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Special Libraries Association

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THE MAGAZINE OF THE SPECIAL LIBRARIES ASSOCIATION

MAKING INFORMATION MORE ACCESSIBLE

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THE MAGAZINE OF THE SPECIAL LIBRARIES ASSOCIATION

Making Information More Accessible

Special librarians have allies in the ongoing challenge of making information more accessible for their clients—and their libraries and information centers more valuable to their organizations.

BY STUART HALES

"Water, water, everywhere, nor any drop to drink."

Samuel Taylor Coleridge wasn't presaging the dangers of information overload when he composed *The Rime of the Ancient Mariner*, but librarians and information professionals could be forgiven for thinking he was. With so much information available, the data or resource a user needs almost surely exists—but finding it and putting it to use can be a challenge akin to locating a single drop in an ocean of water.

When information isn't readily accessible, the repercussions can extend far beyond the walls (both physical and virtual) of a library or information center. Projects aren't completed on time. Researchers are forced to cut corners. Innovation suffers.

Librarians and information professionals can suffer as well. A project bid that isn't approved, a research grant that isn't obtained, or an investment proposition that isn't accepted represents an opportunity lost—specifically, an opportunity to show how the library or information center adds value to the organization. Making information more accessible, it turns out, benefits librarians as well as library users.

Fortunately, librarians and information professionals have some allies in this effort. Research publishers, for example, have a vested interest in seeing their information used, because usage drives sales. And in the case of business libraries, research publishers have an interest in providing the most recent research available and making sure that research is accessible.

"Because innovation is the key success factor for corporations, R&D activities change frequently (particularly in high-tech industries)," writes Syed Hasan of Springer Nature in his article, "How Research Publishers Promote Information Access" in this issue of *Information Outlook*. "If information providers such as publishers are to add value to such activities, they must be able to switch gears as quickly as their corporate users. Increasingly, publishers' business models are based on a deposit concept, whereby information is only paid for when it is used. This is common sense—there is no long-term benefit to selling information that is not used, so ensuring usage is crucial."

Automated cataloging systems are also allies in the fight to make information more accessible. These systems seek to mimic the decision-making processes of humans to not only make the cataloging process more efficient, but also improve the value and quality of the catalog itself—thus making the information the catalog supports more accessible.

"True, nobody wants a set of superfluous results when they're searching using narrow parameters," writes Joe Donnelly of the LAC Group in his article, "Using Automated Cataloging to Increase Information Accessibility." "But if a user reaches out to notify you of inaccurate cataloging, it speaks to the quality and value of the object itself, and that object will now be cataloged by a human. Something that was once a lost or misplaced item will be properly cataloged, and its chances of being accessed will increase tenfold. This is one way that automation helps 'feed' the accessibility cycle."

Central to making the most of both research publishers and automated cataloging systems are special librarians. They must understand the mission of their organization, the role the library or information center plays in supporting that mission, and the advantages that accrue to the library by making information more accessible.

"For decades, doom-mongers have predicted the death of the library and of the role of the librarian," writes Syed Hasan. "But it is not so much the legacy concept of a physical information storage and retrieval setting (a library) that is useful to retain; rather, it is the concept of a professional partner—a librarian or information professional inside every research organization who will assess, mediate, and market online information resources—that is most crucial to the goal of furthering the mission of his or her organization."

Special librarians must also be attuned to the linguistic nuances and research habits of their patrons. This knowledge will guide them as they manage the continual process of ensuring the information that is most needed at

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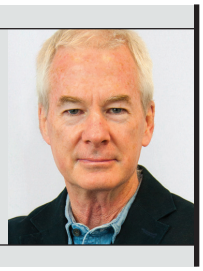

TASK FORCES · GOVERNMENT DATA · LOYALTY CLUB

Volunteers Sought for Two New Task Forces

SLA members are being encouraged to volunteer for two new task forces being created to help gauge the needs and interests of members in the areas of global outreach and issue advocacy.

The two groups, the International Task Force and the Public Policy Task Force, together with the recently relaunched Diversity and Inclusion Task Force, will strengthen SLA's commitment to providing education, resources, experiences, and partnership opportunities for all members of the global special library community.

The **International Task Force** will explore the engagement of, services to, and voice of international members within SLA, as well as education around the global needs and experiences of all SLA members. Additionally, the Task Force will consider its role in educating and informing people outside the SLA community on global topics in the information industry.

The **Public Policy Task Force** will explore the definition of advocacy within SLA, using SLA's mission, vision, values, and policies as guiding statements. The Task Force will track and report on current public policy affecting SLA members and information professionals. Resources and educational content will be gathered to keep members informed and help guide decisions and outreach to member communities. The Task Force will also consider its role in educating and informing people outside the SLA community on public policy topics in the information industry.

SLA Expresses Concern over Information Removal from Public Websites

SLA has joined forces with nearly 70 other organizations in calling on U.S. Government agencies to fulfill their legal requirement to provide the public with adequate notice before removing public information from government websites.

The groups, known collectively as OpenTheGovernment.org, sent a letter on February 13 to Dominic Mancini, acting director of the U.S. Office of Management and Budget, requesting that OMB remind federal agencies of their obligation, under the Paperwork Reduction Act, to provide public notice before removing public information from websites.

"We are concerned, given recent reports that the U.S. Department of Agriculture (USDA) and other agencies have begun removing information on a number of important topics such as animal welfare, individuals with disabilities, climate change, and more from their websites, that the public is at risk of losing access to valuable government information," the letter states. "We respectfully request your attention be given to this matter and that OMB take immediate action to ensure appropriate public notice is given."

The letter also calls attention to a 2016 memo from the National Archives and Records Administration (NARA) reminding agencies that federal web records, including databases, datasets, and the systems in which they reside, are considered federal records. When websites containing these records are significantly modified, the web records must be sent to NARA for preservation.

SLA Issues Statement in Response to Travel Ban

In response to an executive order issued by President Donald Trump restricting travel to the United States from seven predominantly Muslim countries, the SLA Board of Directors issued the following statement on February 3:

The Special Libraries Association is committed to the fair and equal participation and treatment of all citizens and especially the free flow of information, ideas, and people. Restricting the ability of talented individuals to travel to professional meetings, collaborate on projects, share ideas and information, and advance the interests of the global information industry runs counter to these values and does as much or more harm to those who impose such restrictions as those who are targeted by them.

