Creating a More Inclusive Future for Scholarly Communications

ACRL's New Research Agenda for Scholarly Communications and the Research Environment

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Introduction

- For many years, the academic and research library workforce "has worked to accelerate the transition to more open and equitable systems of scholarship" (Malenfant 2017). While significant progress has been made, barriers remain. This paper, aimed at academic librarians and researchers, reports the findings of a two-year process of scoping and research, sponsored by the Association of College & Research Libraries (ACRL) as a new research agenda. Diversity recognizes the range of human differences; inclusion promotes a sense of belonging that acknowledges the inherent worth and dignity of the talents, beliefs, backgrounds, and ways of living of all people. The goal of the work is to accelerate the transition to more diverse, open, inclusive, and equitable systems of scholarship, and expand the profession's definition of research outputs and understanding of scholarly communication systems. The full final report (in press) provides an overview of trends and practices, offers practical, actionable information for academic librarians, and identifies important questions for deeper inquiry. This work advances an action-oriented agenda informed by perspectives of historically underrepresented communities, in addition to scholarly literature and current advances in practice.
- This paper addresses and explores the themes of people, content, and systems. The researchers arrived at these themes through iterative conversations with research participants about areas where the scholarly communication system is insufficiently open, inclusive, or equitable.

- The study focuses on people as the agents of change as well as an area for change. Greater involvement by more people in more roles at more levels throughout the system will eventually result in a fairer and more equitable system. This work thus emphasizes the importance of hiring, retention, and promotion of a diverse workforce, providing a suitable environment and adequate support for that workforce, and empowering creators of content.
- 4 In terms of content, creating a more open, inclusive and equitable scholarly communications landscape requires broader thinking about what constitutes scholarly content. This includes exploration of how works are evaluated and valued, what content is deemed important for collection and preservation by libraries and archives, and ways to address limitations imposed by intellectual property laws on accessing, using, and sharing content.²
- The systems theme includes technological systems, business models, and organizational or legal models. Technological systems that allow for capacity, innovation, infrastructure, and accessibility can lead to lower costs and greater access. Greater knowledge about business models that offer broader access to tools for creating and sharing intellectual work could lower cost. Such knowledge could also help identify other models of financial support.

Literature Review and Environmental Scan

This literature review and environmental scan is organized along the three themes. Broadly speaking, a number of complementary efforts are addressing similar issues of equity and inclusion in scholarly communication. Several related efforts have emerged through 2017 and 2018, including Clifford Lynch's provocative editorial in *College and Research Libraries* (Lynch 2017), Digital Library Federation's report on the value of labor in digital libraries(Digital Library Working Group on Labor in Digital Libraries 2018), and MIT Libraries' draft Grand Challenges white paper proposing a research agenda in scholarly communications and information science (Altman et al. 2018). The theme of 2018's International Open Access Week was "Designing Equitable Foundations for Open Knowledge" (SPARC 2018). Ongoing research agenda-setting work is underway among members of the Library Publishing Coalition, and Coalition for Networked Information as well. Taken collectively, it is evident that many institutions and individuals see this as an important time to assess current challenges, and identify opportunities for improving equity and access.

People

- Professional associations invested in scholarly communication issues increasingly recognize that open access to research connects strategically and ethically to equity, diversity, and inclusion in the profession. ALA,³ ACRL,⁴ ARL⁵ and other library organizations have affirmed commitments to promoting diversity and inclusion. These efforts are areas for ongoing improvement, thanks to input and challenges from the community and the genuine and often unseen work of association champions.
- There has been a steady increase in academic librarian activism to address social justice issues. Academic librarians are increasingly involved in community advocacy and

organizing, and public engagement. The goal of these activities is to address and correct sociocultural, political, and economic factors that influence academic libraries, particularly those that contribute to systems of oppression.

