share, prod and even annoy each other, adequate room exists for both formal and informal networks. It is not uncommon to observe academic librarians operating across multiple networks in the same hour, working on ALA Connect and then posting status updates and tweets on social media. Where informal networks are particularly useful is in promoting relationships across the sectors of librarianship. Wherever the new road takes us, academic librarians will be better served to travel it with colleagues from public, school and corporate libraries. Formal networks defined by professional boundaries are less conducive to discovering

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non-academic colleagues. In non-formal networks it is common to find librarians from different spheres of the profession connecting with each other.

Informal networking supported by social media is a generally good thing. It does require academic librarians to contemplate more deeply their professional identity and how their words shape it. One of the significant shifts in academic librarianship since the advent of blogging and tweeting is radical change to how a professional identity is developed. Pre-Web 2.0, before the masses became active producers of content rather than mere consumers, an academic librarian's primary outlets for establishing their identity was limited to publication in professional journals and presentation opportunities. Those outlets offered little opportunity to express highly personal opinions, to freely critique programs or policies, to advocate for personal positions or to define one's self as a technical expert. Excepting a few highly recognized authors, presenters and the occasional trade journal columnist, few academic librarians could establish a professional identity beyond their own workplace.

The advent of blogs, then further advanced by Twitter, made it possible to gain professional exposure without needing to publish or present professionally. In fact, it made it far easier to establish an identity as a metadata expert, a student of leadership, a vocal defender of intellectual freedom, an explorer of new pedagogies or simply a conduit to news, information or gossip. In creating these niches within the profession, academic librarians attract others with similar points of view and thus create even

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tighter professional circles. Tom Peters (1997), in his seminal article on creating and managing a personal identity, "The Brand Called You" explains this phenomenon as defining yourself beyond one's library and job title. Peters says that professionals need no longer be associated with a particular function, but can establish an identity based on unique qualities that differentiate them from everyone else. That may be the essence of our academic librarian professional identities. We may all be academic librarians, but each of us, through our preferred networking communication vehicles, can establish a unique persona to which others may wish to connect.

Academic librarians may reject the notion that they are actively developing and promoting a brand in order to achieve some professional recognition. Even if their use of social media is directed to expanding their personal network and sharing ideas with like-minded colleagues, they need to be thoughtful about how they represent themselves in these public forums as it will shape their brand. Whether academic librarians choose to be intentional about developing their personal brand or ignore Peter's advice to acknowledge the value of doing so, they should take some time to think about who they are and what they represent, what identity their social media contributions will communicate and the "why" that drives their personal messages. Answering these questions should provide some guidance in reflecting on what differentiates their writing or public talks from other academic librarians.

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Discovering the answers may lead to some internal struggle, but an academic librarian should not be overly concerned. Unlike light switches that can be turned on and off, getting to the root of one's "why" may take years of reading, writing and exploring to realize and clearly articulate these beliefs. As they emerge and crystallize in our minds they help us to formulate an answer to the "why" behind our professional identity. (Bell, 2011a) Keep in mind that as we navigate the road of our professional career our interests, role and core purpose may adapt to new responsibilities and beliefs, causing a shift in our professional identity. None of us remains the same as when we graduated from an LIS program or at the beginning of our first professional position. It is all those things that happen to us as we move through our careers, our continuing education and professional development, our networking activity, our participation in professional associations, that shape our professional identity. It is a good thing, and a healthy aspect of our professional growth, to become professionally active in all of these ways as it contributes to who we become as academic librarians. Missing out on the opportunities afforded through professional engagement would indeed be unfortunate and would constitute a major barrier to traveling the road ahead.

Future Roles of ACRL. Making it 75 years is a good reason to celebrate. It is a great time to reflect on the past, honor the present and imagine the future. Just as each academic librarian needs to question and think about their individual place on the road ahead and think about how their role will evolve, we need to also think about how ACRL will evolve over the next 75 years and beyond. What role it can best play in creating value for its

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members and in supporting the advance of learning and the promotion of scholarship? When we say that our preferred future is the one we will shape, that is particularly true of ACRL. As a member organization, it will be up to the membership to shape ACRL's future role so that the association remains focused on delivering services and resources of value to the membership. It will also help to secure ACRL's position as the higher education association representing the interests and promoting the contributions of academic librarians.

If academic librarians believe that ACRL is an association worthy of having a future, that its continued existence is essential to the future of our profession, then they must allow it to be their partner in traveling the road ahead. Imagine academic librarianship as a collective organism that is moving forward on this road to the future. ACRL is the vehicle that can help to get us there. The beauty of an association like ACRL is that it allows us to work collaboratively to accomplish things collectively that we could not possibly accomplish as individuals. Members working together are able to produce detailed standards and guidelines that illuminate our methods of practice. Together we are able to advocate for legislation, stand as one against censorship and the denial of intellectual freedom and organize events that promote learning and networking – not to mention providing engagement opportunities that enable academic librarians to advance their careers.

