Research Library Issues

A Bimonthly Report from ARL, CNI, and SPARC

Diversity in Research Universities

Bernadette Gray-Little, Executive Vice Chancellor and Provost, University of North Carolina at Chapel Hill

In my experience, universities, or at least most of them, operate from a sound moral compass. Each campus has its own culture and a list of priorities or a document envisioned as the roadmap for future success. These documents are important strategic planning and budgeting tools. And my guess is those plans have diversity somewhere on the "to do" or "priority" list. It's probably in the top 10. It needs to be. Morally, culturally, and strategically, increasing diversity in higher education is essential to our society's future success.

At Carolina, we've operated for the past five years under an Academic Plan intended to be a blueprint to guide our strategy and budget decisions. One of our priorities is to increase diversity among our faculty, students, and staff—by continuing to recruit the best people; by integrating into the curriculum more of the culture, history, and concerns of African Americans, Native Americans, Latinos, and Asian Americans; and by engaging in more partnerships with the state's historically minority universities.

Because I oversee our campus budgeting process, I have some opportunities to put my own stamp on things. In my office, we've funded numerous specific efforts in recent years; this year, several new initiatives were aimed at diversifying the mix of students studying in the health sciences, including dentistry, medicine, and public health. The newly invested dollars—nearly $300,000—do not seem large based on a $2 billion-plus annual budget, but I believe they were sound expenditures for our university. We also have funded

Bernadette Gray-Little
Photo: Dan Sears, University of North Carolina at Chapel Hill

initiatives to diversify faculty and to create programs that seek to welcome and validate the culture of the diverse groups of students who are part of our campus community.

As provost, I have opportunities to charge search committees, monitor faculty hiring and retention trends and progress, and work closely with senior colleagues responsible for admissions and financial aid offices. I also have the opportunity to foster conversations about why diversity is important and to mentor others. But the entire administration and our Board of Trustees have adopted diversity as a priority, and that is a source of personal satisfaction for me.

First, some background about Carolina, the flagship of the 17-campus University of North Carolina system. Carolina didn't become more diverse in its student and faculty makeup overnight. Chapel Hill was completely segregated by race until 50 years ago. Even 40 years ago there were few students of color. The presence of women, at least among undergraduates, was severely restricted until 35 years ago. I am frequently asked if I'm an alum of Chapel Hill because I am a native of North Carolina. I say "no" and continue the conversation. I can tell you, however, that when I was a child growing up in eastern North Carolina in the 1950s and '60s, UNC–Chapel Hill did not exist for me as a possibility. Women were not admitted as first-year students, but I did not know that. The one thing that I did know was that it was a "white" school and that I should look elsewhere. Eight years after I graduated from high school—when I was completing my PhD—my advisor suggested that I consider the psychology department at Chapel Hill. I surprised myself and horrified some of my friends by doing so, but I have been there since.

But here's one simple sentence from our 1986 mission statement: "The mission of the University is to serve all the people of the State…."

Now North Carolina is a changing state, but often considered conservative in its politics. We have a large African American population that has received national media attention in recent months because of the presidential election and its strong support for Barack Obama. Our Latino population grew almost 400 percent from 1990 to 2000, and continues to grow. We have a significant number of Native Americans, and an increasing number of residents who are citizens of other nations because we are a hub of research and high-tech business. We have people of all major faith traditions in our state.

Today, the university's undergraduate enrollment increasingly resembles the state of North Carolina, and each new class of undergraduates enters with

credentials stronger than the one before it. That is, the student body has become more diverse and also more highly qualified by grades, test scores, and rank in class at the same time. We attribute those gains in part to an admissions policy that evaluates each candidate individually and comprehensively.

Carolina has had the highest percentage of African American students in the entering class six times in the past nine years among the top 50 national universities, according to the *Journal of Blacks in Higher Education*. Asian and Asian American enrollment was up 11 percent in the past few years. Hispanic, Latino, and Latina enrollment now accounts for more than 5.5 percent of our total entering class—up about 2 percentage points since 2003. Overall, enrollment of underrepresented incoming students was flat this year, but it is still strong historically—currently ranking 10th among top-30 universities.

Among our faculty, we saw slight single-digit increases in the percentages of Asian, African American, and Hispanic scholars in our last statistical snapshot taken last fall. And in recent years we have done much better among female African Americans and male and female Asians and Hispanics. Our track record for black male scholars has not been good (nor for black male students). To those of us in senior administration, and to me personally, this result continues to be a source of frustration. We know we

> …the richest marketplace of ideas results when we have a faculty and student body—and a library staff—characterized by great intellectual curiosity and aptitude—and also by diverse life experiences and backgrounds.

need to do better. The current results are not due just to a lack of effort by the university. We have confidence in our deans and their senior colleagues in charge of searches. We believe that they get it. Although I do not discount the lingering effect that underlying bias may have, often the major issue is simply the pool of available minority candidates. I believe we can do better in the recruitment of faculty of color than we have done, but to do so means recruiting those faculty members from your universities. Real progress will come from increasing the pool.

On that front, I am proud to say that Carolina has been proactive. The Carolina Postdoctoral Program for Faculty Diversity, a state-supported initiative begun on our campus in 1983, develops scholars from under-represented groups for possible tenure-track appointments at Carolina and other research universities. The first postdoctoral fellow is now a vice chancellor for student life. She is one of this program's many success stories.

Each program class has 10 scholars—recruited from a national pool—who serve two-year appointments. The program has graduated 132 scholars. Of those, 24 now work for Carolina; 17 hold appointments at other North Carolina universities.

These graduates include:

Barbara Williams, the first African American astrophysicist and an Associate Professor at the University of Delaware;

Juliette Bell, Provost and Vice Chancellor at Fayetteville State University in North Carolina; and

Robin D.G. Kelley, Professor of History and American Studies and Ethnicity at the University of Southern California, and regarded as one of the nation's preeminent scholars in African American history.

The program was championed by the late Phil Manire, Vice Chancellor and Dean of the Graduate School, who came up with the idea in response to a shortage of minority faculty in the 1980s. The concept was so good that it was endorsed in the university's budget process and received funding from the North Carolina General Assembly. It was an innovative approach for one institution to take in addressing this continuing national problem.

That takes me back to the university's mission statement, which also says we will serve the nation, and we will "address, as appropriate, regional, national and international needs."

In North Carolina globalization is not an abstraction. Globalization has benefited the state in some ways, but has also caused very painful job losses, especially in furniture and textile manufacturing. IBM is a large local employer in the Research Triangle, with thousands of employees. Some are Carolina graduates; some are the parents of Carolina students. Not that many years ago, when IBM announced it was sending a number of local jobs to India, people in the Triangle area of North Carolina took notice. It was another signal that global competition is not just about furniture, textiles, and the old underpinnings of our state's economy. It's also about services and high-tech work—the knowledge economy. How will our students compete in this economy?

We think the richest marketplace of ideas results when we have a faculty and student body—and a library staff—characterized by great intellectual curiosity and aptitude—and also by diverse life experiences and backgrounds.

Those are among the reasons that diversity matters at the University of North Carolina at Chapel Hill. We recognize that our success depends on our

ability to attract the brightest minds from all backgrounds and experiences to join our community of faculty, staff, and students.

Our commitment to diversity ensures that Carolina continues to be a place where students will leave excited by the possibilities of a diverse and global society, and where faculty and staff will be eager to share their talents.

I was very fortunate to be part of a chancellor-led university delegation that participated in a summit at the University of Texas at Austin in 2004. These events were designed to explore how students, faculty, and staff could systematically develop skills and knowledge relevant to effective work across cultural boundaries. The conference was informative, and I believe we made a positive contribution to it. But more important was the opportunity for our delegation to reflect on the current state of diversity on our own campus during our travels and time together. Those were galvanizing conversations, and they

It is the cumulative effect of many initiatives that makes the difference we seek.

motivated then-Chancellor James Moeser to convene a broad-based campus-wide task force on diversity.

In accepting the task force report's recommendations (2005), the chancellor announced specific initiatives to help the university communicate its commitment to diversity and annually monitor progress. Also tied to the task force report was the appointment of an associate provost for diversity and multicultural affairs. The intent was to signal an expanded effort to improve upon what we were already doing well so that the campus community could become even more diverse and inclusive. This report was generally well received. It didn't make our campus perfect overnight, and I will be the first to say we still have a lot of work to do. But taking the time and effort to convene campus leaders and to have serious conversations about doing better says a lot, I think, about our campus culture.

Since that report was released, the university has made a major effort to focus on **access and affordability** for low-income students from North Carolina and around the country.