Our exploration relates to the Elpub2019 theme of bibliodiversity, and access to "the critical diversity of products (books, scripts, eBooks, apps and oral literature)"6 through an examination of ethical and intentional limitations to open access. Much of the scholarly communications community advocates for open access for scholarship, though discussions about limiting openness and sharing of culturally sensitive materials are increasingly emerging. The creation and adoption of Traditional Knowledge Labels,7 for example, helps people better understand the significance of indigenous cultural heritage to its origin communities and how it continues to have meaning.8 Similarly, an appeal for "open ethics" has emerged alongside calls for "open access" and "open data," particularly when research is based on publicly available data not originally intended for research purposes.¹⁰ The Indigenous Matters Committee of the Canadian Federation of Library Associations (CFLA-FCAB) stressed that consideration of these forms of knowledge, along with issues of cultural sensitivity, group privacy rights, and digital repatriation could inform scholarly communication discussions (Powell 2016; Christen et al. 2012; Canadian Federation of Library Association 2017; Fitch 2013). The Association of Tribal Archives, Libraries and Museums (ATALM) also indicated that respectful and culturally responsive policies are necessary; future engagement on these subjects could focus on education and professional development for non-Native information professionals (Callison et al. 2016). The American Indian Library Association (AILA) reiterated the need for protection of collections, making them accessible to the right communities, and for education of the general public (O'Neal 2015).

Lastly, there are recent trends throughout the scholarly communications system to empower creators through copyright tools and education. In the last decade or so, SPARC and the Big Ten Academic Alliance, among others, have urged the use of addenda by academics to retain their rights when they submit their work to a publisher. These trends, including fair use best practices and increased licensing options, have resulted in more opportunities for education and outreach on copyright and creator rights.

Content

There is a growing trend to encourage open scholarship and increase transparency of scholarly work. The Review, Promotion, and Tenure Project¹³ and the push by the Indiana University system to reward public engagement¹⁴ are but two examples of a welcome move toward rewarding more openness in promotion, retention, and tenure (PRT) processes. Projects designed to increase transparency throughout the scholarly communications system include the Jisc Open Citation Project¹⁵ and the Peer Review Transparency project.¹⁶

While the PRT process at most institutions has been dominated by the volume and impact of journal articles and scholarly monographs, recent trends suggest new incentives that recognize different types of output. Some universities (e.g., University of British Columbia¹⁷) now allow the creation of open educational resources to count for tenure and promotion. Likewise, many journals now recognize creators of datasets and software. Additionally, publishers created Publons to provide a mechanism that gives credit to peer reviewers. Lastly, CRediT (the Contributor Roles Taxonomy) has been adopted by many

academic publishers to provide visibility to the broad range of contributors to published output. 18

New experiments in evaluation may also incentivize new types of knowledge. Alternative metrics, while controversial, provide other ways to document a scholar's work and its impact than the much-derided journal impact factor. Efforts to define and capture value in research outputs are beginning to dramatically change the evaluation landscape. Experiments in new measures include the pilot project Humane Metrics in Humanities and Social Science, which may create and support a values-based framework for academic evaluation (Boczar et al. 2018).

While the recognition of diverse forms of knowledge is a welcome advancement, there is also a need for systems to manage and support access to that knowledge.

Systems of Digital Infrastructure

15 Cyberinfrastructure issues continue to dominate conversations about how to empower researchers to innovate and expand participation. Investments by national funders have sparked the creation of many elements of the digital infrastructure, from building large-scale support structures for scholars in the sciences, to offering access to high-performance computing capacity to all researchers, to supporting data repositories that host and preserve datasets. Private foundations—including Sloan, Mellon, Ford, and Arnold—have all contributed to these advancements.²⁰

For a long time, research agendas have paid lip service to "innovative" publishing formats, while publishers remained caught in a very long print-to-digital transition, remaining committed to a print-mimicking PDF format. In recent years, however, we have seen some traction and interest in the newest crop of innovative platforms to emerge, particularly as partnerships among universities, libraries, and university presses. One example among many is Project Editoria, an open-source, digital-first book production system from the Collaborative Knowledge (CoKo) Foundation, a not-for-profit entity working in close partnership with libraries and university presses. Efforts to support data management, including hosting, curating, storing, and discovering have increased, evidenced by a burgeoning of institutional and domain-specific repositories, preservation solutions, and science gateways over the last decade. The emergence of innovative platforms pose new challenges, however, as rapid proliferation can lead to a lack of cohesion or standardization.