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These benefits that accrue to all of us can only continue if we support ACRL as it transitions for the future. Think of ACRL as an initiative-driven association. Its initiatives benefit members and non-members alike. Using member and staff resources to develop its initiatives, ACRL facilitates the ability of academic librarians to create their own local-level initiatives by providing resources, education and assistance. The effort required to develop these initiatives is often beyond the resources of individual members - as well as those working with a few colleagues in an informal network. But as a collective force, guided by ACRL, members accomplish something powerful that benefits all academic librarians. That's the essence of a member association.

The initiative-driven approach is directly connected to the three strategic goal areas articulated in the association's Plan for Excellence. In the student learning goal area, ACRL's Immersion Institutes give graduates the power to be better educators as they use the tools and techniques learned at Immersion to implement local information literacy initiatives. ACRL's website is also a rich source of information for those implementing their local initiatives. In the scholarly communications realm ACRL sponsors the Scholarly Communications Roadshow that enables academic librarians across the country to build the skills needed to engage their community members in reforming scholarly communications. There are other materials, such as an ACRL Scholarly Communications Toolkit, that enable librarians to develop a plan for their institutions. Perhaps the most ambitious initiative-driven project to date is the Value of Academic Libraries. It began with a resource, a "Valueography" that all librarians can use

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to locate literature that documents the true value of the academic library. This initiative was followed by a series of programs that lead to Assessment in Action, which takes an entirely new approach to empowering members to demonstrate the library's value at the local level. What's next? ACRL, in responding to change in higher education and scholarly communication, is exploring possibilities for a future initiative to support the delivery of data management and research services to the local academic community.

Looking ahead to our future roles, we need to continue to work to make sure those roles are filled in a way that helps our profession build greater diversity. ACRL has established a good track record of supporting efforts to diversify academic librarianship, and moving forward it can build on its past work to improve the racial, ethnic, gender and age diversity of our community. For example, since 2003 ACRL has supported Spectrum Scholars by offering travel grants to participate in professional development activities at the ACRL Conference. The Dr. E.J. Josey Spectrum Scholar Mentor Program links participating library school students and newly graduated librarians, who are of American Indian/Alaska Native, Asian, Black/African American, Hispanic/Latino or Native Hawaiian/Other Pacific Islander descent, with established academic librarians, who will provide mentoring and coaching support. ACRL receives far more applications for scholarships to attend its conference than it can possibly provide, but preference is given to applicants with diverse cultural and ethnic backgrounds. To attract more underrepresented groups to academic librarianship we need to demonstrate that our profession welcomes and embraces diversity. To that end, ACRL's Member of the Week

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profiles seeks to represent its diverse membership by age, location, gender, race and ethnicity.

Despite all the good work that ACRL does on behalf of academic librarianship and higher education, the one true threat to its future is academic librarians. As a member organization, ACRL's future is dependent on keeping its membership strong, vibrant and engaged. Like ALA and other library associations, ACRL is challenged to retain and attract members. It's no secret that membership in all types of formal associations, be they professional, civic or recreational, is on the decline. For reasons with which we are familiar (too many demands on our time, the cost of memberships and travel, lack of reward, reduced employer support, lack of feeling engaged with big organizations and internet access to resources that were once available only with a membership -- access to professional literature; networking, professional education) it is more difficult to make the case for association membership. ACRL's future is a strong one, but it will need to truly understand the needs of both members and potential members as they travel on the road ahead and find themselves evolving into new roles. As it has done in the past with information literacy and scholarly communications, ACRL will continue to serve the profession by offering the professional development, networking, engagement opportunities and expertise needed to help academic librarians adapt to their new roles. As ACRL supports our professional success, we need to remember to give back and enable ACRL to succeed. On the road that lies ahead, the relationship between academic librarians and ACRL is truly symbiotic.