Through the **Carolina Covenant**, we have promised to provide admitted students from low-income families the full cost of their education so they can graduate debt-free. They must satisfy all of the normal admissions requirements. These students are admitted on a need-, gender-, and race-blind basis. Then they are considered for the Carolina Covenant program. As part of their admission,

they agree to work 10 to 12 hours weekly in work-study. We meet the rest of their needs through a combination of federal, state, university, and other privately funded grants and scholarships.

We had sound educational reasons for creating this program. And it fit our core values as a university—primarily that access to higher education is the key to opportunity. **We were concerned that North Carolina's brightest high school students from low-income families believed they couldn't afford to come to Carolina.** We wanted to send the message that college is possible for high-ability, low-income students from any community or any background, who have the grades and motivation.

Part of our interest in advancing this program was the dramatic demographic shift in North Carolina. The state was experiencing rapid population growth—and increasing diversity. The Hispanic population was skyrocketing. At the time, our median family income was dropping, and the poverty rate ranked 14th in the country.

The response to this program, conceived by our Director of Scholarships and Student Aid Shirley Ort, championed by then-Chancellor Moeser, has been very strong. More than 80 other campuses, public and private—likely on some of the same campuses represented in this room—have adopted their own versions of the covenant as part of the massive overall shift we've seen in financial aid practices.

Last May, the first class of Carolina Covenant Scholars graduated. Currently, about 1,500 of these covenant students are studying at the university; since the program's inception nearly 1,800 undergraduates have benefited. Students of color have represented about 60 percent of all Carolina Covenant Scholars; and 60 percent were first-generation college students.

We are still carefully studying and analyzing the experiences our Covenant Scholars are having in Chapel Hill. Preliminary data show a very high retention rate—in the 90 percent range—and we are encouraged by that finding. The program is not solely academic. An added strength of the program is a mentoring component. Faculty and staff have been enthusiastic in volunteering to participate—another indication of the campus-wide support and enthusiasm for this program. It has also been the focus of some fund-raising efforts, and it has been highlighted by our basketball coach, Roy Williams, in a TV public service announcement airing during national and regional broadcasts of football and basketball games. That TV spot has helped

get the attention of prospective students and raise the profile of the effort with key audiences, including high school guidance counselors.

One other recent initiative of note was the launch of our American Indian Center to help strengthen, nurture, and coordinate research and scholarship related to this population. Our state has one of the largest Native American populations in the Eastern United States, so we felt creating the center was an appropriate way for the university to serve as a resource for American Indian communities. This followed the construction of a significant academic building to house the Sonja Haynes Stone Center for Black Culture and History in 2004. Completion of that building was made possible by a commitment from the administration and our Board of Trustees to use a significant portion of a major multimillion-dollar bequest for construction.

There's one other campus example that I'd like to highlight today from our University Libraries. As Sarah Michalak says, research libraries cannot wait for schools to make changes in their programs to attract a more diverse student population. Libraries must act. I've been pleased to learn that our own libraries have had an active Diversity Committee that has taken on ambitious efforts to survey our staff and think about future needs.

Our libraries also recently made an important hire, funded by a private gift to the university from former Duke University President, Nan Keohane, to honor her mother, who attended Carolina and dearly loved it all her life. As a result of that gift, Holly Brown has joined our Southern Historical Collection as the Grace McSpadden Overholser Archival Fellow for African American Studies. This postgraduate, two-year position works with the African American archives in our Southern collection. Among the duties are to reach out to the historically black colleges and universities across North Carolina to strengthen documentation of the African American experience in our state. Our goal is to provide direct assistance in preserving, cataloging, and digitizing especially valuable materials being held in other locations.

This is another example of a modest initiative that can help lay the groundwork for continued progress in the libraries. I hope that some of these examples from UNC will prompt you to think of initiatives and ideas from your own campuses that might help other colleagues attending this meeting. **It is the cumulative effect of many initiatives that makes the difference we seek.**

My hope is that each of you will go back home looking for opportunities to

make even a small contribution to advancing diversity at your university. Informal conversations can lead to big ideas.

- Your decisions about a budget request can provide synergy to similar activities in other schools and units.
- Your opportunities to speak at administrative meetings are precious. Plan for them and how you can plant the seed of an idea.
- You can help persuade others with additional resources in their own units to collaborate.
- You can talk to your own provost about the need for campus-wide solutions.
- You can ask your staffs and patrons for help in thinking about how to better serve their needs in the future.

All of this will take time, effort, and, oftentimes, money. But it's worth the investment in the people who will benefit. It will make your campus a better place.

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An Overview of ARL Diversity Programs

The ARL Diversity Programs are a suite of initiatives that recruit people from underrepresented racial and ethnic groups into careers in research libraries (the Initiative to Recruit a Diverse Workforce and the Career Enhancement Program) and that prepare and advance minority librarians into leadership positions in ARL libraries (the Leadership and Career Development Program).

Initiative to Recruit a Diverse Workforce (IRDW)

http://www.arl.org/diversity/init/

The IRDW offers leadership development and a stipend of up to $10,000 over two years to MLS students from underrepresented groups who are interested in careers in research libraries. The initiative is funded by the Institute of Museum and Library Services (IMLS) and by voluntary contributions from 52 ARL member libraries. In addition to receiving the stipend to help defray the cost of graduate school, the IRDW Diversity Scholars participate in ARL's annual Leadership Institute, visit an ARL member library to learn more about research library operations, are matched with professional mentors, and receive paid membership in a major professional association and in the American Library Association's five ethnic caucuses. In December, the ARL Diversity Initiatives Working Group selected 17 MLS students to participate in the 2008–10 IRDW.

Career Enhancement Program (CEP)

http://www.arl.org/diversity/cep/

The CEP, funded in 2008 by IMLS and eight ARL member libraries, gives MLS students from underrepresented groups an opportunity to jump-start their careers in research libraries by providing a robust fellowship experience in an ARL member library. The program has four main components: a six-to twelve-week fellowship experience in an ARL library host institution, a mentoring relationship with a professional librarian throughout the fellowship, participation in the ARL Leadership Institute, and career placement assistance. In January, the CEP Coordinating Committee selected 18 fellows to participate in the inaugural offering of the program. ARL libraries serving as host institutions for the CEP are: University at Albany, State University of New York; University of Arizona; University of California, San Diego; Columbia University; University of Kentucky; National Library of Medicine; North Carolina State University; and University of Washington.

Leadership and Career Development Program (LCDP)

http://www.arl.org/diversity/lcdp/

The LCDP prepares midcareer librarians from underrepresented racial and ethnic groups to take on increasingly demanding leadership roles in ARL libraries. The 18-month program includes: two LCDP Institutes, an opening and closing event held in conjunction with national professional meetings, a career-coaching relationship with an ARL library director or staff member, and a personalized visit to an ARL member library. The LCDP celebrated its 10th anniversary in 2008. To date, 100 librarians have participated in the LCDP. The 2009–10 class of 10 fellows was selected in November.

For more information about ARL Diversity Programs, contact Mark A. Puente, Director of Diversity Programs, mpuente@arl.org.

Digital Scholarly Communication: A Snapshot of Current Trends

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Introduction

While society journals, university press publications, and conference proceedings still form the backbone of scholarly publishing, many new digital scholarly resources have emerged that make use of the space, speed, and interactivity of the Internet. The university library still plays a central role in distributing many resources, but the networked digital environment has enabled the creation of new works that are accessible to end users directly. The decentralized distribution of these new digital resources can make it difficult to fully appreciate their range and number, even for academic librarians tasked with being familiar with valuable resources across the disciplines. In spring 2008, the Association of Research Libraries (ARL) engaged Ithaka to help survey the broader landscape of online resources currently in use by the scholarly community, to understand more about the resources that exist, and to highlight particular examples of innovation. This report describes some of the ways in which scholarly communication is occurring in a digital world.[1]

Methodology

ARL's objective was not to conduct an exhaustive survey of the resources in use across all disciplines, but rather to highlight interesting examples of digital scholarly resources, their contribution to the scholarly process, and the organizational and business models that help them survive and thrive. To that end, Ithaka's Strategic Services group helped coordinate and evaluate the results of interviews with faculty members about the digital scholarly

resources they use, in the hope that the findings would be of interest to faculty and students looking for digital sources for their research or new models for their publishing, as well as to the librarians who support faculty and students in these endeavors.

Identifying Digital Scholarly Resources

A field team of 301 librarians at 46 ARL member institutions in the United States and Canada interviewed faculty members on their campuses about the digital scholarly resources they find useful in their work. When the library field team participants conducted their interviews, they asked faculty members to identify the "online works you rely on to keep up with current research," and, specifically, those

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that could be described as containing original scholarly work. They were asked not to focus on search engines or sites that only provide collections of links.