Methodology

The research involved structured engagement with the academic library community, incorporated through interactive public webinars, expert interviews, focus groups, workshops, and an online survey. Over one thousand participants helped shape the research agenda.

The researchers started by conducting twelve interviews with recruited experts with expertise in scholarly communication, social justice, and racial and gender equity, selected through joint consultation with ACRL's Research and Scholarly Environment Committee. The expert interviews provided context and leads for understanding current pressing issues.

- To further maximize input from historically underrepresented communities, the researchers hosted seven focus groups, involving a total of thirty seven participants. Participants were recruited via ACRL communications, relevant listservs, and announcements at conferences. Sessions were run as virtual meetings, using the Zoom platform. Facilitation for each group followed a discussion guide. The groups were formed to encourage engagement by special categories of participants, though many groups included participants who were not necessarily part of the stated target audience.
- 20 Additionally, the researchers hosted in-person events to gather feedback and engage the community at the following conferences: *Library Publishing Forum*, Minneapolis, Minnesota on May 22, 2018 with thirty-five attendees; *American Library Association Annual Meeting* in New Orleans, Louisiana on June 24, 2018 with over fifty attendees; and the 3rd *National Joint Conference of Librarians of Color* in Albuquerque, New Mexico on September 28, 2018 with over forty-five attendees.
- The researchers conducted a survey in which respondents ranked priorities for the research agenda. The survey was developed using SurveyMonkey, and promoted through several channels, including ACRL mailing lists, social media related to scholarly communications, relevant listservs, and through the researchers' own networks. The survey was available from June 26 through July 13, 2018 and received 832 responses, of which 362 completed the entire survey.
- After completing an early draft, the researchers conducted a separate set of interviews with additional expert readers to garner additional feedback on the state of the work. Finally, a public draft of the paper was shared with the ARCL community and opened for comments, community consultation, and editorial review from December 11, 2018 through January 11, 2019 (Malenfant 2019).

Outcomes

Three major concepts emerge in the data: People, Content, and Systems. Each concept raises new research areas to explore. People encompasses diversity and inclusion, improving the working lives of people engaged in scholarly communications, and increasing awareness concerning creators' rights. Content includes ways to rethink what "counts" (especially for promotion, reappointment, and tenure) and creating more representative and open collections. Systems address technological infrastructure that is scalable and sustainable, creating systems that permit more access to more people, building mission-aligned organizational and financial systems, and advancing innovation in academic libraries.

People

This section identifies the roles people play as employees from a variety of backgrounds and cultures, as participants in the creation of knowledge, and as undervalued laborers in the scholarly communications and research environment. The goal is to better understand how to address concerns, inequities, and challenges in order to support a more open, inclusive, and equitable scholarly communication system. Improving inclusion in the workplace for all library workers engaged in the scholarly communications system would also improve representation in the materials libraries

create, collect, distribute, and share. While much research has already been done in this area, more work remains to understand how best to move from policy to practice.

Several community respondents, particularly in workshop settings, made it clear that those with "scholarly communications" as part of their professional description often feel marginalized within the larger library organizations they work in. Libraries frequently have scholarly communications work taking place in different units, such as Scholarly Communications, Digital Initiatives, Digital Publishing, Digital Scholarship, Publishing and Data Services, or Library Technology, which "indicates the experimental and highly context-dependent nature" of this work. While even large organizations might only have a few people with "scholarly communications" or similar terms in their job title, the set of activities that "scholarly communications and the research environment" encompasses suggests a broad sweep of library roles integral to this work. These include metadata services, collection development, information literacy, data curation, information technology, and more. The narrow scope of how scholarly communications is defined belies the breadth of work involved. This scoping creates challenges for scholarly communications librarians seeking support and acknowledgement throughout an organization.

Improving the Working Lives of People Engaged in Scholarly Communications

In many of the focus groups and workshops, participants highlighted the need to define "scholarly communications" work in libraries. As mentioned above, given the broad scope of scholarly communications, it would be difficult to point to librarians, faculty, or students who are not part of the scholarly communications and research environment in some way. And yet, job titles and descriptions, time allocations, salaries, and status can vary greatly among those who do this work, resulting in challenges for managers leading people who do not report to them, and for workers who feel unacknowledged. These challenges manifest further in broad program management and interinstitutional collaboration when staff are working under a variety of arrangements.