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Creating Common Ground

By Barbara Fister

Not too many years ago, we used the phrase "virtual library" to extend the idea of what a library is into the digital realm. Now the digital and physical library are so entangled as to be inseparable. We have grown accustomed to thinking about information as stuff that doesn't depend on a particular format. The importance of "journal" as a category persists because scholars still think of them as a meaningful representation of a collective approach to particular types of scholarly questions, but it's far more likely today to be online, with articles scattered throughout a disparate collection of journal content, rather than on a shelf as a chronological record of one corner of academic inquiry. The idea that students should "go to the library" to do their research is more likely to mean going to a website than through a door. (We've long since erased that skeuomorphic terminology "portal" that once invited library users through digital doors, and nobody seems to miss it.) We've gotten over our early suspicion of the web as a place where people go to find information and are finally overcoming absolutist positions about the value of Wikipedia for our students, even designating staff and volunteers as "Wikipedians in Residence" (see Wyatt, 2010, for an early adoption of this role in a cultural institution). We've gone from treating the evaluation of websites as a special category of instruction to seeking ways to embrace critical assessment of all sources of information, regardless of its origin or format. And in the draft *Framework for*

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Information Literacy we're encouraging one another to reach beyond students' being able to distinguish types of sources to understanding the processes that underlie those differences. We want our students to do more than know how to find good information, but to understand where it came from and how it reflects the context within which a particular group of people constructs authority. That deeper understanding is crucial in a world in which the external features of published information are morphing and evolving into forms we can't foresee.

Likewise, the library is morphing in ways that are complicated by contextual social and economic forces that have complicated the things libraries have traditionally done: collect, preserve, and share. The impact on collections and space will continue to be complicated for some time, in large part because of the ways current copyright law fails to balance the interests of rights holders with the public interest and because publishers whose business models depended on the sale of copies are struggling to establish new revenue streams, currently a mix of capitalizing on scarcity and capturing subsidies before publication. The significance of these contextual conditions is nothing new. Libraries previously adjusted to a boom in scholarly and scientific funding by building additions to libraries to accommodate larger collections. But these shifting contextual conditions challenge us to constantly adjust our work, our physical and digital spaces, and our relationships with our communities and with other libraries to sustain curation, preservation, and sharing in a changing environment.

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The bubble of growth in twentieth-century printed collections has left academic librarians with a tricky problem. We need to have room to add printed materials to our collections (as we still do, despite a significant slowdown in printed book acquisitions). We need to make space to use library collections in new ways and to support new pedagogies of knowledge creation, while continuing to make room for the non-collection-oriented uses students value. One lesson learned in the past decade is that making collections available from students' bedrooms and through their smartphones has not reduced many students' inclination to identify academic work with being in a library. Additionally, in spite of advances in discovery, many library users still value physical browsing in open stacks. We need to understand and honor students' desire to blend digital experiences with IRL ("in real life") experiences (Beetham, 2014) and their continuing interest in print formats in some situations, regardless of what formats seem most cost-effective.

Negotiating competing needs for space requires finding common ground among conflicting ideas of what a library is. Those contesting these identities, fearful they will lose something in the struggle, sometimes scornfully refer to the other perspective using extremes: a "warehouse for old books" versus "a fancy study hall with refreshments." These competing identities often are the iceberg-tip of other submerged forms of competition: between STEM fields and the humanities, between faculty research and student success, between administrative fiat and faculty governance, between print and digital, between the traditional and the trendy. Finding common

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ground that meets multiple needs and respects a whole spectrum of beliefs about what a library should be requires exploring how people use libraries in their lived experience, inventing ways to improve our discovery platforms to enable different approaches to finding information, and finding the best means of preserving the culturally significant features of a library's identity while embracing new ways to carry out our missions. It also requires being transparent and open about the challenges we face and the reasoning for decisions that we make.

We should not forget that people find much value in things that libraries invented but take for granted. Online catalogs weren't playful and engaging until Amazon demonstrated that they could be. Librarians who had disposed of old-fashioned leather-and-mahogany furnishings to make way for computers were compelled, a few years later, to retrieve the decor from Barnes & Nobles, which had proven it was popular. Searching, in Roy Tennant's famous phrase, was something only librarians cared about; everyone else liked to find (2001) - until Google made searching ubiquitous and entertaining. In a sense, though it may seem a series of missed opportunities, these appropriations are an endorsement of the value of libraries and the things people do in them – value that librarians sometimes underestimated because they seemed pragmatic, a bit dull, designed to make research easier but unlikely to excite anyone but librarians.

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As we negotiate these shared and sometimes conflicting identities, we need to learn what we can about what is at stake for our communities – and for libraries collectively. Collaborating on shared print programs, for example, will help us work together to preserve our culture without each library having to make preservation decisions alone. Introducing our local constituents to what we're trying to accomplish with such programs can ease fears about change and the possible loss of our cultural heritage. Participating in collaborative digitization efforts, such as Hathi Trust and the Digital Public Library of America, is an indication of how each library can make unique and valuable contributions to projects bigger than any one institution.