ARL's goal was to investigate Web sites with original scholarly content designed for scholarly audiences, based on the expectation that these resources are central to scholarly communication, and are often created by faculty who regularly ask the library for advice on developing digital projects. "Original" resources were defined as born-digital materials (including digitized primary source materials, if the resource enabled born-digital annotation). Though digitized versions of print publications and search tools may be extremely useful to scholars, they were outside the scope of this study. "Scholarly" resources were defined as those authored by and for the scholarly community, including a wide variety of formal resources—like e-only journals—and informal resources—like scholarly blogs. Although it would be fascinating to study the way that popular-interest resources like YouTube and Wikipedia are becoming both the subject of and resources for scholarly work, they were considered outside the scope of this study.

The Data-Gathering Process

Field-team interviews yielded 358 responses. The Ithaka team found that about two-thirds of those—240 resources—contained original scholarly content.[2] Many resources were named by multiple respondents; in all, 206 unique resources emerged from the collection. Ithaka staff assessed and categorized each resource, then conducted in-depth interviews with project leaders of 11 representative

projects to gain a deeper understanding of how they think about strategies for creating and developing site content over time, metrics for understanding the site's users, experimentation with technical innovations, and sustainability. By integrating these sources of information, this project offers a snapshot of what innovation in digital scholarly resources looks like today.

Types of Digital Scholarly Resources

For purposes of analysis, the 206 unique resources were categorized by type. In instances where a resource contained multiple content types—for example, an e-only journal that also had a blog—it was categorized based on the element of the site the scholar reported using, or the content type that appeared to be predominant. Some resources included extensive aggregated content in several of these categories; these are described here as "hubs." Below are summaries of findings about the eight types of digital scholarly resources in the sample, examining how scholars said they are using the resources, the methods of editorial selection in evidence, the disciplinary patterns that emerge, and the revenue-generating strategies most often used. Along the way, representative or exceptionally innovative cases provide further detail to the profiles of each model.

E-Only Journals (51 resources)

E-only journals were the most frequently named type of resource in this study and represented a wide range of disciplines. Most e-only journals examined in this study strongly resembled traditional print journals in terms of editorial guidelines, peer review, and a well-defined scholarly mission, while also incorporating a variety of innovations made possible by the digital environment, primarily regarding speed of publication and the relative lack of space restrictions. Where some journal editors were offering more fundamental changes—*Atmospheric Chemistry and Physics* experiments with open peer review, while *Ecology and Society* solicits articles that demonstrate innovative use of digital technologies—these efforts were sometimes met with hesitation on the part of contributing scholars, perhaps because of concerns about the credibility or prestige of new digital publication models.

Some innovations relate to novel features like annotation or public commenting, as in Public Library of Science (PLoS) journals and *Industrial and Organizational Psychology: Perspectives on Science and Practice*. Other innovations take advantage of the digital environment to accelerate the speed of publication

and the peer-review process and explore the possibilities of multimedia formats. While most e-only journals in this study incorporate multimedia elements to illustrate text-based articles, others, such as the *Journal of Visualized Experiments* (*JoVE*), notably make video the central medium for their content.

Most of the e-only journals that emerged through this study use an open-access model; the few examples of subscription-based support were for e-only journals published by commercial publishers or scholarly societies. Many of the open access e-only journals support costs such as Web hosting and copyediting through in-kind support from their host institution (in the form of server space, technical support, or contributed staff time of programmers or copy editors), through soliciting donations from readers, from advertising, and—particularly in scientific/technical/medical fields—from author fees.

Reviews (10 resources)

Reviews of scholarly works meet a real need in the scholarly community for rapid notification about and evaluation of new work. The process of writing, editing, and publishing a review in a traditional print journal can take so long that one of the major benefits of the review—to help scholars identify the best new scholarship—can be greatly diminished. Digital reviews help respond to this problem. Many of the resources in this study review works in the humanities, reflecting the long-standing importance of the monograph in that scholarly community. Several sites were mentioned by multiple scholars, including the *Bryn Mawr Classical Review* in the humanities, and *UptoDate* and *Faculty of 1000* in medicine and biology.

Digital reviews innovate through the speed of publication and through the lack of space restrictions that the online environment makes possible. *H-France Review*'s Editor-in-Chief was pleased not to have to restrict authors to a short word limit, allowing space to include a detailed review of the literature in the book review. Digital publication enables reviews to be published as soon as they are prepared, without a wait for a new print cycle—a major benefit both for authors and readers. The *Bryn Mawr Classical Review* strives to deliver "a review a day, every day," to the nearly 10,000 subscribers to its e-mail list. The greater volume of digital reviews (and the fact that faculty are often able to receive updates about new reviews via e-mail) may contribute to the fact that many of the scholars who use reviews reported relying on them daily or weekly. Still, while the book reviews may benefit from the economics of online space, they must still confront the high cost of mailing

printed monographs to an international body of reviewers. The director of one review site told us that his single greatest expense each year is the approximately $10,000 needed to mail books to reviewers around the world.

Preprints and Working Papers (10 resources)

Preprint and working-paper servers provide scholars with access to new research and permit them to share their own work without the delay a journal's lengthy peer-review and publication process can cause. The study results suggest that today the landscape for these servers is dominated by the oldest, largest preprint servers like Social Science Research Network (SSRN) and arXiv, although the study surfaced smaller working-paper exchanges in some niche fields as well. The scholars who suggested preprint servers tend to use them very frequently, both to share their own work and discover the work of others.

Disciplinary culture seems to play a role in influencing the extent to which preprint sites are adopted. In economics, where the National Bureau of Economic Research had distributed printed and bound working papers for decades before use of the Internet was widespread, this tradition of sharing early work seems to have easily translated to the Internet in the form of an abundance of preprint and working paper resources. While large preprint resources are expanding into new disciplines—SSRN recently branched into the humanities, for example—others deliver a service to a well-defined niche audience. PhilSci Archive, for example, focuses on the philosophy of science; the discipline has many overlaps with theoretical physics, and was in fact inspired by arXiv. It has no plans to expand into other fields, but instead hopes to continue establishing its importance in a tightly knit community.

Nearly all of the preprint resources examined in this study are open access. Even SSRN, a commercial site, makes any paper uploaded voluntarily by a researcher freely available, though it generates revenue through institutional subscriptions to curated networks of content and through its Partners in Publishing program. Most of the other preprint sites examined make their content available for free and had few apparent strategies to generate revenue outside of grants and support from host institutions. While some niche preprint servers like PhilSci Archive model themselves after existing sources, other sites experiment with newer models for exchanging work. The Online Feminist Philosophy Draft Exchange, for example, utilizes a Google Group to exchange working papers.

Encyclopedias, Dictionaries, and Annotated Content (24 resources)

This category of new digital publication includes resources in all disciplines attempting to provide comprehensive, authoritative reference for a topic as well as resources that layer primary source material with definitive scholarly commentary. Most of the resources found through this field study are completely open access, although a few require some minimal level of registration for visitors.

Perhaps the most innovative aspect is the use of user-generated content to populate some of these resources. Some, like the Stanford Encyclopedia of Philosophy, function as scholarly peer-reviewed sources, with articles written and reviewed by credentialed scholars in the field, finding online benefits largely in facilitating the editorial process, and speeding the revision of articles. Others are innovating by making use of the general public to develop data and other content that is then made available to scholars. Encyclopedia of Life describes itself as an "online reference and database" of information about Earth's 1.8 million known species. It encourages contributions from the lay public but has a team of experts to authenticate and select the material that will ultimately appear in each entry.

The digital environment also enables scholars to publish commentary and annotations around primary source content, making them richer forms of publication than simple libraries of digital images. Roman de la Rose Digital Library is a collection of digital surrogates of versions of that medieval illuminated text, whose originals are dispersed in special collections around the world. The project allows side-by-side comparisons of digitized manuscripts that would be impossible otherwise. In addition, scholars contributed to the development of metadata for these digital surrogates, based on different critical interpretations of this work. The digitized texts are therefore searchable based on criteria reflecting scholarly output—and the research enabled by these searches will lead to new scholarly conclusions not possible in an analog world.

Data Resources (41 resources)

The sciences were among the first fields to use technology to aggregate and share the results of research. There are several types of examples reported in this study: sites hosting the data output of a particular scientific endeavor for

others to use and analyze; active databases that allow scientists to deposit the output of their individual work; and community data initiatives, which harness efforts of the general public to create data for researchers. An example of a community data initiative is eBird, which, by collecting the recorded observations made by amateur bird-watchers, has been able to develop a large set of data regarding bird sightings that is valuable both to the scientific research community and to nonacademic parties interested in avian migration patterns.