SLA supports our international members in their professional growth and development and values their inclusion in activities and events. SLA will continue to advocate for members seeking visas to attend our annual conference and other events that require them to travel, and affirms our commitment to providing a safe and equal space for professional participation for all of our members, partners, and event attendees.

Collaboration and partnering are core values that have helped make SLA the foremost global association for innovative information professionals for more than 100 years. SLA and its members—indeed, all individuals and organizations that work with information—benefit when people and their skills and ideas are allowed to move freely and make connections that transcend barriers.

More Than 20 Donate to Loyalty Club in 2016

Nearly two dozen individuals and groups donated to SLA in 2016 at a level that qualified them for membership in the association's Loyalty Club.

Loyalty Club donations help SLA expand and improve its educational offerings and invest in technology. Contributions of $100-plus annually qualify donors for inclusion in the Loyalty Club; contributions are tax-deductible.

The following members and groups achieved Loyalty Club status in 2016:

Anne Barker
Marty Clarke
Nick Collison
J. Arthur Freed
Mary Talley Garcia
Efren Gonzalez
Mary Hansen
Richard Huffine
Judith C. Leondar Trust
Ruth Kneale
Amy Lestition
Dee Magnoni
Dorothy McGarry
Karen Reczek
Tom Rink
Greg Schuler
Simmons College
SLA Toronto Chapter
Jill Strand
Dan Trefethen
Betty Wagner

Using Automated Cataloging to Increase Information Accessibility

AUTOMATED SYSTEMS HELP BRING 'LOST' PIECES OF INFORMATION TO THE SURFACE AND TIE THEM TO RELATED OBJECTS, THUS INCREASING THEIR LIKELIHOOD OF USAGE.

BY JOSEPH DONNELLY, MLIS

Let's admit it, we've all lost files. We thought they were saved under a different name or in a different folder, but when we go to retrieve them, we find … nothing. Over time, we lose precious hours of our lives searching for files and other items.

Our process of finding lost objects begins by going back through the catalog of our memory and revisiting the context of our work. Aside from the title of the file—was it "evaluation1" or "assessment2"—what other data points are available to us? "It was the day I was working on evaluations," we think, "so I'll search for evaluations." Digging deeper into our memory, we might say, "Ah, and I remember the date."

Now we're narrowing our search to a specific date or time range, and we are identifying other possible contextual connections surrounding our file. If our PC is smart enough to index the entire document, we might ask ourselves, "What was the file about? Is there a detail I can remember?"

By connecting the dots of memories and salient aspects, we should be able to locate our lost object. But what happens when it's not *our* object, and we have no memory or context? How do we access such an object or piece of information, and what does it mean for future accessibility?

Replicating Human Memory

The ultimate goal of automated cataloging (AC) is human replication. Case-by-case decision making is a human trait, guided by environmental facets and familiar history. We make tiny, implicit choices as we observe something, and those choices add up to decisions.

Cataloging is very much a reflection of these decision-making mechanisms. We have our structures, or taxonomies, as guidelines to build records. Our decisions take in the structures, combinations, and contexts of objects, then connect them to predetermined data constructs. These constructs are the gateways to accessibility, and automation is the vehicle.

Access to information is determined by our taxonomies and the depth of our cataloging. Unstructured information slips easily into trenches, where uncataloged documents keep each other company with missing intellectual objects. When such documents and objects reach a critical mass, users become frustrated and begin reviewing or discussing our database in a negative light. While this problem is often soluble, it is also preventable with AC.

The example I'll use to illustrate automated cataloging is the automated system in place at the Development Experience Clearinghouse (dec.usaid.gov), a digital archive and repository for U.S. Agency for International Development (USAID) documents. Any program or project funded by USAID

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creates deliverables, and these deliverables, in turn, are submitted by users via the DEC website.

The DEC is a classic example of a knowledge repository and keeper of intellectual objects. With USAID projects and programs numbering in the tens of thousands, automated cataloging was implemented to help staff archive documents and boost document accessibility. Automated cataloging has also been useful as a safety net for USAID's content management systems.

Creating Maps

If you were to insult a database, you might start by calling it an *abyss*, *black hole*, or *empty void*. Information goes in, but never comes out. It is up to your cataloging team to shine a proverbial light on the lost information.

There are some simple ways of exploring the void and bringing lost information to the surface. Special librarians are already doing many of these things.

Taxonomy management. Your organization's information is specialized and exists within the constructs of your profession's language. Linguistically, you observe the same descriptive words being used repeatedly in your pool of information, and you capture them. "These," you say, "are OUR words." You develop a taxonomy of phrases and words whose sole purpose is to encapsulate particular aspects of your knowledge. These words may change over time, but the concepts underlying them do not.

Your taxonomy is the backbone of your database—it reflects the content of your work and the specialized scope of your patrons. Making your taxonomy (or taxonomies) accessible dictates your selection and use of automated cataloging. Investing time in your users' vocabulary, needs, and search habits will pay dividends when you explore automation.

Decision making can be grouped into taxonomy management as an implicit facet. You should track definitive decisions such as priorities, consistent groupings of phrases, definitions of categorical types, and so forth. Again, with the ultimate goal of human replication, tracking implicit knowledge and decisions will increase AC quality, which in turn will increase accessibility.

Connectivity. Similar to your personal searches, you need to connect information in your content management system or database. Inside your defined metadata structure, specific terms such as *microfinance* and *agricultural development* need to be linked to other documents or to intellectual objects that pertain to the same ideas. This can be accomplished, as within the DEC, by hyperlinking your tags to enable a full search on each taxonomical entity.

Each link is a new window to exploration, an opportunity to browse. The more precise the linked term, the clearer the window. Yet each term intertwines with others to enable users to navigate large sets of information. Each hyperlink, each tag, is a vehicle; it cuts across everything available to the user, but only selects kindred spirits.

Notwithstanding automation, misinformation, or incorrect categorization, sometimes occurs. Thus, we must consider the parameters of misinformation. When we explore the functions and decisions of our automated system, how do we determine what constitutes an inconsistency? What is the reason behind incorrect cataloging? The impact? We will tackle these questions when we take a closer look at the cycle of accessibility.