Understanding the costs of un(der)recognized and un(der)compensated labor

Despite a general agreement that producing freely available content is a good thing, the labor required to produce that content is not free. The ideals underlying open-access and open-source work—and the highly collaborative nature of academic partnerships—can leave the impression that complex undertakings are possible without properly compensating (monetarily or reputationally) all of the people involved. Project teams thus operate with constant risk of losing key players with little notice. Librarians in particular realize the risks of this arrangement: scholarly communications workers may be under-recognized or not properly rewarded, including those who write and maintain code, manage digital projects, or provide the metadata that supports discoverability. Their labor can seem invisible if the code works seamlessly, the project appears on time and meets requirements, and the site is well ranked by search engines and therefore well visited. Research is needed to understand the "invisible" labor of librarians that goes into making content persistently available, discoverable, and reusable. Research is also needed to explore ways to improve recognition and reward mechanisms.²³

Content

The primacy of content is embedded in neoliberal assessment practices within the academy that center on market indicators of productivity and value, resulting in research output (content) as being the central evidence of such productivity and value. But increasingly within the academy, the creation, distribution, selection, and preservation of content have come under scrutiny. Content, depending on its form, can incentivize or discourage openness, inclusiveness, and equitability across the scholarly communications system.

The desire for rethinking metrics based on content, especially when it comes to PRT, has been especially strong in our discussions with the academic library community. Change within PRT is needed. Participants discussed the need for greater openness to innovative and non-traditional modes of communicating knowledge, including publication outside the established system. They also cited the need to differentiate and define "excellence" and "quality" within different paradigms (e.g., disciplines, cultures, traditions, non-Western knowledge systems). Participants further described the need to recognize public scholarship. Finally, they discussed the need to develop recognition and reward mechanisms for all who participate in the research process and its communication, not just those listed as authors.

Content discussions among scholarly communications practitioners often focus on questions of openness. The most frequent barrier to a more open, inclusive and equitable system that participants in this study cited is the current PRT system and its focus on productivity and quality, defined almost exclusively as multiple traditional publications (i.e., journal articles and books) in venues perceived as high prestige. The greatest frustration was targeted in particular at how the current system focuses on quantitative measures of productivity, rather than on quality or novelty. Hundreds of studies²⁴ demonstrate that prejudice is encoded in the scholarly communications system that globally privileges and rewards those who originally founded the academy: white males who speak European languages. This bias that favors white men in publication practices is even observed within a female-majority profession such as librarianship (Ford et al. 2017; Sánchez Peñas and Willet 2006). Global issues of openness, inclusiveness, and equity in terms of content creation, publication, and use are of considerable importance.

Further, there is mounting evidence of implicit and explicit bias throughout the scholarly communications system. The result is limited content discovery and reinforced inequalities in publication practices that tend to privilege white men (e.g., submissions, panel acceptances, peer review, citations, etc.). Investigations into the North-South divide are considered especially pressing by many ACRL members, particularly the need to examine the inherent biases of the Global North countries that marginalize the contributions of the Global South, ²⁵ but such biases exist throughout the system. While much research has been done already, progress toward equity has been slow and more research is needed to enable systemic change.

Rethinking What "Counts"

32 The systems to evaluate the quality of scholarly work have remained unchanged for decades: peer review remains firmly in place as the primary determiner of quality, taste, and research integrity (Carroll 2018); citations are counted and reported in a variety of

ways as a proxy for the impact or reach of the ideas contained in the work. Recently there has been increasing interest in evaluating the research impact through "real-time" mentions on social media, in mainstream media, and so on. While peer review, bibliometrics, and altmetrics may all play a useful role in the evaluation of scholarly content, they can also reinforce the current power structures of the academy and the incentive structures undergirded by the PRT system. Consequently, any proposed change to create a more open, inclusive, and equitable system of scholarly communications needs to start with a change to PRT, in particular what is measured and what is deemed valuable.