Many of the data projects in this sample are supported by grants from foundations or government sources. For example, the Protein Data Bank has been able to sustain itself through a series of grants, in large part due to the prominence and importance of the resource to the scientific community. One of the founders noted, "Last time we counted, we had 16 different grants worldwide to fund this thing; 8–9 in the US from different agencies." Because of the unpredictability of the revenue stream and the labor involved in monitoring and applying for so many grants, project leadership feels this model is not ideal, and has begun discussions about other sustainability options to pursue.[3]

Many data projects also receive some kind of support from their home institutions and some, though not many, have tried advertising or corporate sponsorship. Chemspider offers ads on its home page, as well as "compound-based advertising," which allows advertisers to display ads in proximity to materials relevant to the products being advertised. Similarly, eBird has a corporate sponsor in Zeiss, a manufacturer of the optic devices that birders use.

Blogs (15 resources)

The study turned up blogs across many disciplines. Faculty reported reading them daily or weekly to learn about new works and events in their field. Some blogs, like RealClimate, alert readers to new and interesting research and events in their community and field while adding a layer of commentary on top of the news. Blogs can add value to resources focused on other sources of content, like e-only journals or encyclopedias; at least 29 other resources from the sample include blogs as a supplemental form of content. Some blogs provide a vehicle for conversation among scholars in a particular field or specialty. The scholars who created PEA Soup, a blog focused on philosophy and ethics, were eager to create a space to work through ideas informally with colleagues, "the electronic equivalent of walking down the hall to talk to your colleague, but with people all over the country and world," said one of PEA Soup's founders.

Though blogs are clearly an informal method of scholarly communication, restrictions on who can post allow them to maintain a degree of quality control and content vetting. This is not to say that blogs are closed endeavors—PEA Soup, for example, has 46 contributors, and frequently invites new ones to join. However, unlike discussion lists where all readers of the list are also potential contributors to the list, blogs tend to be a more "controlled" form of informal scholarly communication, allowing a limited number of authors to post work to a much wider audience. Concerns that informal, unpolished ideas posted on blogs would be mistaken for formal scholarly output may have made some scholars reluctant to post on blogs early on, but the general scholarly community appears to be increasingly coming to understand that, while blogs may be an interesting (and citable) record of the development of scholarly thought, they represent interim stages, not a final product.

Although some larger resources, like the ScienceBlogs network of 74 science-related blogs, have begun to experiment with advertising, most of the blogs that emerged through this study operate without advertising or other forms of earned revenue. Many are built on free blogging software like Blogspot, LiveJournal, or WordPress. For many blogs, extremely low costs mean this lack of revenue may not be a problem.

Discussion Forums (21 resources)

Message boards, e-mail lists, and other sites to which individuals can post comments and respond to others' thoughts have long been used by scholars, and they are still important and heavily used today, particularly in the humanities and social sciences. Their continued popularity is likely due both to their long-established presence in certain communities, and to the fact that their relatively basic technology is well suited to facilitating a simple form of communication, whether offering news or engaging in a conversation. Scholars reported that discussion lists allow them to keep in touch with their broader community, keep abreast of new research trends, and post queries to a large group of peers. Fewer, however, seem to use these e-mail lists to deeply work through nascent scholarly ideas or share working papers.[4] Most of the scholars who nominated these discussion forums also author posts or contribute commentary to them.

Because e-mail list technology is inexpensive, many of these resources do not require independent sources of support. Five discussion lists in this sample

use either free software like that provided by Google Groups, or were created with mailing-list capability provided by a scholar's institution, and others were supported with mailing-list tools provided by a scholarly society or association. H-France, for example, spends a few hundred dollars per year on Web site hosting, and is able to cover these costs from small grants and member donations One notable exception to this among the discussion lists is H-Net; it combines university support, grant support, donations, and some revenue from click-through book sales to support the organizational structure that houses many lists.

Some innovative discussion forums are starting to take advantage of social networking technology. Emerging Scholars Interdisciplinary Network includes a "Scholars Only Lounge" where members can discuss issues, share information, and read news alerts. The resource also allows members to create personal profiles, and to develop their own mini-networks around topics of interest. While resources like this suggest that Web 2.0 technology will enable new forms of scholarly exchange and interaction in the future, this study indicates that there is still a place for more traditional e-mail lists and discussion forums in the academy today.

Professional and Academic Hubs (34 resources)

While the majority of resources faculty mentioned focused on delivering one type of content, such as journal articles or data, a group of resources stood out for combining a wide range of content types in a single site. These "hubs," which are often the digital portal for a scholarly society or professional organization, may offer e-only journals, reviews, access to preprints and conference papers, gray literature, blogs or newsletters that disseminate timely content, and functionality for networking with other scholars. Faculty find them useful as portals, or "one-stop shops" for information. Large sites such as these require many resources to build and update regularly. Because many of these sites are built as the portal or Web-presence for a scholarly society, that society's membership fees help to finance the sites. Perhaps because these large sites likely attract large audiences, they frequently support themselves in part with advertising or corporate sponsorships, as well.

Summary of Findings

Digital innovations are taking place in all disciplines.

While some disciplines seem to lend themselves to certain formats of digital resource more than others, examples of innovative resources can be found across the humanities, social sciences, and scientific/technical/medical subject areas.

Digital publishing is shaped powerfully by the traditions of scholarly culture.

Traditions of scholarly culture relating to establishing scholarly legitimacy through credentialing, peer review, and citation metrics exert a powerful force on these innovative online projects. Almost every resource suggested by the interviewed scholars incorporates peer review or editorial oversight. Though some born-digital journals are beginning to experiment with open peer review, the examples observed in this study were still in early stages.

Some of the largest resources with greatest impact have been in existence a long while.

Given the importance of longevity in establishing scholarly reputation, the necessity of building an audience to attract high-quality content, and the time it takes to fine-tune a digital resource, even excellent new digital publications may need years to establish their place in their scholarly community.

Many digital publications are small, niche resources.

Many digital publications are directed at small, niche audiences. There appears to be a very long tail in the field of digital scholarly resources with many tightly focused publications directed at narrow audiences and capable of running on relatively small budgets.

Although many of the digital scholarly resources are primarily text-based, there are also examples that incorporate multimedia technology and networking tools to create new and innovative works.

"Video articles," peer-reviewed reader commentary, and medieval illuminated texts coded as data are all evidence of the creative format mash-ups that challenge us to re-think the definitions of traditional content categories. Many of the resources in this sample that incorporate these sorts of innovations—data sites, annotated primary source content, and the newest forums to facilitate exchanges between scholars—have no print corollary.

Establishing credibility is not easy, but is of critical importance.

Maintaining quality control, whether by peer review or moderation of submissions, is a critical issue for nearly all digital publications. A large majority of informal resources engages in some form of editorial selection or moderation to monitor and control the content that appears on the site. Particularly for "born-digital" publications with no print-based reputation for quality, quickly establishing credibility is necessary to attract and impact scholars in the field.

Achieving sustainability—especially for those resources with an open-access mandate—is a universal challenge.

Projects of all sizes are still seeking paths to sustainability. For open-access sites—the vast majority of the resources studied here—the challenges can be great, since subscription fees are not an option. Nearly all of the publications that emerged in this survey are experimenting to find economic models that will support their work.

[1] This article is derived from "Current Models of Digital Scholarly Communication: Results of an Investigation Conducted by Ithaka Strategic Services for the Association of Research Libraries," *Journal of Electronic Publishing* 12, no. 1 (February 2009), http://dx.doi.org/10.3998/3336451.0012.105.

[2] While 240 of the entries faculty and librarians submitted to the study database met the criteria set out by ARL as "scholarly and original," 115 did not. (Three entries were from respondents who said they do not use digital scholarly resources.) These resources, though often of high quality, were excluded from analysis for this report. They included aggregations of links to other sites, software and digital tools, digital copies of print content, industry newsletters, commercial and/or mass-audience sites, and teaching-focused resources. Faculty reported using these resources daily far more often than they did the resources that include works of original scholarship. This suggests that scholars' priority is to find relevant content, regardless of where it is hosted. Among the additional reasons faculty cited for using these resources were quick access, easy searching, and useful overviews.

[3] For a discussion of the range of sustainability options for digital resources, see Kevin Guthrie, Rebecca Griffiths, and Nancy Maron, *Sustainability and Revenue Models for Online Academic Resources: An Ithaka Report* (Ithaka, May 2008), http://www.ithaka.org/strategic-services/sca_ithaka_sustainability_report-final.pdf. Also see the Ithaka Case Studies in Sustainability project, forthcoming June 2009, http://www.ithaka.org/.

[4] For further information on the use of discussion lists among history scholars, see Ithaka's report by Rebecca Griffiths, Michael Dawson, and Matthew Rascoff, "Scholarly Communications in the History Discipline," 2006, http://www.ithaka.org/publications/pdfs/JSTOR History Study Report Public final1031.pdf.