Automation. Let's use a 50-page document as an example. The document is titled "Vaccinating Children in Mozambique's Rural Areas," so we can glean some search terms from the title: *vaccination*, *children*, *Mozambique*, and *rural areas*. Digging deeper, we can expand on these terms and explore combinations to automate cataloging. Our mind equates these terms to others within our taxonomy—*disease prevention*, *child health*, *immunization*, *rural development*, *rural health*, *regional systems of health care*, and so on. Within Mozambique, we can divide the country into states or regions, which can then be broken down into smaller areas.

Every overarching topic can be distilled into accessible chunks of knowledge. Once the document is scanned and analyzed for content, each term is mapped to our taxonomy and connected to every other document sharing similar themes. Without taking time away from staff, a searchable, connected record takes its place in our database.

These aspects of our system tie together nicely: a structure, links within our structure, and a safety net for missing objects. Once objects are fed into the system, they become available for consumption. When a document comes into the system with little or no cataloging, we extend our hooks to grasp the content before it gets lost in the trenches. With automated cataloging applied to each metadata field, we increase the chances of users accessing information and fulfilling their needs. However, it is important to also point out the impact of misinformation and erroneous cataloging.

Automation within a Cycle

Most automated cataloging systems use a set of rules, also called matching terms, and a calculated relevancy to identify salient information. For example, rules for the thesaurus term *governance* could contain the terms *democratization*, *government development*, and *government oversight*. Based on this example alone, we can predict that *governance* will be connected to a large set of intellectual objects. Sometimes these connections will be "false positives," and that's okay.

True, nobody wants a set of superfluous results when they're searching using narrow parameters. But if a user reaches out to notify you of inaccurate cataloging, it speaks to the quality and value of the object itself, and that object will now be cataloged by a human. Something that was once a lost or misplaced item will be properly cataloged, and its chances of being accessed will increase tenfold. This is one way that automation helps "feed" the accessibility cycle.

Accessibility cycle. Special librar-

ies—indeed, all libraries—rely not only on the information resources they already possess, but the information resources they have yet to acquire. Access to these resources is predicated upon the connections we establish for acquisition, user participation, suggested information, and intangible objects.

Automated terms spread the net of access and create paths to previously unknown or "lost" items, thereby enhancing our awareness and understanding of the information resources held in our database. This brings a set of new objects to the attention of the cataloging team, which then identifies new terms or categories of knowledge, which then flow back into the library's taxonomies and metadata. By continually supplying our taxonomy with fresh information and connecting it to our audience, we automatically boost the probability of access. Accessibility, in turn, leads to cleaner connectivity between objects and, finally, automated cataloging. The cycle starts over.

The challenge for automated cataloging is consistency. Consistent selection reigns supreme when managing databases with fluctuating content. As vocabularies change and new phrases replace old ones, making sure you acquire, manage, and structure objects of interest is critical in maintaining a cycle of consistency. The stronger the cycle, the easier it is to keep up quality standards within your database.

Consistent connections between records create clear pathways to information. You want your users to find desired materials again and again.

Access Intersections

There is no threshold for using automated cataloging. You might be part of a team of 20 who catalog several documents a day but see the benefits of automated software; conversely, you could be in a two-person operation with an overwhelming backlog of items in need of processing but unable to benefit from an automated approach. Budgets, leadership, deadlines, and priorities all factor into the decision to use automation.

In a sense, it all leads back to the question of accessibility. Obvious security risks aside, most organizations want their users to be able to access and use their intellectual objects. However, the time and resources committed to structuring information as a means of boosting accessibility vary from organization to organization.

The age of transparency is here, and users keep pushing for access to information they want and need. Catalogers, whether they realize it or not, are trying to replicate user behavior—they're selecting the information they consider most likely to be relevant. At the same time, automation is trying to replicate the goals of catalogers. Thus, automation is constantly interpreting our decisions and making rules that ultimately reflect human behaviors.

Successful accessibility relies on consistently fine-tuning the intersection between human behavior and taxonomic structure. Automation feeds this process with an ever-growing body of information. With every cast and catch, an automated safety net brings forth new objects for consumption. In this way, your library's users and staff nurture the health of a strong, resilient database. **SLA**

How Research Publishers Promote Information Access

RESEARCH PUBLISHERS CAN PARTNER WITH LIBRARIANS TO MAKE USERS MORE AWARE OF INFORMATION RESOURCES AND BETTER PROVE THEIR VALUE TO THEIR ORGANIZATIONS.

BY SYED HASAN

In an age when anyone can publish spurious information and information of questionable quality is everywhere, there can be no more reliable or authoritative source than the primary publisher—and no channel for dissemination more trustworthy than the information professional or librarian. And although research publishers (aka scholarly publishers) originally evolved to meet the needs of academic libraries, in the 21st century they can also be invaluable partners to libraries and information professionals in other settings as well.

Typically, research publishers disseminate original research across journals, monographs, reference works, textbooks, and professional handbooks. Springer Nature is one of the world's leading research publishers; in 2015 alone, we published more than 300,000 research articles and 12,000 books, all rigorously peer-reviewed. But increasingly, we and other publishers are going beyond the original research and supporting researchers with new services, particularly the intelligent use of data.

The traditional model that research publishers use to provide access to information is the site license, which offers unlimited use for patrons across the subject areas they have purchased. But long-term access rights to information are far more important to academic institutions than to corporations, which instead value having authoritative information available at the exact time of need.

Because innovation is the key success factor for corporations, R&D activities change frequently (particularly in high-tech industries). If information providers such as publishers are to add value to such activities, they must be able to switch gears as quickly as their corporate users. Increasingly, publishers' business models are based on a deposit concept, whereby information is only paid for when it is used.

This is common sense—there is no long-term benefit to selling information that is not used, so ensuring usage is crucial. The monitoring of usage is made possible by the tremendous amount of data available to publishers in today's era of e-journals, e-books, and online databases. The business model that has emerged from this trend, which is gaining traction, is called evidence-based acquisition.

So, what else should an information professional expect from a good publisher?