A critical aspect of this reevaluation should include reconsidering what is evaluated and how, and what is included and why, and then determine the means to incentivize the scholarly outcomes and behaviors we would like to see. Two notable projects underway are examining these questions. ACRL's Impactful Scholarship and Metrics Task Force is evaluating promotion and tenure manuals from a variety of institution types, ²⁶ and the Humane Metrics Initiative is exploring a "values-based framework for understanding and evaluating all aspects of the scholarly life well-lived," including collegiality, quality, equity, openness, and community.²⁷ These initiatives have yet to answer the crucial questions of how to assess values and what role content continues to play in evaluation. Much research remains to be done, both within these initiatives and outside them.

Creating More Representative and Open Collections

A library's collections are a reflection of the priorities, strategy, and values of the institution. Many participants in the community consultation phase of this study emphasized the need for library leaders to prioritize developing collections that better represent a broader range of scholars and scholarship, fully reflecting the communities of scholars and learners that these collections serve. There is a need for more research in this area to examine collection policies, priorities, and practices for both general and special collections, with a focus on representation and diversity.

Expanding representation and diversity of both the subjects and formats of collections requires careful consideration of the cultures that produced them. "Openness" and "sharing" are often put forth as positive values to be actively promoted, but there are circumstances when the creators of an idea, performance, or work neither intend nor desire to share it beyond the audience they define. This is most often the case with forms of knowledge that are created without any explicit expectation of publication, or use in research, such as religious rituals or personal histories.

Many indigenous communities produce other forms of "scholarly communication" that are not written down. For example, among indigenous groups in North America, woven artifacts, button blankets, pottery, wampum belts, beading, and porcupine quills are all used as media to communicate knowledge. In addition, oral cultures give attribution of how stories are passed down either through ancestors or through divine invocation of muses or metaphysical beings like gods or goddesses. These media are produced outside of formal academic discourse, yet they are formally studied by academics, and they mark communication between experts in a field. While museums and archives have developed protocols for the ethical treatment of these artifacts, these forms of indigenous knowledge are not protected under copyright law. Furthermore, for centuries, these artifacts were taken from communities and sometimes placed in cultural memory

institutions. Consequently, indigenous-affiliated professional associations have a longstanding interest in group privacy rights, cultural sensitivity, and digital repatriation. While these topics have been explored by museum and archive professionals, they have not been previously explored within a scholarly communications framework.

Systems

- Participants in our interviews, focus groups, and survey identified many barriers in the scholarly communications and research landscape that might be improved by addressing challenges related to the systems associated with the creation, production, and distribution of intellectual work. Some see the solution in broader access to the tools of publication and distribution; others would like to see intellectual outputs made freely available. Solutions might be open-source systems that are free to use (if not to install or maintain) or might mean financial models that fund the creation of works, making them free or low-cost to all readers.
- This section addresses two different kinds of systems that undergird the scholarly communications environment: (1) digital infrastructure, i.e., the technical systems that form the virtual roads and bridges where content is created, hosted, accessed, and stored; (2) the financial systems that permit organizations and companies and individuals who invest their time in creating intellectual works to be fairly paid for their labor.
- It has already been noted in the sections on People and Content that systems built to privilege those in power reinforce the status quo and present persistent obstacles to innovation and change, particularly in creating a more open and equitable environment. We confront this issue again here, with the focus on technical and financial systems.

Supporting Technological Infrastructure that is Sustainable

- Scholarly communications infrastructure plays an outsized role in the ability of universities and publishers to create, share, and preserve intellectual content. While it is premature to declare the shift from print to digital "complete"—and indeed both formats are likely to coexist indefinitely considering special collections and archives, international or specialized publications that only exist in print, or the physical objects held locally by historical societies, for example—but many aspects of the pipeline of publication-to-readership are now handled digitally, and are digital-first. As a result, the notion of a "highway" of infrastructure—of the roads and tunnels and pathways that this information takes—is more valid than ever.²⁸
- Increasing bibliodiversity across the scholarly communications landscape will require tools and systems for providing access and managing a broader variety of content. There are many instances of software projects already in use in the scholarly communications space. Some are deeply embedded in academic practice, like Open Journal Systems or DSpace; others, like Manifold, are quite new. Nearly all struggle with the challenge of attracting a significant enough base of participants and contributors to guarantee long-term support, and the number and diversity of options in terms of where to deposit can make the landscape more and not less challenging for those seeking information.