To cite this article: Nancy L. Maron and K. Kirby Smith. "Digital Scholarly Communication: A Snapshot of Current Trends." *Research Library Issues: A Bimonthly Report from ARL, CNI, and SPARC*, no. 263 (April 2009): 10–20. http://www.arl.org/resources/pubs/rli/archive/rli263.shtml.

Strategies for Supporting New Genres of Scholarship

Karla Hahn, Assistant Executive Director, Transforming Research Library Roles in Research, Teaching, and Learning, ARL

The availability of the ARL-Ithaka report described in the preceding article by Maron and Smith offers an opportunity for librarians to reach out to faculty and other campus leaders to increase awareness of new models of digital scholarship and the roles these models are playing in their disciplines' communication systems; to learn how faculty are engaging in creating new model works and contributing content; and to seek opportunities for libraries to provide services that support creation, adoption, and recognition of new models.

Three observations based on the study findings are especially important for librarians, scholars, and researchers to understand:

- New kinds of works appear to have become established in nearly every discipline across the sciences, social sciences, and humanities. Yet the extent of this shift is often unrecognized by scholars and researchers. One study librarian reported a common experience, "It wasn't until we had a fairly unstructured conversation that many faculty remembered sites they use. Initially several said they didn't use newer modes of scholarly communication, when in fact they did." **Recognizing the significance of new kinds of works is a vital first step to acknowledging scholars' contributions and developing appropriate support for new models.**

- Senior scholars and researchers seem to be quite aware of and engaged in supporting many of the examples identified for the study. **Contrary to many popular perceptions, interest in new kinds of scholarly works is not limited to junior scholars.** Many senior scholars are well positioned to appreciate the opportunities provided by new models, to command resources for experimentation, and to tolerate the risks that may

accompany early adoption of a new practice. Senior scholars are also well positioned to create recognition systems that reward all scholars who make valuable contributions via new models.

- Many new model works employ peer review or other traditional editorial control mechanisms that appear to satisfy their contributors and readers. This contradicts a common misconception that network-based communication modes are inherently incompatible with established peer-review practices. In fact, **most new model works are employing entirely familiar mechanisms for quality control**.

How can new kinds of scholarly works be more effectively recognized and supported?

- Scholars and researchers can undertake a variety of actions to advance the use of new models. Reviewing departmental, college, and institutional tenure practices and discussing strategies for evaluating and recognizing contributions made to new kinds of scholarly resources is an important step toward communicating broad acceptance of high-quality work, regardless of the format in which it is disseminated. **A careful examination of metrics used to infer the quality of research publications should be undertaken to consider alternative indicators that reflect the networked communication environment and the need to recognize high-quality new forms of publication.** Journal citation metrics presuppose a restricted focus on journal publishing and, even within that milieu, publications with long track records. Newly available measures, like usage counts, can shed more light on the value of established publications as well as provide opportunities for new venues to demonstrate their mettle early in their lifespan.

- Campus leaders with responsibility for making promotion and tenure decisions should similarly consider their own criteria and practices for identifying excellence in scholarly contributions and **communicate to faculty the broad range of dissemination forms that could fall within renewed criteria.**

- Scholars and researchers can also work with their discipline-based organizations, including scholarly societies, to **develop mechanisms**

such as reviews or awards that publicly recognize high-quality
new-model works.

- Finally, **librarians can seek out new kinds of works produced at their
institutions and offer services to support these efforts**. Partnerships,
publishing services, and preservation support are a few possibilities.

The report, Current Models of Digital Scholarly Communication, and the accompanying database of examples are freely available at http://www.arl.org/sc/models/model-pubs/pubstudy/.

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Scholarship." *Research Library Issues: A Bimonthly Report from ARL, CNI, and
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archive/rli263.shtml.

Achieving the Full Potential of Repository Deposit Policies

Karla Hahn, Assistant Executive Director, Transforming Research Library Roles in Research, Teaching, and Learning, ARL

Editor's note: A small group of individuals with expertise on author-rights policies, the campus policy environment, National Institutes of Health (NIH) deposit processes, and digital repository services met in Washington DC on January 9, 2009, under the auspices of ARL's Public Policy and Scholarly Communication programs. The group explored opportunities, desired outcomes, and policy issues involved in developing capabilities for institutionally mediated deposit processes and content transfer between institution-based and funder-based repositories, particularly PubMed Central. Based on that discussion, the group also identified potential strategies that would lead toward creating the needed rights-management environment and repository services. This essay reflects the January 9 discussions.

Background

Digital repository services are a key component of research-focused cyberinfrastructure. Institutions are individually and collaboratively developing the capability to house, manage, and preserve a wide range of products of the research process. While institutions are acting to develop repository services for their scholars and research, other digital repositories are evolving to serve as national and international resources for particular research fields. ArXiv and PubMed Central are prominent examples, each providing services based on different types of content that are highly valued by their research communities (physics and biomedicine, respectively). The number of independent repositories will continue to grow, elevating the need for greater sharing and harvesting of materials among repositories as well as broader coordination and searching across them.

Congress recently strengthened PubMed Central's ability to aggregate peer-reviewed, published, medical literature by requiring that authors of articles

based on NIH funding deposit their works in the repository. The development of complementary repository services by research institutions and federal agencies supporting research should further act to enhance support for the research process. However, the creation of multiple repositories that serve the same researchers raises many issues regarding how best to coordinate the content and functions of those repositories. The NIH Public Access Policy creates an initial impetus for libraries, as the common mediators of institutional repository services, to concretely examine the need to develop close interactions between a large disciplinary repository, PubMed Central, and repositories housed at research institutions.

> …promising strategies include standard author-publisher contracts, a uniform rights-transfer addendum, direct institution-publisher negotiations on behalf of authors, or an institutional policy granting it limited rights to institutionally affiliated authors' works as they are created.

The NIH Public Access Policy requirement for funded authors to deposit their works into PubMed Central has been in place since April 2008. During this period many libraries have developed various approaches to supporting authors in completing their deposits. However, there is more that many libraries would like to do toward developing services that smooth PubMed Central deposit for authors, assist universities in monitoring compliance, and allow capture and innovative uses of the deposited content. Already it has become evident that the technology issues involved in developing these kinds of services are relatively mundane. Rather, the substantive issue is the creation of appropriate copyright licensing regimes to support authors and institutions.

Key Questions

To identify the issues and concerns that must be addressed to coordinate author-centric repository services at the institutional and funder levels, it is helpful to pose some key questions drawing on what we have learned from the first implementation of funder-imposed deposit requirements:

- **What are early experiences with PubMed Central deposits, and where are there opportunities for libraries to help make the NIH Public Access Policy as successful as possible?**

  Currently three main input streams provide content covered by the NIH Public Access Policy: authors, publishers providing published versions of

articles, and author versions submitted by publishers. The ingest processes for author manuscripts differ from those for the published versions. When a publisher submits an author manuscript, authors must still provide grant information and review and approve their manuscript's accuracy following NIH's standardization of document formatting, to complete deposit and comply with the policy.[1]

Many authors are submitting their own manuscripts with little difficulty. Libraries are assisting some authors, and are finding that the process is simple enough that most authors can more easily and expeditiously deposit their works themselves.

Relatively few publishers are participating in NIH's Full Participation, Portfolio, or Selective Deposit programs,[2] whereby they deposit published versions of articles. This is a well-developed process and, for those publishers participating, it relieves their authors from needing to go into PubMed Central to complete deposit.

Some publishers are passing the author version to PubMed Central along with contact information for the authors. Although these publishers are ensuring that deposit begins, many authors are failing to review their articles to allow completion of deposit, possibly from an incorrect belief that the publisher's transfer of the manuscript to PubMed Central completes the deposit process rather than merely beginning it.

Libraries and institutions could better assist their authors with deposit if they could be notified concurrently with the author or could mediate notification of the author about the final deposit steps needed. General education of authors regarding their responsibilities for completing the deposit process when publishers submit manuscripts on their behalf is another service libraries could provide.

- ### How could institutional support for NIH submission be broadened to include facilitating deposits into institutionally based repositories?

  Institutions could potentially develop submission streams that are comparable to those that some publishers have created. While they would have the same issue regarding authors' need to complete the deposit process, institutions may be better positioned to work with authors to complete all steps of the deposit process.

- ## How do challenges sort out in terms of policy and technology?

There appear to be few or no technology barriers to developing mechanisms for institutions to harvest or submit content. With regard to submission, many publishers have successfully implemented workflows to transfer works to PubMed Central, and it should be straightforward for institutions to develop parallel services.