Qualities of Good Publishers

All of the articles Springer Nature publishes must be scientifically valid and technically sound in methodology and

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analysis, although many represent the highest achievements in science and discovery—from Keynes' *General Theory of Employment, Interest and Money* to Watson and Crick's structure of DNA to the recent discovery of Proxima B. When we refer to "good publishers," we do not mean only publishers that champion quality in research (although maintaining high standards cannot always be taken for granted). We also mean that all of this peer-reviewed research needs to be delivered in a way that's discoverable, usable, and trackable.

Good publishers regularly send staff to visit libraries and encourage them to take time to develop a deep understanding of their needs. The staff then assist local information professionals in driving the use of their content, whether journals, books, or databases. These publishers' representatives should possess expertise in the technical aspects of discovery and use of e-content as well as marketing and promotional skills and the ability to match content to users' needs. This post-purchase support is referred to in the research publishing community as *account development*.

In previous years, marketing was only seen by publishers as a means of encouraging users to purchase new or additional content, but smart publishers now use marketing to ensure library patrons are aware of all the resources accessible to them. Account development encapsulates tracking the use of content by researchers and intervening with technical and/or marketing support if usage is lower than desired. This, in turn, helps information professionals demonstrate the value of their services to internal stakeholders.

For example, one of our representatives was working with a pharmaceutical company that asked for help in advertising its library's services to patrons. Our marketing manager offered to write promotional copy for the products to which the library subscribed so as to make them more visible on the company's intranet. The marketing manager also put together lists of the most commonly downloaded e-books in specialty areas, including titles, links to the books, and a short write-up of each book's content. Once the pharmaceutical company started rolling out these internal promotions, usage of the e-books skyrocketed, demonstrating the impact of increased awareness within the organization of what the library could offer.

Marketing new content to researchers is crucial, but good publishers also work with local information professionals to take responsibility for the ongoing use of licensed content by users. In the academic sector, where research activity is relatively public, publishing staff can also help make the case for additional information resources by collecting data on how often patrons try to access content about certain research initiatives and are stymied because access to such content has not yet been purchased.

While books and journals are still some of the best ways of disseminating the latest research, good publishers are getting more creative and working on ways to distill the enormous wealth of information out there. For example, Springer Nature publishes many specialty databases, the most recent addition being Nano, a research solution comprising 200,000-plus manually curated profiles of nanomaterials and devices from top peer-reviewed journals. This helps bring a vast body of data together in one organized, user-friendly place.

At Springer Nature, we also consider what other services we offer that might be useful to a special library. For example, in 2015 we published more than 63,000 articles that were freely accessible upon publication, mostly in biology and medicine but also in physics, chemistry, the humanities, and the social sciences. Our journals also encourage data sharing and open data, which can provide a wealth of useful resources for organizations.

Measuring Value

Tracking the real-world impact of information is increasingly important for companies, libraries, and publishers. Once the library has access to the information it needs and its users are on board, publishers need to provide information managers with the necessary tools and resources to aid them in analyzing their return on investment at their specific corporation or institution. The challenge is measuring how this information directly leads to later innovation.

A 2010 report, *The Value of Academic Libraries: A Comprehensive Research Review and Report* (Oakleaf 2010), offers a comprehensive view of new ways to prove the value of information resources, libraries, and information services. The author, Megan Oakleaf, emphasizes going beyond counting resources and even beyond counting individual uses of content and tackling more difficult (and potentially intimidating) areas such as better student learning outcomes and better grant writing for more funding.

The trends Oakleaf identified in the academic sector also have direct relevance in the corporate world. Corporate libraries might want to consider how they track the following:

- What information led to the filing of a patent?
- What information led to a useful engineering or production innovation?
- What information helped shape a new product or project idea?
- What information helped the company avoid risk, loss, or infringement?
- What information kept the company on the cutting edge of its industry?
- What information advanced the skills of researchers, managers, and other workers?

Publishers should be able to aid information managers in these analyses as part of their overall effort to extend themselves into the organizations that consume their content. This will require publishers to understand their customers' information needs, offer access models that maximize useful content per dollar spent, and take some responsibility for the ultimate use and useful-

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ness of their content.

Once upon a time, measuring the use of library resources would have been a purely manual, and largely inaccurate, task. In the modern era of online information resources, sophisticated monitoring of usage has become critical, and scholarly publishers are on the front lines with local information professionals to ensure they receive an optimal return on their investment.

A True Partnership

Good publishers constantly seek feedback from librarians and information professionals and work closely with them to improve their services. Most scholarly publishers now have advisory boards composed of information professionals from all the sectors they serve—corporate, academic, government, health, and so on. These advisory boards provide input on everything from emerging publishing topic areas (such as artificial intelligence or new forms of energy generation) to business models and needed services, along with advice on what publishers can do to make their outputs more relevant to users.

A good publisher will understand that researchers are also authors and share information about these authors with local information professionals, since their research is likely to be valuable locally to others. Increasingly, publishers also work with local information professionals to offer assistance to would-be authors. A good publisher will take pride in promoting works by authors locally and thereby generating good publicity for their institutions or companies.

Research publishers believe that having immediate access to the latest scientific research is helpful to any innovative or creative organization. While this belief may be clear and logical, the best practices associated with bringing science to bear in the most beneficial way in an organization are not always obvious to either researchers or administrators. It is often left to the information professional to sift through the universe of potentially helpful content and deliver the best and most authoritative resources to researchers in a cost-effective manner.

The information professional is the most direct link between the research and development that drive the success of businesses and the information resources held by the publisher. If an information professional is not attuned to the efforts driving the success of his or her organization, that organization is going to have a very difficult time accessing the information and resources needed to innovate and improve its market position. These challenges cannot be solved by publishers alone, but perhaps by working with and supporting information professionals, progress can be made—slowly, maybe, but surely.

For decades, doom-mongers have predicted the death of the library and of the role of the librarian. But it is not so much the legacy concept of a physical information storage and retrieval setting (a library) that is useful to retain; rather, it is the concept of a professional partner—a librarian or information professional inside every research organization who will assess, mediate, and market online information resources—that is most crucial to the goal of furthering the mission of his or her organization.