Building Mission-Aligned Organizational and Financial Systems

- The cost of access is a major obstacle to open and inclusive scholarly materials, and thus the underlying business model is a fundamental problem. Where scholarly monographs regularly cost over \$100, where scientific journal subscriptions reach into the thousands of dollars, and where undergraduate students spend a couple thousand dollars each year on textbooks, price is an obstacle to accessing content. Yet underfunding the creation, production, distribution and preservation of intellectual work is not the answer. Greater exploration of business models is required to identify ways to properly fund the creation of high quality works of scholarship, while still making them openly accessible.
- The last decade and a half has seen much experimentation and some progress in terms of new funding models to increase access to intellectual content, many open questions remain about the best business models for supporting the work of authors, publishers—including editorial, production, design, and promotion work—and library-based publishing and making the works accessible. While some working in this space tend to focus on ways to eliminate the cost of content to consumers, future research should also examine costs needed to produce works of the highest quality. This topic includes ways to explore the question from a range of angles—from the value and cost of a particular type of scholarly product (article, book, digital humanities project, or textbook), to the possible models that could support that production across many participating institutions.

Conclusion

- The research agenda is intended to encourage the scholarly communications community and all librarians and library workers to work to enact change in the scholarly communications system. The agenda suggests a range of types of inquiries, each of which will help the community create a more open, inclusive, and equitable research environment. The concepts put forth in this agenda, at their core, touch on a broad range of issues, including the challenges of the global digital divide and information inequality, decolonization, democratization, empowerment and social responsibility, ethics and moral responsibility, financial opportunity, the fundamental human right to communicate, intellectual freedom, openness to contributions from participants at all levels of society, the politics of technology, privilege (or lack thereof) of all kinds, the public or common good, the reliance of the entire system on "invisible" labor, transparency and accountability, unbiased policy-making-and so much more -- and highlight the complexity of change in the scholarly communication environment. These were the issues that emerged as most important to the ACRL community, and this agenda's, and we tried to craft helpful practical actions and future research questions are responses to those issues, to help accelerate change to more open, inclusive, and equitable scholarly communication systems.in response to what we heard from the community.
- This report, based on extensive literature review and on input from over 1,000 individuals, offers many points of entry to library practitioners in institutions of all sizes. Those who engaged with us in the community consultation—whether through workshops, focus groups, or the online survey—had many ways of thinking about what would make

scholarly communications more open, more inclusive, and more equitable. Some focused on the need to be more alert to the different contexts in which scholarship is created, to be more knowledgeable and open-minded about what constitutes "good" scholarship. Others felt strongly that the lowering of paywalls would go a long way to removing barriers to access. For others still, the real challenge lies in finding ways to gain more control over the systems and tools that fuel all this creativity. It is also clear that the library itself may well be a viable object of study for many. Finding ways to better understand the extent to which the tasks of "scholarly communication" and "research environment" have fully permeated the library roster would be only a beginning.

- To further this new research agenda, ACRL is issuing research grants to investigate timely and substantial research questions, developing solutions that will move the community forward. By asking what aspects of the scholarly communications environment readers feel are most in need of change and thinking about how that change might be enacted, the community will start to identify the most necessary questions and undertake the research to find the answers.
- 47 ACRL expects that all scholarly communication researchers and practitioners, no matter what their role in whatever size library they work, will find something of interest to pursue within this document, starting with the practical actions and moving on to investigating the research questions agenda. Exploring the issues raised in this agenda will help move the community ever further towards more open, inclusive, and equitable systems of scholarship.