Similarly, harvesting works from PubMed Central should be technologically uncomplicated. Although only a small proportion of deposited works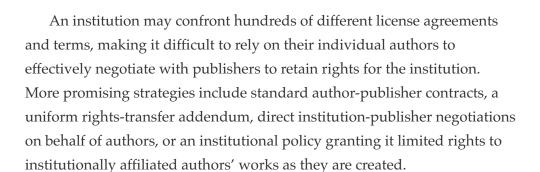 are open access, sufficient numbers are held in the archive to form a modest corpus of open access articles that repositories could begin harvesting and using for experiments with repository services based on harvested content.

Institutions (even though they are grantees) largely lack the limited rights they need to either submit or harvest works produced by their grant-funded authors. This concern is not limited to PubMed Central and the NIH policy, but would apply to any other funder's requirements. In fact, in many cases institutions do not necessarily have the limited copyright license they need to hold their authors' work in their own repositories.

> Repository services will achieve their full potential when they support the broadest possible dissemination of funded research and offer the fullest possible rights for reuse.

- ## What are the author rights required for repository deposit and how can institutions assist authors in conveying appropriate rights to institutions hosting repositories?

A wide range of rights-transfer agreements are used by publishers and these vary substantially regarding the extent to which authors retain the ability to grant their institutions limited licenses to store and disseminate their work through repositories. Some publishers grant authors the necessary rights automatically but many do not.

Institutions hosting repositories do not need the authors' full copyright or first-publication rights. They do need sufficient limited rights to hold, manage, use, and share works. Broad usage rights for the institution are important to support core activities around research and teaching. Reuse, text mining, and digital preservation are just a few examples of rights that are needed.

An institution may confront hundreds of different license agreements and terms, making it difficult to rely on their individual authors to effectively negotiate with publishers to retain rights for the institution. More promising strategies include standard author-publisher contracts, a uniform rights-transfer addendum, direct institution-publisher negotiations on behalf of authors, or an institutional policy granting it limited rights to institutionally affiliated authors' works as they are created.

- **Under what circumstances might institutional agents submit works for deposit on behalf of authors?**

Institutions (along with their authors) could benefit in various ways from mediating funder-mandated deposits. Ensuring compliance with funder requirements is a looming concern for grantee institutions. Demonstrating the institution's productivity and the value it is creating 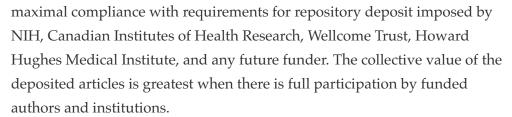is another imperative for grantees. Involvement with deposit and the ability to harvest authors' works allow institutions to capture important evidence of their success.

…actions leading to an environment with broad licensing of copyrights to various parties are an important early step toward the development of more powerful repository services.

Institutions are rapidly acquiring diverse but often related content produced by their researchers and scholars. Research data, multimedia works, digital documents of all sorts, and new kinds of content emerging from the network context are increasingly going to be managed as institutional assets with a goal of encouraging their broadest possible use. The ability to hold, manage, and use manuscripts facilitates the development of an environment where the products of research process can be integrated, synthesized, and reused now and into the future.

Strategies

In considering what best to do to strengthen authors' experiences with repositories and maximize the value and usefulness of articles in repositories, the overarching question is: What is the desirable future for repository services operating in an environment of funder expectations for public access to research results? Some answers that arose during the January discussion include:

- With a number of funders now requiring deposit of funded articles, an important measure of successful and effective repository services will be
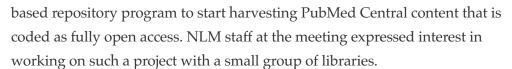
maximal compliance with requirements for repository deposit imposed by NIH, Canadian Institutes of Health Research, Wellcome Trust, Howard Hughes Medical Institute, and any future funder. The collective value of the deposited articles is greatest when there is full participation by funded authors and institutions.

- Repository services will achieve their full potential when they support the broadest possible dissemination of funded research and offer the fullest possible rights for reuse. Just holding and preserving articles in repositories, while valuable, is not enough.

- It is reasonable to expect authors to deposit articles resulting from research funding they have received, but their efforts will be most successful when they are able to rely on institutional capabilities to facilitate compliance with funder requirements and ensure ongoing dissemination of work through local repositories. Retaining copies of institutional-based works complements and feeds discipline-based collections and broadens experimentation, promotes service development, and enhances preservation of institutional assets.

- A culture of broad acceptance of granting limited license rights to institutions allowing them to obtain, retain, and disseminate copies of affiliated authors' works will be essential to enable institutions to support authors, act on their behalf, and work to ensure the broadest uses of funded research now and into the future.

Actions to Pursue

Having looked at key questions and fostered agreement among the January meeting participants, several potential action arenas emerge:

1. Exchange of content between different repositories is a needed capability for research institutions, one combining both technology and rights issues. While rights issues limit much of what can be done to develop the technology infrastructure, there are some technology issues that could be addressed now. For example, one step toward expanding locally based repository services is to harvest content as it is deposited in a disciplinary repository. A small pilot project could be developed to explore the capabilities of existing repositories to capture PubMed Central content and identify high-value uses that can be made once the content is ingested into an institutionally based repository. It is already feasible for an institutionally

based repository program to start harvesting PubMed Central content that is coded as fully open access. NLM staff at the meeting expressed interest in working on such a project with a small group of libraries.

2. With copyright concerns limiting so much that can be done, actions leading to an environment with broad licensing of copyrights to various parties are an important early step toward the development of more powerful repository services.

One approach is to develop a framework of elements that describe the limited license rights that institutions need to support exchange of content between repositories, ongoing dissemination from repositories, and reuse of content to support further research and scholarly exchange.

Similarly, and possibly simultaneously, there is a need for a "universal addendum" for author-publisher agreements that facilitates the grant of a limited license to an author's funding organization and affiliated institution. This would be a valuable tool for creating the rights environment needed to move content between repositories and allow institutions to provide deposit services.

Another way to advance toward the desired copyright-sharing environment would be for libraries to engage in conversations with publishers about appropriate rights-management practices on behalf of the authors at their institution. One avenue where this could occur is through negotiations libraries engage in with publishers to license journal products.[3] Particularly with large publishers, including discussion of rights assignments for works authored by affiliates of the licensing institution could be an efficient approach.

In addition, as many journals are published by scholarly societies, this opens an opportunity for librarians to pursue conversations with campus faculty who are members of those societies to ensure that the societies understand the importance of granting limited licenses of author copyrights to academic and other institutions that support researchers and scholars.

There is a continuing role for advocacy, both nationally and locally, to preserve existing deposit requirements and expand opportunities for funded research to be placed in disciplinary and institutionally based repositories.

3. As researchers and institutions are beginning to adapt to an environment where article deposit is routine, it is also important to pursue steps that

advance compliance with funder requirements. Repositories cannot function effectively nor interact successfully where initial content submissions are not advanced to completion of the deposit process. A variety of strategies could promote maximum completed deposit rates. There is still a need for institutions to educate researchers regarding their responsibilities for participating in the deposit process, especially where a publisher is providing an author manuscript to PubMed Central—a step that starts but does not complete the deposit process. For instance, libraries can educate authors regarding the different mechanisms publishers use to contribute works on their behalf and the additional steps they need to take when their publisher is depositing author manuscripts rather than publisher versions. Institutions will also be able to better educate and support their researchers when they receive data on their compliance rates and the status of individual deposit processes. When institutions obtain such information, they can notify researchers regarding problems and work with researchers on completing deposits, or even complete deposits on researchers' behalf.

Another idea is that a library could submit manuscripts to PMC on behalf of its authors, similar to what some publishers are doing. However, in this case the submitting library would receive the notices from NIH's submission system about necessary reviews and approvals, in addition to (or instead of) their going to the respective authors. This would allow the library to follow up with the authors to ensure that they complete the process. NLM has indicated that it is willing to try this process with one institution and to make it more widely available if the experiment is a success.

One of the challenges hindering effective communication with authors and a more efficient deposit process is the lack of some basic tools for identifying authors and institutions. Promoting efforts to develop institutional and author identifiers would facilitate deposit, compliance tracking, rights management, and content exchange between repositories.

Conclusion

Effectively balancing policy and technological developments is required to achieve the full potential of repositories to collect and disseminate new knowledge. If an integrated and interworking multi-repository environment can be created and operate within a copyright policy environment that allows

ongoing dissemination and reuse of content, there are opportunities to advance the research enterprise and share its fruits far more widely than has ever been possible.