Research needs to be delivered to libraries in ways that are discoverable, accessible, and trackable, but more importantly, information professionals need support so they can prove the value of their services. Publishers are perfectly placed to be a true partner to information professionals, helping them build their collections, publicize available content, and measure the impact of that content to drive real-world success and discovery. **SLA**

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10 Questions: Stefanie Maclin-Hurd

NOVELIST, POET, COOK, LIBRARIAN—STEFANIE MACLIN-HURD HAS MANY OUTWARD PERSONAS, AND EACH ONE REFLECTS A SMALL PIECE OF HER INNER SELF.

BY STUART HALES

Stefanie Maclin-Hurd wasn't alive in 1975 when American Express aired its first "Don't Leave Home Without It" advertisement, but she would certainly identify with its message. The ads, which appear frequently on lists of the most memorable campaign slogans, promoted American Express traveler's checks and credit cards by positioning them as a source of cachet for people whose fame couldn't open doors (not to mention pay for meals) in restaurants or earn free tickets to a show.

In Boston, where she attended graduate school and worked for several years, Stefanie was well known within the library community and had a wide circle of friends and colleagues. But when she learned she would be losing her job, she and her husband decided that Boston had become too expensive, so she expanded her search to cities and states outside New England. Sure enough, she received a job offer in Pittsburgh—a city 800 miles away that she had never even visited.

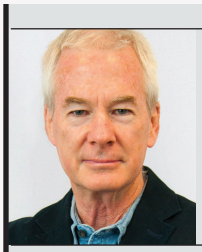
But what she lacked in local knowledge, Stefanie more than made up for with her network—her SLA network, that is. She contacted a member of the Pittsburgh Chapter and quickly received recommendations about places to live and eat and local sites to visit. The information was invaluable to her and provided fresh proof of the value of SLA membership.

Information Outlook interviewed Stefanie in January, shortly after she had relocated to Pittsburgh and started her new job.

In December, you tweeted that you had just renewed your SLA membership: "At this juncture of my career—new job, new city—I feel my membership is more important!" What do you get out of your SLA membership that made you want to renew?

Quite a few things, actually. One, I love the support of the community. When I first became a member, I was a new graduate from library school in Boston. The support of that community, the New England Chapter, was absolutely amazing. I credit the majority of my jobs after I got out of library school to knowing people in SLA. And then I got involved in chapter leadership.

So now I've moved to a new city—and prior to moving here, I'd never even been to Pittsburgh, so I knew absolutely



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During a visit to the Pacific Aviation Museum in Hawaii, Stefanie checks out a plane her maternal grandfather may have flown in the Korean War.

nothing about it. I had e-mailed one of the officers of the Pittsburgh Chapter for advice on where to live and what to look for, and immediately I got answers. Coming to a city where I don't know anyone and had no concept of the city itself, being involved in SLA is very important because everyone is so open and so welcoming. We really are a community that helps each other and supports each other. In a new position and a new city, that's really very important to me—not to mention being able to move ahead in my career through the support that SLA offers.

Your new job is in the Pittsburgh area, which is about 800 miles away from Boston, where you previously lived and worked. Clearly, you didn't feel constrained by geographical limits! How did you go about your job search, and what did you learn from it?

I'd lived in Boston about 15 years—I moved there for college the week before 9/11 happened. It was very interesting being an 18-year-old in Boston when that happened.

Then I went to grad school there and met my husband there, and I made a number of friends there as well. When I knew I was going to be looking for a new job, I sat down with my husband and we sort of discussed where we were willing to live. And what we came up with was that, in a lot of ways, Boston was getting too expensive. We had a one-bedroom apartment in downtown Boston the last three years we lived there, and we really needed more space. But if we were going to stay in Boston, we couldn't afford it.

So when I started looking for a new job, we used it as an opportunity to open up the geography. I think it was very helpful that we were both willing to go on a new adventure; we were both willing to take that risk. So I was looking in a lot of different places, and Pittsburgh just so happened to be where we ended up.

I put my résumé up on a couple of different job sites, including Indeed and Monster, which are not traditional library sites. But I got a phone call from someone who had seen my résumé on Monster saying that they had an opportunity for a corporate library position, and would I be interested? So it all sort of worked out.

Boston is known for its beautiful libraries—the Boston Public Library, the Athenaeum, the Bapst Art Library at Boston College, and the Widener Library at Harvard. Have you had a chance to check out any libraries in Pittsburgh yet?

I've been in Pittsburgh for about six weeks, and I've really only gotten to my local library branches. I've joined a knitting group at my local library, on Saturday mornings, so I get over there a few Saturdays a month.

I've checked out some really gorgeous museums so far—my husband and I have been making it a point to explore the city. I have to say, the one library I've checked out in downtown Pittsburgh—it's over near Carnegie-Mellon University—was quite spectacular. So far I've not found anything quite on par with the Athenaeum; hopefully, as I get to know people in Pittsburgh, they'll be able to tell me where to go for libraries. But right now, I'm still exploring the city.

Speaking of libraries, what made you decide to become a librarian? Is it something you always wanted to do, or a decision you arrived at later in life?

I don't know if there was any one thing that made me decide to become a librarian. I was always a voracious reader when I was growing up—I was the kid who knew how to read before starting kindergarten. So books have always been a thing for me. I could read pretty much anything I wanted as a kid (within reason, of course). I mean, I was reading authors like Tolkien when I was eight.

And then I volunteered at my local library in high school. My high school had a mandatory community service requirement for graduation, and I had been going to the town library for story hour since I was a toddler. I knew most of the circulation and reference librarians there, so it was just natural for me to go there and fulfill my volunteer requirement.

Then I went to college and majored in English and creative writing, and I thought I wanted to be a writer. But then I sorta' realized that I would probably never eat again if I went for my MFA. So I still didn't quite know what I wanted to do. My first job out of college was actually doing accounting work for a moving company, and I think no one was surprised when it turned out not to be a good fit.

I left that job and I was kind of at a loss for what to do. And then something in my head got triggered, and I thought, you did all this volunteer work in a library and you really enjoyed it. One of my parents' good friends was the children's librarian at the town library I had gone to as a kid and a teenager, so I talked to her and to some of the other librarians and I was like, yeah, this actually sounds like something I'd really want to do. I had enjoyed my time working there, and I liked the idea of working with the public and helping them find information and kind of preserving the idea of public history and public materials.