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NOTES

- 1. These definitions for *diversity* and *inclusion* are those standardly offered by Offices of Diversity and Inclusion at many academic institutions in the United States. The emphasis presented within these definitions on celebrating difference and on embracing the dignity, worth, and value of all human beings is in keeping with the feedback the researchers heard on the need to expand the original definition of *inclusivity* beyond (1) creating opportunities for greater participation in systems, institutions, and processes involved in creating, sharing, and consuming research and (2) removing barriers that can hinder such participation—in other words, on the importance of placing the emphasis on the people, rather than on processes and practices.
- **2.** While the *P* and the *T* are uniformly recognized as *promotion* and *tenure*, what the *R* stands for varies from institution to institution, where it can be either *retention* (as we've chosen to use here), *reappointment*, or *review*.
- **3.** The ACRL diversity standards, developed in 2012, can be found at http://www.ala.org/acrl/standards/diversity. Also see Neely and Peterson's (2007) white paper.
- **4.** The five ALA associations of librarians of color, who collectively comprise the Joint Council of Librarians of Color, are the American Indian Library Association (AILA), the Asian Pacific American Library Association (APALA), the Black Caucus of the American Library Association (BCALA), the Chinese American Library Association (CALA), and REFORMA (the National Association to Promote Library Services to Latinos and the Spanish-Speaking). They hold a joint conference every four years, the most recent this past September in Albuquerque.
- **5.** The ACRL Diversity Alliance program, founded in 2017, unites academic libraries committed to increasing the hiring pipeline of qualified and talented individuals from underrepresented racial and ethnic groups. Learn more at http://www.ala.org/acrl/issues/diversityalliance.
- 6. See https://elpub2019.hypotheses.org/134
- 7. See http://localcontexts.org/tk-labels/
- **8.** See also Ithaka S+R's 2017 Indigenous Studies Project (https://sr.ithaka.org/blog/a-new-project-on-indigenous-studies-scholars/), which they presented at the 2018 Joint Conference of Librarians of Color (https://sr.ithaka.org/blog/reflections-on-the-joint-conference-of-librarians-of-color) and at the 2018 Library Assessment Conference (https://libraryassessment.org/program/schedule/program-abstracts/#Cooper).
- 9. The concept of "open ethics," which originated decades ago in media and journalism studies with the emergence of online communities, has increasing relevance today when almost everyone has a smart phone and can easily both upload and access material that may never have originally been intended to be seen publicly. For background on the concept from several different perspectives, see, for example Adema (2013), Henderson (2012), Ward and Wasserman (2015).
- 10. In December 2018, the ACRL published the Primer for Protecting Sensitive Data in Academic Research, available at https://www.acrl.ala.org/acrlinsider/archives/16710

- 11. The SPARC Author Addendum was first issued in 2006; version 3.0 is available here: https://sparcopen.org/our-work/author-rights/brochure-html/. In 2008, eleven of the fourteen members of the Big Ten Academic Alliance endorsed a Statement on Publishing Agreements and Addendum: http://www.btaa.org/docs/default-source/library/authorsrights.pdf?sfvrsn=b20a41e9_8
- 12. See https://creativecommons.org/licenses/
- 13. The Review, Promotion, and Tenure Project is being conducted by Juan Pablo Alperin, Meredith T. Niles, Erin C. McKiernan, Lesley Schimanski, and Carol Muñoz Nieves. Lean more about this project to incentivize openness and accessibility at www.scholcommlab.ca/research/rpt-project/.
- 14. "The emergence of 'public scholarship' expands the range of audiences to whom a scholar/ artist may direct their research/creative activity, and sometimes the best of this work does not appear in narrowly-defined professional outlets. Candidates should describe how their research/ creative activity targeted for non-academic audiences intersects with work targeted to a scholarly community." Read the full guidelines at https://vpfaa.indiana.edu/doc/pt-revised-review-guidelines.pdf.
- **15.** The JISC open citation project is "dedicated to open scholarship and the publication of open bibliographic and citation data by the use of semantic web (linked data) technologies" and is "engaged in advocacy for semantic publishing and open citations." See opencitations.net for more about this project.
- **16.** The Peer Review Transparency project is led by MIT Press director Amy Brand and Amherst College Press director Mark Edington with the goal "to create agreed definitions of how peer review is conducted, and to disclose clearly and efficiently to readers the kind of review a published work has undergone." See https://www.prtstandards.org.
- 17. Contributions that should be considered for PRT include "publications in peer-reviewed and professional journals, conference publications, book chapters, textbooks and open education repositories/ resources." Read the full criteria here: http://www.hr.ubc.ca/faculty-relations/files/SAC-Guide.pdf.
- **18.** CRediT has developed a high-level taxonomy designed to be used to "describe each contributor's specific contribution to the scholarly output." The taxonomy can be found at https://casrai.org/credit/.
- 19. The HMetricsHSS initiative "endeavors to create and support a values-based framework for understanding and evaluating all aspects of the scholarly life well-lived and for promoting the nurturing of these values in scholarly practice," focused particularly on the humanities and social sciences. See http://humetricshss.org/ for more information.
- **20.** In the sciences, see related efforts to address the sustainability of cyberinfrastructure, including the NSF-funded Science Gateways Community Institute (https://sciencegateways.org) and work of the UK-based Software Sustainability Institute (https://sciencegateways.org)
- **21.** For more on Editoria, designed to "build and customize streamlined, scalable book publishing workflows," see https://editoria.pub/.
- 22. See Sarah Kalikman Lippincott's 2017 Library as Publisher: New Models of Scholarly Communication for a New Era (https://quod.lib.umich.edu/c/cb/mpub9944345). These results are also supported by the case studies found in Deanna Marcum, Roger Schonfeld, and Sarah Thomas's 2015 Ithaka S+R report Office of Scholarly Communication: Scope, Organizational Placement, and Planning in Ten Research Libraries (https://sr.ithaka.org/publications/office-of-scholarly-communication/).
- **23.** For those interested more specifically in a research agenda focused on digital library labor, please see the Digital Library Federation Working Group on Labor in Digital Libraries' Research Agenda: Valuing Labor in Digital Libraries, published in August 2018, that outlines several areas for