The NIH Public Access Policy is advancing PubMed Central's repository services and together the policy and the repository infrastructure are beginning to demonstrate the value of new approaches to managing and sharing research results. However, a further suite of policy developments—at institutions and other organizations—will be required to allow the emergence of a next generation of linked repositories and services. The technology elements are largely already in place or relatively easy to develop. Creating the necessary environment for assigning limited copyrights to institutions will require a more complex and multi-faceted series of investments by a range of stakeholders, especially research institutions. Many of the most important next steps have now been clarified thanks to the ongoing implementation process for the NIH policy. What remains is to act on the ideas presented here. ARL will be working with member libraries on how best to move closer to the ideal repository environment, one that effectively incorporates the requirements of research funders as well as the interests of research institutions.

[1] For more details on the PubMed Central ingest process, see "Submission Methods," National Institutes of Health Public Access, http://publicaccess.nih.gov/submit_process.htm.

[2] For descriptions of these programs, see "What are a journal's options for depositing articles in PubMed Central?" in "PMC Frequently Asked Questions (FAQs)," PubMed Central, http://www.pubmedcentral.nih.gov/about/faq.html#q15. For a list of participating journals, see "Journals That Submit *All* NIH-Funded *Final Published Articles* to PubMed Central," National Institutes of Health Public Access, http://publicaccess.nih.gov/submit_process_journals.htm.

[3] See Ellen Duranceau and Ivy Anderson, "Author-Rights Language in Library Content Licenses" in this issue of *RLI*.

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Author-Rights Language in Library Content Licenses

Ellen Duranceau, Scholarly Publishing and Licensing Consultant, MIT Libraries, and Ivy Anderson, Director of Collections, California Digital Library

Note: The varied arrangements regarding authors' rights to their manuscripts result in limitations on sharing information across repositories. An emerging strategy for addressing author-rights language is to incorporate it into publisher contracts for licensing content. In this article, representatives from MIT Libraries and the California Digital Library provide background on the utility of this approach and describe their recent experiences in negotiating their Springer contracts.

—Julia Blixrud, Assistant Executive Director, Scholarly Communication, ARL

Introduction and Background

The idea of including author-rights language in content licenses has recently been gaining ground, particularly in light of the contracts negotiated by the Max Planck Society and the University of California (UC) with the scientific publisher Springer.[1] These attempts to leverage content licenses to secure author rights reflect the fact that it is unrealistic to expect the rights environment to change solely through individual authors' contract discussions with publishers. Faculty promotion and tenure processes depend on publishing in particular journals, and authors therefore often do not feel empowered to push back on standard publisher policies; nor is debating points of copyright a natural fit for many authors. Anecdotal reports as well as surveys[2] confirm that authors do not routinely negotiate the terms of their publisher copyright agreements and do not retain copies of them. For the most part, this means that universities and research funders face significant barriers to storing and sharing copies of research output that they have either paid to develop and/or whose dissemination is essential to their missions.

At a gathering hosted by ARL in January 2009, a small group of experts from ARL member libraries and National Library of Medicine staff discussed how to

address the barriers to sharing content between repositories.[3] Developing standard author-rights language that libraries could use in negotiating content licenses emerged from the discussions as a significant action item. The group felt that this would be an important step to reduce the barriers created by the fragmented landscape of author-rights arrangements that can result from leaving all negotiation up to individual authors. This approach also complements strategies to develop institutionally based policies like the one recently adopted by the Massachusetts Institute of Technology (MIT) faculty.[4]

Including author-rights language in university-wide site licenses for content can remove the burden from individual authors, and clarify and simplify the rights environment, making research as openly accessible as technology now allows in order to speed science and exchange of ideas.

Library content license negotiations offer a pre-existing tool to serve this purpose. While individual author agreements can amount to thousands of individual transactions each year at a single institution, library-publisher agreements are annual or multi-year arrangements with a broader compass, covering many journals in a single transaction. These library content licenses describe policies for use of content by a given institution's users, making it a logical extension to expand these licenses to cover author and university rights to the work included in content that is authored at that institution.

> …library content licenses describe policies for use of content by a given institution's users, making it a logical extension to expand these licenses to cover author and university rights to the work included in content that is authored at that institution.

This method balances all three legs of the scholarly publishing stool—authors, universities, and publishers—in a single agreement, addressing one of the discontinuities of the existing scholarly publishing system, in which universities buy back content released by their authors in separate transactions with the same publishers. Simply put, there is both elegance and economy in linking access to a publisher's electronic journals with rights for the authors who have supplied articles contained in those journals.

As a practical matter, author-rights language could be negotiated as a separate agreement. But this option undermines both the efficiency to be gained by a combined negotiation and the leverage inherent in the desire to finalize the license agreement, a document that is already negotiated between the university and the publisher and which is of vital importance to both parties since key journal access hangs in the balance.

While the Northeast Research Libraries consortium (NERL) has considered including author-rights language in its standard license, and Harvard University experimented with the use of similar language in its publisher licenses several years ago, the first major public example of putting this approach into action was the Max Planck Society's agreement with Springer announced in February 2008. In this agreement, Max Planck authors' works at all 78 Max Planck Institutes and research facilities across Germany are included automatically in Springer's Open Choice program (which makes individual articles openly accessible normally with payment of an extra fee).

> …there is both elegance and economy in linking access to a publisher's electronic journals with rights for the authors who have supplied articles contained in those journals.

The Max Planck-Springer arrangement was described in the press release as "a 2-year experiment to investigate whether this construct is a more sustainable business model for scholarly publication." Two recent agreements with Springer negotiated in the US—by the University of California and MIT—can provide further detail on the kinds of license terms that should be considered.

University of California Agreement with Springer

The University of California system followed the Max Planck model, incorporating an open-access publishing agreement into the three-year journals license negotiated with Springer by the California Digital Library (CDL) on behalf of the 10 UC campus libraries in 2008. Key characteristics of the UC arrangement are: automatic inclusion of UC-authored articles in Springer's Open Choice program, which offers full and immediate access (in this instance, without requiring separate author fees); author retention of copyright with rights transferred to Springer under a license compatible with the Creative Commons Attribution-Noncommercial license; and automatic deposit of the final published articles in the eScholarship institutional repository managed by the CDL's eScholarship publishing program.

Like the Max Planck agreement, UC and Springer have framed this as a two-year pilot and have agreed to cooperate in evaluation and analysis and to report publicly on their findings. The agreement was developed in consultation with the university's faculty committee on the libraries and scholarly communication, which endorsed the initiative and has asked the CDL to explore similar open-access arrangements with other publishers.

Massachusetts Institute of Technology Agreement with Springer

Following license discussions that began in the summer of 2008, MIT has signed a three-year agreement with Springer that includes language that gives MIT authors rights to flexibly reuse and post their work. MIT-authored articles published in a Springer journal that MIT subscribes to can be posted anywhere on the Web, including institutional, disciplinary, and other open-access repositories as well as on the author's Web page. The version of the article expected to be targeted is the author's final version, after peer review, which is also the focus of the MIT Faculty Open-Access Policy.

The language is written not as a direct extension of rights to authors, but in such a way that MIT retains certain rights, including the right to extend those rights to the authors of the articles. MIT considered a number of options in developing wording for the agreement, including the third-party beneficiary issue, which would allow MIT authors to benefit by a contract between MIT and a publisher. MIT decided it was cleaner to have the rights go directly to MIT because the authors are not direct parties to the agreement.

The aim was to begin with a set of terms that would allow MIT-authored work to be widely shared, without the need for individuals to negotiate such rights for each paper. The agreement was developed in a spirit of joint exploration and innovative partnership with Springer.

Conclusion

MIT's and University of California's efforts represent different approaches to including author-rights language in content licenses, highlighting the potential for universities and publishers to benefit from the availability of standard language that could be used in carving out agreements. Certain common principles are suggested by these case studies, and offer a framework for universities seeking to work with publishers on new models. Several institutions represented at the ARL meeting in January have begun discussions aimed at addressing these concerns.

Defining the principles underlying such agreements is a useful first step in creating standard language. For example, assuring that the language allows for making articles available under Creative Commons licensing clearly offers a substantial benefit to scholars, opening up the possibility of using new data-mining and filtering tools, a desirable—even necessary—step forward in

managing and sharing research to speed science and understanding. Securing the right to deposit articles in institutional or discipline-based repositories may facilitate the development of new and more sustainable modes of access and research dissemination.

Springer has led the way with innovative and open-minded agreements, taking a bold step into a new publishing landscape and demonstrating a willingness to partner with universities. The old subscription model is no longer the only model for journal publishing, and its sustainability is in question. The opportunity exists for all three legs of the stool—universities, publishers, and authors—to work on a newly balanced model that serves to benefit us all. Whether to share ideas for managing climate change or an AIDS vaccine, this is a time for fostering partnerships to support the evolution of scholarly publishing toward a more open environment, built on a sustainable foundation.