So I applied to library school, and specifically I studied archive management within library science at Simmons College in Boston. And the entire time, a lot of people were looking at me like, why are you becoming a librarian, and I thought, why not? And it probably ended up being one of the best decisions I've ever made. I've never regretted it at any point.

So you became a librarian, but one of your passions is still creative writing. Which is the more accurate description of you—a librarian who dabbles in poetry and urban fantasy novels, or a poet and writer who works a day job as a librarian to pay the bills?

I think if you had asked me when I first entered library school, I would have said I was a writer who worked a day job as a librarian. I think that answer is different now—I'm a librarian who also happens to be a writer.

I think the reason it changed is that my being a librarian very much influences my writing. As I mentioned, I was an English and creative writing major in college. I have a number of poems and a few short stories published on the web, and I can definitely see the subtle differences between some of my earlier poetry and what I've written since becoming a librarian. Working in an archive, working with original documents, working with students in an academic library, coming across people I wouldn't have interacted with outside the academic library—those have all very much influenced my writing.

There was actually a very significant period of time, relatively recently, where I was producing very little work. One of my goals for this year is actually to start writing more. And in this urban fantasy novel that I'm writing, one of the main characters is a librarian of sorts. Actually, a better description would probably be that she's a collector of information. And her character has very much stemmed from my own experiences and knowledge of librarians and archives and being a librarian.

I was wondering where you get your inspirations for poetry and writing—whether your works draw on your own experiences, or whether you're creating the life you secretly wish you had lived. It sounds like the former.

I don't know if I've ever created a character and thought, I wish I could be this character. All of my characters, I think, have little, tiny pieces of me. There are some writers who say they write characters that are absolutely nothing like them. That's not the type of writer I am—as I said, every character I create has a tiny inkling of who I am, even the characters who are the complete opposite of me. There's like this tiny kernel that comes from my life. I don't know if that's good or bad, but that's just the way I write.

Stefanie at her desk at her new job in Pittsburgh.

Another one of your interests is cooking. If you were planning a dinner party for librarians—given what you know about them, and considering your cooking skills—what would you serve, and why?

I would probably do a breakfast party—one, because breakfast is my favorite meal to cook, and two, there's a lot of versatility involved with breakfast foods, so there's something that can be done for almost every taste.

I think with librarians and information professionals being such a diverse group of people, the diversity within breakfast foods would be a lot of fun to play with. So I could do a number of different egg dishes, and there could

be a course with crisps and cobblers, and I have a few pancake and French toast recipes. I think I have at least two cookbooks that are dedicated to just breakfast food.

I think it's something that would be a lot of fun, and it's the kind of thing that could very easily become a sort of potluck idea, so that people could bring their own spin on it as well.

Turning back to SLA for a moment—you served as president of the SLA New England Chapter in 2015. What inspired you to run for office in the chapter, and do you see yourself doing the same with the Pittsburgh Chapter?

Getting involved with the New England Chapter was sort of a slow development. I joined SLA after I had graduated from library school, and getting involved in the chapter was a way to get to know people and attend events.

I actually started out as a social media volunteer—I live tweeted a lot of events, and I would comb the web for interesting links and topics that we would then put out on our social media sites. From there I became the chair of our Emerging Technologies Committee, so I was the one overseeing our social media sites. Then I started my presidential term, which ended last year.

It was all a great way to learn a lot about myself. Before I got involved with SLA, I really didn't see myself as a leader. Getting involved proved to me that I am definitely capable of leading, which is something I will take with me into every future job I will have.

It was also a way to give to the chapter. As I said, when I graduated, the chapter was absolutely fantastic in helping me with job leads, in supporting me, in providing a library home now that I was no longer a library student. So, for me, it was a way to give something back to the chapter and hopefully be able to provide a voice of someone new to the profession and show to people just starting out within the chapter that they didn't have to be a 20-year-plus veteran to lead. You can do it as a new professional.

With regard to getting involved with the Pittsburgh Chapter, ask me in, like, 2019. I've actually just agreed to be on the advisory council planning the SLA 2018 Annual Conference, and I'm also going to be managing the social media for the Academic Division going forward. I'm definitely looking forward to getting involved with the Pittsburgh Chapter, but I don't know if necessarily becoming president of the chapter is in my immediate future.

A few years from now, someone doing what you did—moving from Boston to Pittsburgh—might be able to ride the entire way in a driverless car. They've been in the news a lot lately, along with drones and artificial intelligence. When you look into the future, what do you see as the next new technology to affect librarianship?

First, I'd like to have it on the record that I think driverless cars are utterly terrifying!

But in regard to librarianship, when I first graduated from library school, I took a lot of contract positions before I was able to find more steady employment. One of the positions I worked at was with the Perkins School for the Blind in Watertown, Massachusetts. They have a lot of homebound patrons who are blind, deaf, or both or have a variety of other conditions that prevent them from going to the library physically, so the school would bring materials to their patrons.

This makes me think that with the way drones are developing, and with Amazon talking about delivering goods to their customers via drone, why can't libraries use similar technology to bring items to their patrons who are not able to get to the library? That's kind of what I would like to see—developing technology to help those patrons who want to use what the library has to offer, but may not be able to get there for whatever reason.

Speaking of the future, here's your chance to use your writing ability to create your future. Finish this sentence: "On the eve of her 40th birthday, Stefanie Maclin-Hurd had a premonition that something highly unusual was about to happen to her: _____."

Her somehow miraculously-completed novel has just been optioned for a movie, but they've completely changed all of the characters. The horror! SLA

Stefanie and her husband, Chris, enjoy the Winter Lights show at the Phipps Conservatory in Pittsburgh.

Delivering Library Services and Content to Mobile-Savvy Consumers

A paper presented at SLA 2016 revealed that libraries can do much more to address the 'gap' in providing information to mobile device users.

BY BRITT MUELLER, MILS, AND CINDY SHAMEL, MLS

Throughout most of their history, librarians have focused primarily on managing paper and hard copy collections. Only during the past four decades have librarians had to make the transition to a digital environment, but they have had far less time to consider the reality that library users now carry powerful, digital online devices in their pockets. In a profession where change has historically taken place incrementally, libraries and librarians are now facing a cosmic shift in how people access information in every aspect of their lives.