We also need to consider how to sustain our capacity to preserve and share knowledge in an era when a large proportion of our collections is no longer legally ours. LOCKSS, CLOCKSS, and Portico are examples of what can be done, but only with the cooperation of publishers who control the rights to a vast proportion of the scholarly record. An even greater challenge is our need to figure out what role we have to play in promoting and sustaining an increasingly open access future in which the definition of "ours" extends to the entire world. Developing infrastructural support for publishing and integrating open access resources that are neither locally-owned nor licensed with our not-so-open resources will be an interesting challenge for the road ahead, but one that can take advantage of library skillsets and values.

Valuing Libraries

By Barbara Fister

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In recent years, as public support for higher education has declined and concern about its cost has risen, academic libraries have been compelled to explain their "value proposition" (something that could be safely assumed in the past: of course libraries are valuable to institutions of higher learning! How could they *not* be?) The urgency of developing a "culture of assessment" fifteen years ago to shift the focus from what we are teaching to what students are learning has become, particularly since the financial crisis of 2008, a pervasive culture of demonstrating through various metrics that the things we do are worth the cost. These self-justifications tend to be locally focused, tied to an institution's stated mission and addressed to institutional budget decision-makers who then make a case to funders, including governments, donors, and prospective tuition-paying students, while also making decisions about which units within the institution will be funded. The value of libraries to their institutions is expressed through analysis of measures that matter locally, so they vary. A community college library may need to show that what they do helps student retention. A tuition-driven four-year college may need to show that by the time students graduate, the library has contributed to institutional learning outcomes. A library at a research institution may need to show how their resources and services contribute to winning grants and publishing significant research as well as student retention and undergraduate learning.

In a worst-case scenario, these exercises consume staff time but are ultimately ignored as resources are allocated according to some mysterious formula. (Does making a poor

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showing mean you need more resources, or that your budget should be cut? Does a good showing prove your library is a good investment and should get more funding, or indicate it could do a perfectly adequate job with less? Rarely are those questions answered in any predictable way by the authorities requiring evidence of value.) Even if demonstrating value isn't rewarded, libraries have the potential to learn useful things about the impact of their work and to improve what they do. A culture of assessment can be interpreted as an invitation to indulge in formalized curiosity and find out we can do better.

As we consider new roles and enduring values, these are some of the issues facing librarians who are reconceptualizing the library as an entity located within a specific institutional context dedicated to both the institution and to the greater good.

- How can we collectively provide **access** to the greatest number of people in the most cost-effective and sustainable way? To what extent do we owe allegiance to our local communities when it comes in conflict with sharing more widely? What role will librarians in institutions of all types and sizes play in designing an open access future?
- How can we advocate for the value of **privacy** in a digital environment in which our largest commercial platforms for finding and sharing information are financed through the aggregation and reuse of personal information? How do

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we preserve confidentiality while making good use of data to improve our practice?

- Do academic libraries support **democracy**, or are we competing to provide the most value to our host institutions, which are, in turn, competing against one another for students and resources? How can we participate in reversing trends that have made higher education an incubator for debt and inequality rather than a nurturer of self-discovery, social mobility, and the greater good?
- What will we need to do to welcome the **diversity** of backgrounds, life experiences, and values of our population into our libraries and into our profession? What must we do to ensure that our collections are as diverse as our students? What voices are silenced in our libraries, and how do we give them an opportunity to be heard?
- How can academic librarians support **education for lifelong learning** when so many of the tools and resources we have encouraged students to use become instantly unavailable upon graduation? What do we do to prepare students to continue formalized curiosity post-graduation? What can we do to focus on the transferrable skills and habits of mind that prepare students to engage with knowledge in all kinds of settings, not just academic environments? What would that kind of transferrable, deep learning look like?
- How can libraries effectively defend **intellectual freedom** and the **preservation** of our culture in an environment in which rights holders and distributors can censor, alter, and withhold information? To what extent should we collaborate

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with other cultural institutions to preserve non-academic and born-digital culture? How can we stay on top of and influence the legal framework for sharing and preserving cultural materials in a world in which laws are local but culture and capital are global?

- How can we balance the **public good** with the structural need for our institutions to distinguish themselves from the competition and pay their bills? Can we be a voice for the common value of higher education?
- What will **professionalism** look like in five years, or in ten? How will we responsibly encourage people to enter the profession and how will librarians continue learning throughout their careers? What skills do we need to develop and how can our organizations nurture and promote those skills? What do we need to do to ensure that our profession reflects and is shaped by the diversity of our population?
- How can we balance the local demands for **service** with the wider **social responsibility** we value? When should we say "no" to our users in order to hold out for a sustainable and shareable future for knowledge? How can we merge our service ethic with leadership so that we can participate in creating a more just and equal society?

We have challenges to meet on the road ahead, but our values can provide a compass and a sense of where we're headed.

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Afterward on Leadership for the Road Ahead

By Betsy Wilson

[Yet to come]

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