[1] See "Max Planck Society and Springer Reach Agreement," Max Planck Society press release, February 4, 2008, http://www.mpg.de/english/illustrationsDocumentation/documentation/pressReleases/2008/pressRelease20080204/. Earlier agreements, though less well known in the US, were signed by the Dutch University Consortium and the University of Gottingen with Springer in June 2007 and October 2007, respectively. Details about the UC agreement, including an FAQ for faculty, are available on the university's Reshaping Scholarly Communication Web site at http://osc.universityofcalifornia.edu/alternatives/springer.html.

[2] University of California Office of Scholarly Communication and the California Digital Library eScholarship Program in association with Greenhouse Associates Inc., "Faculty Attitudes and Behaviors Regarding Scholarly Communication: Survey Findings from the University of California," August 2007: 61, http://osc.universityofcalifornia.edu/responses/materials/OSC-survey-full-20070828.pdf; Denise Troll Covey, "Faculty Rights and Other Scholarly Communication Practices," faculty survey performed at Carnegie Mellon University, presented at Digital Library Federation Fall Forum, Boston, November 8, 2006.

[3] For an overview of the January 2009 meeting, see Karla Hahn, "Achieving the Full Potential of Repository Deposit Policies" in this issue of *RLI*.

[4] See "MIT Faculty Open-Access Policy," Scholarly Publication—MIT Libraries, http://info-libraries.mit.edu/scholarly/faculty-and-researchers/mit-faculty-open-access-policy/.

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News

ARL Transitions

Albany, SUNY: Frank D'Andraia is stepping aside as Dean and Director of Libraries and beginning a transition from practitioner to professor. He will teach in the College of Computing and Information at Albany starting in the fall. Mary Casserly is Acting Dean and Director of Libraries. She was previously Assistant Director for Collections.

British Columbia: Ingrid Parent has been appointed University Librarian, effective July 1. She is currently Assistant Deputy Minister for the Documentary Heritage Collection Sector at Library and Archives Canada.

California, Davis: University Librarian Marilyn Sharrow began a one-year medical leave of absence. During this leave period, the responsibilities of her position are being shared by Associate University Librarians Helen Henry and Gail Yokote.

Library and Archives Canada: Daniel J. Caron was named Librarian and Archivist of Canada, effective April 25. He was previously Senior Assistant Deputy Minister, Corporate Management and Horizontal Integration Sector, Library and Archives Canada. Ian E. Wilson, the former Librarian and Archivist of Canada has retired and now holds the title of Librarian and Archivist of Canada Emeritus as President of the International Council on Archives.

Ohio State: Joe Branin announced his resignation as Director of Libraries, effective late summer 2009. He has accepted a new position as the founding Director of the Library and Museum for King Abdullah University of Science and Technology in Saudi Arabia, effective September 1.

South Carolina: Thomas McNally was named Dean of Libraries, effective in February. He served as Interim Dean of Libraries since 2007, prior to which he was Director of the Thomas Cooper Library beginning in 2003.

ARL Staff Transitions

There have been three staff developments within the ARL Statistics and Measurement Program: **Kristina Justh** resigned as Customer Relations Coordinator, Statistics and Measurement Program, effective February 12. **MaShana Davis** announced plans to resign as Technical Communications Liaison, Statistics and Measurement, effective at the end of the summer;

she has been named a National Library of Medicine Associate Fellow for 2009–10, effective August 31. To take their places, **David Green**, a recent MSLS graduate from the University of North Carolina at Chapel Hill, has been appointed Library Relations Coordinator, Statistics and Measurement, effective May 11.

Mark A. Puente was appointed Director of Diversity Programs, effective March 16. He was previously Coordinator of Digital Projects and Special/Gift Collections for the Music and Performing Arts Library at the University of Illinois at Urbana-Champaign (UIUC).

Crit Stuart retired as Director, Research, Teaching, and Learning (RTL). Crit is relocating to San Diego to be near his family and plans to be available for short-term consultations. To lead the RTL program, **Karla Hahn** was appointed ARL Assistant Executive Director, Research, Teaching, and Learning. Karla was formerly Director, ARL Office of Scholarly Communication. To lead the Scholarly Communication program, **Julia Blixrud** was named ARL Assistant Executive Director, Scholarly Communication. Julia was formerly ARL Assistant Executive Director, External Relations, and SPARC Assistant Director, Public Programs. These changes in program leadership were effective April 1.

Other Transitions

American Library Association (ALA) Office for Diversity: Miguel A. Figueroa was named Director of the ALA Office for Diversity, effective May 5. Figueroa was previously Network Services Coordinator, National Network of Libraries of Medicine Middle Atlantic Region, Ehrman Medical Library, New York University Langone Medical Center.

Association of Public and Land-grant Universities: NASULGC (National Association of State Universities and Land-Grant Colleges) changed its name to the Association of Public and Land-grant Universities (APLU), effective March 30.

Digital Library Federation (DLF): The board of the Council on Library and Information Resources (CLIR) voted to merge DLF into CLIR as a program of the council, effective July 1. DLF Executive Director Peter Brantley accepted a position as a Director with the Internet Archive; CLIR announced plans to hire a program officer to lead the DLF.

Knowledge River, University of Arizona School of Information Resources and Library Science: Sandra Littletree, currently a Fellow at North Carolina State University Libraries, has been appointed Knowledge River Program Manager,

effective June 1. Knowledge River is a program for the study of library and information issues, services, and technologies related to Hispanics and Native Americans.

National Archives and Records Administration: Allen Weinstein resigned as Archivist of the United States, effective December 19, 2008, noting health concerns as the reason for stepping down. Deputy Archivist Adrienne Thomas has been named Acting Archivist until a new appointment is named and confirmed.

National Endowment for the Humanities (NEH): President Obama appointed Carole M. Watson to serve as Acting Chairman of the NEH. She most recently served as NEH Assistant Chairman for Partnership and National Affairs. Watson succeeds Bruce Cole, who resigned effective January 2009.

Honors

Minnesota won an Association of College and Research Libraries 2009 Excellence in Academic Libraries Award, which recognizes the staff of a college, university, and community college library for programs that deliver exemplary services and resources to further the educational mission of the institution.

Randy Olsen (Brigham Young) received the inaugural BioOne-SPARC Howard Goldstein Award to Advance Scholarly Communication on April 16 at a special ceremony in conjunction with BioOne's annual meeting of publishers, librarians, and partners. The award was created in 2008 to recognize and encourage efforts to enhance the sustainability of communication within the scholarly community.

Recent Reports from ARL

Transformational Times: An Environmental Scan Prepared for the ARL Strategic Plan Review Task Force, February 2009

by Charles B. Lowry, Prudence Adler, Karla Hahn, and Crit Stuart

http://www.arl.org/bm~doc/transformational-times.pdf

Identifies trends that are likely to affect research libraries and the work of ARL over the next several years and considers related challenges as well as opportunities.

The Research Library's Role in Digital Repository Services: Final Report of the ARL Digital Repository Issues Task Force, February 2009

http://www.arl.org/bm~doc/repository-services-report.pdf

Identifies key issues surrounding repository development, explores common strategies that libraries are using, analyzes relevant environmental trends, discusses issues where ARL and its member libraries should focus attention, and recommends actions for research libraries to take.

ARL Calendar 2009

http://www.arl.org/events/calendar/

May 19–22	**ARL Board & Membership Meeting** Houston, Texas
July 9–15	ARL at ALA Annual Conference Chicago, Illinois
July 27–28	**ARL Board Meeting** Washington DC
August 17	LibQUAL+® at Northumbria International Conference on Performance Measurement Florence, Italy
October 13–16	**ARL Board & Membership Meeting** Washington DC
December 14–15	CNI Fall Task Force Meeting Washington DC

2010 Meetings

April 27–30, 2010	**ARL Board & Membership Meeting** Seattle, Washington *Note new dates*
July 12–14, 2010	National Diversity in Libraries Conference Princeton, New Jersey
October 12–15, 2010	**ARL Board & Membership Meeting** Washington DC
November 8–9, 2010	SPARC Digital Repositories Meeting Baltimore, Maryland

Research Library Issues

A Bimonthly Report from ARL, CNI, and SPARC

With issue no. 262 (February 2009), the name of this publication changed
from *ARL: A Bimonthly Report on Research Library Issues and Actions from
ARL, CNI, and SPARC* to *Research Library Issues: A Bimonthly Report from
ARL, CNI, and SPARC*. Current and back issues are freely available on
the ARL Web site.

The Web site is also where you may sign up for alerts of new releases of
Research Library Issues and learn about submitting ideas for articles.

Visit http://www.arl.org/resources/pubs/rli/.