In a paper presented at the SLA 2016 Annual Conference, the authors sought to draw attention to how people now access information, how libraries are responding, and the issues libraries face in staying relevant in a world where information is most often accessed and used with mobile devices (Mueller and Shamel 2016).

Mobile in the World

It seems obvious to call the use of mobile technology ubiquitous. Mobile devices are an intrinsic part of everyday life, allowing people to easily communicate, share information, track activity, and more. Worldwide growth in the use of mobile devices has been exponential and is slated to continue advancing, with estimates of 5.6 billion unique subscribers worldwide in 2020, up from 4.7 billion in 2015 (GSMA Intelligence 2016).

In keeping with this growth in devices, access to online content and the Internet are moving rapidly toward a primarily mobile ecosystem. For example, Google prioritizes mobile-optimized content in search results, and advertising drives monetization and profit for companies providing the platforms and services people use to find information and communicate worldwide.

This mobile ecosystem is also where many of the world's fastest growing companies look for revenue growth. Companies that provide services synonymous with sharing information (such as Facebook, Google, and Twitter) regularly note in their SEC filings how critical mobile capabilities are to their success. Delivering content optimized for mobile access enables these companies to customize what people see and facilitates a better understanding of consumers' tastes and needs.

As companies seek increased revenue through mobile delivery, they are prioritizing well-designed and frictionless access to their services and content. Ease of access, exceptional user interface design, and targeted content all combine to create engaging and useful interactions. Users expect (and get) incredibly high standards of product design and low access barriers for their mobile experience.

When we think about library users and patrons, we have to remember that they most likely have a mobile device or smartphone and are actively using mobile social platforms and apps. They are familiar with mobile experiences that are engaging, easily accessed, and targeted to their needs. They come from this mobile world when they enter the library (either physically or electronically) and begin seeking information as a library user as opposed to a consumer.

How do libraries measure up? What can sophisticated mobile consumers expect when they begin to use library services with their mobile devices? And what are libraries doing to provide information access in a truly mobile ecosystem?

Mobile in Libraries

To get a picture of the status of mobile initiatives in libraries, we researched the published literature, visited 40 aca-

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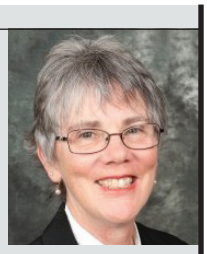

demic and public library websites, and interviewed several professionals active in this space. We were looking for insights into how libraries are offering mobile access to services and content, the extent to which they are prioritizing mobile access, and how library mobile experts are thinking about the issue. We found that libraries are trying to address mobile access at some level, but it appears that mobile initiatives are not generally a priority; instead, they are somewhat of a single checkbox or one-off offer that is only minimally promoted. In some cases, libraries are acting in the dark, without sufficient insight into what mobile expectations or solutions their users really want or need.

There are at least three options for libraries to provide mobile access to content and services: apps, responsive web design (where the web-based content is optimized for best display depending on the device being used to access the content), and web pages designed exclusively for mobile. Our library website visits revealed that 65 percent use responsive design for their websites and 75 percent have an app of some kind. Apps primarily delivered access to online catalogs or specific scheduling activities; responsive design was used much more broadly to render website front pages in an optimal way for mobile users. Our interviews indicate libraries found apps to be difficult to maintain, and some are reconsidering the app solution in favor of a mobile website or responsive design.

Despite providing options for mobile access to services and content, the libraries we evaluated often did not reveal or make clear their mobile capabilities. Apps and mobile access were rarely mentioned or were buried at the bottom of web pages.

While information professionals recognize a need for mobile access, we noticed a significant gap in addressing that need. As libraries seek to stretch their limited resources to meet new demands, they face an ongoing struggle over how to prioritize the need for providing mobile access to content and services. A comprehensive mobile solution requires significant investment—apps are expensive to create and maintain, which is one reason some institutions have abandoned that approach to focus instead on responsive design and a mobile website. Beyond these initiatives, there is very little other investment in mobile capability for library website content.

Fortunately, in addition to identifying gaps, the insights the authors obtained from the published literature, the website visits, and the interviews revealed a range of options and opportunities to address mobile library capabilities.

Libraries in the Mobile World

Following mobile design trends in the marketplace is important. Paying attention to things that are done well by commercial interests, such as simplifying access, improving the user experience, and marketing mobile information solutions, is critical to library success in delivering mobile solutions.

However, a clear differentiator for libraries is their ability to offer information disconnected from selling and advertising. Libraries provide access to information free from commercial constraints, distinguishing their efforts from the sea of information provided through commercial social channels. The peril is that without thoughtful strategies, clear budget allocations, and coordination, libraries risk irrelevance—particularly if they take a piecemeal approach that is implemented peripherally and in a one-off manner.

We, as librarians, must gain a foothold in this new world that is already on our doorstep. It will take more than a single mobile deployment; instead, it will require an ongoing and central mobile strategy to allocate resources and position library services for the future.

There are some simple first steps that libraries can take to move in this direction. Our research found that even when mobile apps and solutions were offered, they were not publicized. A strategy as simple as prioritizing attention to mobile solutions can go a long way to make mobile capabilities more visible and coordinated for our end users. Making sure that mobile access is always considered and leveraged as a benchmark of success in library efforts can bring mobile efforts to the front of librarians' strategic thinking.

Action Items and Best Practices

Based on our interpretation of findings and our discussions with mobile library experts, we have identified some options for best practices in libraries to address the gap in mobile information solutions:

- Develop a strategic plan for a comprehensive mobile strategy to enhance mobile use and align library services with the growth in the mobile ecosystem.
- Highlight, communicate, and market existing mobile capabilities more effectively to provide greater visibility to existing solutions.
- Participate in the mobile efforts of parent or umbrella organizations and collaborate to leverage scarce and expensive IT resources.
- Push vendors and publishers to create better mobile solutions with easier access to subscribed content, then feature these solutions in online resource lists and in mobile apps.
- Collaborate with other libraries to create solutions that can be used widely or in an open source manner.
- If resources are limited, focus on responsive design rather than broad, multi-purpose apps.
- Experiment! Try developing mobile services that don't require a huge IT investment, such as providing curated lists of useful apps, library app reviews, and instruction in mobile library capabilities.