investigation (available at https://wiki.diglib.org/images/d/d0/DLF_ValuingLabor_ResearchAgenda_2018.pdf).

- 24. For a list of many studies addressing the challenges within the academy to those who are not straight white males to succeed in a world created by that dominant class for that dominant class, see the extensive bibliographic resource being developed by the Publication Ethics Project: https://docs.google.com/document/d/1HFV5fiopogFpuBxQxNaMgyW9kbu7YfHl3c5mVlouxBA/edit#heading=h.rwf0nzg4sqqn. While focused on philosophy (the straightest, whitest, and most male of the disciplines), this bibliography provides a wealth of studies that have very real impact on hiring and promotion for all disciplines, including library science. Addressed within the bibliography are diversity (or lack thereof) in citation and engagement practices; varieties of plagiarism (including taking without attribution the ideas of another); implicit or explicit bias in research, peer review, editorial practices, or professional status; and so on.
- 25. Although the terms "Global North" and "Global South" are imprecise, they are the terms commonly in use currently. For more on the "North-South divide" more broadly, see https://en.wikipedia.org/wiki/North%E2%80%93South divide.
- 26. http://www.ala.org/acrl/aboutacrl/directoryofleadership/taskforces/acr-tfism
- 27. http://humetricshss.org/about/
- 28. This metaphor has been aptly used in the 2016 report from the Ford Foundation by Nadia Eghbal, "Roads and Bridges: The Unseen Labor Behind our Digital Infrastructure": https://www.fordfoundation.org/about/library/reports-and-studies/roads-and-bridges-the-unseen-labor-behind-our-digital-infrastructure. The report is the basis for a joint call issued by the Ford and Sloan Foundations in May 2018 for research proposals; see "Call for Research on Digital Infrastructure": https://www.fordfoundation.org/ideas/equals-change-blog/posts/a-call-for-research-on-digital-infrastructure/

ABSTRACT

This paper reports findings from a study commissioned by the Association of College & Research Libraries to identify a new research agenda for scholarly communications and the research environment. The final report provides an overview of trends and practices and identifies and describes important questions where deeper inquiry is needed to accelerate the transition to more open, inclusive, and equitable systems of scholarship. This research agenda is informed by scholarly literature, as well as by advances in practice and the voices of historically underrepresented communities. The research involved structured engagement with the academic library community throughout the process, incorporated through project update webinars, expert interviews, focus groups, workshops, and an online survey. Over one thousand participants offered their thoughts and expertise to shape the research agenda. The themes that emerged include People, Content, and Systems, which each raised new research areas to explore. To further this new research agenda, ACRL is issuing research grants to investigate timely and substantial research questions, developing solutions that will move the community forward.

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Keywords: Scholarly communication, Research environment, Equity diversity and inclusion

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