Librarians have an opportunity to set the standard for mobile access to libraries' content and services. Providing mobile-optimized access to libraries' content and services will grow in importance as the mobile ecosystem contin-

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Disrupting Library Activities by Adopting New Technologies

New technologies are enabling libraries to participate more actively as producers, collaborators, and other roles within the information industry.

BY DAVID STERN, MLS

There remains a strong anecdotal fallacy that libraries simply react to industry trends. While it is true that library systems often lag far behind the leading-edge search engines in terms of artificial intelligence, crowdsourcing, and other navigational options, libraries are far more than just passive purchasing agents for tools and resources.

New technologies are allowing libraries to participate more proactively throughout the information life cycle. Libraries are influencing the direction of the information marketplace as they become more active as producers, hosts, purchasing agents, and collaborators with other industry players. Let's look at a few areas where libraries are using new technologies to alter industry dynamics and products.

Institutional repositories (IRs) allow libraries to work directly with content producers (i.e., faculty, students, and administrators) to better understand the underlying factors in the publication process. In many cases, these IRs provide not just evidence of impact for the authors of the produced materials—they also provide a powerful new student recruitment tool. This has resulted in new policies and procedures that challenge publishing standards and costs.

Copyright and intellectual property norms have been re-evaluated and modified through more aggressive use of **Creative Commons rights-management models**. Subscription barriers have been altered through the adoption of **immediate release clauses** and/or reduced embargo periods for articles. Discovery of alternative materials has been expanded through effective **federated discovery tools**. Libraries continue to add and raise the visibility of new types of non-traditional publishing materials, such as posters, technical reports, white papers, student journals, and exemplary papers.

Experiences with Creative Commons and other open access options have positioned libraries to effectively lobby for **changes in pricing models**. The radical SCOAP3 journal consortial pricing model was developed in cooperation with CERN (European Organization for Nuclear Research), and we await further efforts on strategic initiatives to control excessive pricing. Libraries are collaborating with teachers to develop, identify, and implement open educational resources (OER) as alternatives to obscenely expensive commercial textbooks. Embedding these resources directly into online teaching platforms also allows us to enhance pedagogy by surrounding reading material with quizzes to prove that reading has occurred and content has been understood, so flipped classrooms can concentrate on problem areas.

Open source tools such as code4lib are adding creative plug-in enhancements to our existing resources or are replacing some of our tools with entirely new APIs and interfaces. In some cases, we are extending our book catalogs by adding links to outside resources (e.g., GoodReads or Library Thing) or adding links to related materials through hyperlinks to other products and services (e.g., GenBank or statistical data sets). Libraries are enhancing research collections by providing access to locally created or scanned digital materials. Some libraries are replacing expensive commercial LMS tools with open source tools and reallocating funds toward other services.

In terms of collection development changes, some libraries are now hosting **open access journals**. This experience has allowed us to better understand and document actual costs for editing, production, and distribution. This positions us as more informed partners as we attempt to justify less expensive journal pricing and discuss reasonable profit scales and viable R&D support levels with publishers.

Our experience with **electronic book publishers** (as creators, hosts, and supporters of e-book cooperatives) has allowed us to engage in informed conversations about new pricing models that might help sustain university press efforts. Consortial library communities are developing cooperative collection development goals, infrastructures, and pricing models for e-books, and we may soon see best practices adopted across publishers.

With new seamless and immediate delivery options for journal articles and e-books, and with on-demand printing of books, many libraries are moving toward more **just-in-time purchasing**. Some libraries are reconsidering the journal archive package model that includes back file purchases and annual platform fees for infrequently used

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materials. We may see entirely new approaches to economically securing access to older materials.

Areas of Future Exploration

It is obvious, then, that libraries are taking proactive steps to influence the information marketplace using new technologies. What might be some of the next areas for library exploration? Two areas that might be ripe for consideration are (1) better integration and evaluation of electronic books and (2) assessing the return on investment of continuing the "big deal" journal pricing packages.

One area that requires attention is the seamless integration of electronic books into our search tools. While Google Books provides in-text searching of its scanned books, most libraries still limit e-book searching to the metadata found in the online catalog. Libraries pay for this in-depth access, so it seems unfortunate that many websites simply point to multiple search interfaces on isolated platforms as their current search method.

Some discovery tools now offer full text searching across multiple e-book platforms. It is time to create quality deep-searching tools across these platforms and integrate text searching into our normal book search engines. Of course, once we make precise and powerful searching available, we must engage in serious user satisfaction assessments. We need to understand the e-book preferences of informed and experienced readers in order to provide guidance in future full-text industry directions.

Speaking of assessment, it is time to use the data we can gather about online tools to perform return on investment (ROI) analyses of many of our services. We can gather benchmark measures and evaluation practices in many areas. One obvious area is to evaluate the efficiency and effectiveness of the big deal journal packages for various types of organizations.

Starting with our historical use data and including more detailed resolver information (e.g., the year of the publication, which is captured within the transferred information), we can perform much more accurate assessments of when we need current subscriptions or archival collections or can rely on PPV alternatives. In this way, we may be able to seriously influence cost models and buying behaviors and reconsider the one-size-fits-all big deal model.

Libraries have started influencing the information industry in many new ways. There is so much more we can do if we continue to explore, discuss, and take action based on new technological possibilities. **SLA**

Info Insights

Continued from page 1

any given time is also the information that is most accessible.

"The challenge for automated cataloging is consistency," writes Joe Donnelly. "Consistent selection reigns supreme when managing databases with fluctuating content. As vocabularies change and new phrases replace old ones, making sure you acquire, manage, and structure objects of interest is critical in maintaining a cycle of consistency. The stronger the cycle, the easier it is to keep up quality standards within your database."

Want to learn more about how research publishers and automated cataloging systems help increase information accessibility? Read the theme articles in this issue of *Information Outlook*. **SLA**

Info Research

Continued from page 14

ues to expand and new generations of library users rely heavily on their smartphones and other devices as their primary computing platform. With strategic investments in tailored solutions, libraries can remain the focal point for the delivery of information and knowledge solutions to existing and future library users. **SLA**

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