

6-2018

2018 Top Trends in Academic Libraries

Chris Palazzolo

M Kathleen Kern

Allison Benedetti

Thomas R. Caswell

Nancy Falciani White

See next page for additional authors

Follow this and additional works at: https://digitalcommons.unf.edu/library_facpub

 Part of the [Library and Information Science Commons](#)

Authors

Chris Palazzolo, M Kathleen Kern, Allison Benedetti, Thomas R. Caswell, Nancy Falciani White, Jenny Oleen, Eamon C. Tewell, Minglu Wang, and Andrew J. Wesolek

2018 top trends in academic libraries

A review of the trends and issues affecting academic libraries in higher education

Every other year, the ACRL Research Planning and Review Committee produces a document on top trends in higher education as they relate to academic librarianship. Topics in this edition of ACRL Top Trends will be familiar to some readers who will hopefully learn of new materials to expand their knowledge. Other readers will be made aware of trends that are outside of their experience. This is the nature of trends in our current technological and educational environments: change is continual, but it affects different libraries at different rates. The 2018 top trends share several overarching themes, including the impact of market forces, technology, and the political environment on libraries.

Publisher and vendor landscape

Publishers and database providers continue to move beyond their traditional functions of research dissemination and distribution into areas of enriched discovery, analytics, productivity, and research workflow.

In August 2017, Elsevier purchased institutional repository and publishing platform bepress. This purchase followed Elsevier's purchases of SSRN and Plum and exemplifies a trend of major publishers purchasing and developing services that radically extend their capabilities beyond publishing.¹ More recently, Digital Science has announced a new tool,

Dimensions, which is intended to “reimagine” article discovery and access through, among other things, a citation databases and research analytics suite.² Clarivate Analytics, perhaps best known for providing access to indexing and citation resources, such as Web of Science, Journal Citation Reports, and Endnote, has continued to expand its commercial reach into the scholarly infrastructure realm and ecosystem with the acquisition of Publons (a peer-review platform) and Kopernio (which

Members of the ACRL Research Planning and Review Committee: Chris Palazzolo (chair) is head of collection development and social sciences librarian at Emory University, email: cpalazz@emory.edu; M. Kathleen Kern (vice-chair) is director of Miller Learning Center Library Commons at the University of Georgia, email: mkathleen.kern@gmail.com; Allison Benedetti is director of Powell, Arts and Music Libraries at UCLA, email: abenedetti@ucla.edu; Thomas Reed Caswell is director of public services at the University of North Florida, email: t.caswell@unf.edu; Nancy Falciani White is library director at Randolph-Macon College, email: NancyFalcianiWhite@rmc.edu; Michelle Leonard is associate university and science librarian at the University of Florida, email: mleonard@uflib.ufl.edu; Jenny Oleen is scholarly communication and copyright librarian at Western Washington University, email: jenny.oleen@www.edu; Eamon C. Tewell is reference and instruction librarian at Long Island University, email: eamont@gmail.com; Minglu Wang is data services librarian at Rutgers University, email: mingluwang@gmail.com; and Andrew J. Wesolek is the head of digital scholarship at Clemson University, email: awesole@clemson.edu

aims to provide more seamless access to licensed and open access content).³

As these large publishers and vendors turn more attention to the publishing infrastructure and elements of scholarly communication, they are becoming full-service providers supporting every aspect of scholars' publication workflow from discovery to dissemination.⁴ These changes could have major impacts on smaller publishers, independent service providers, and academic libraries in the coming years.⁵

The attraction of this model lies in streamlining disparate elements of academic research and publishing with a single provider that can coordinate funding, data collection and analysis, collaboration across institutional and international boundaries, writing, publication, and promotion of published materials. How researchers find information impacts the marketplace.

Kyle Siler argues that academics are more likely to acquire information through online search than through reading,⁶ and if this is the case, large publishers have the infrastructural advantage in making scholarship more visible. This might seem like a familiar conundrum for libraries to contemplate: Is this the new version of the "Big Deal," where we are caught between demonstrating our value to researchers and determining sustainable commitments to licensed content and platforms?

An article in the *Chronicle of Higher Education* is one of the recent calls to members of the academic community to be more informed about the choices they make and be more active to change the climate.⁷ The efforts of European institutions, particularly in Germany and the Netherlands, to forward alternative approaches to open access and negotiations with major publishers, are other notable examples of actions toward sustainability of the scholarly information ecosystem.⁸

Attempts to change the payment model for scholarly publishing have also gained traction in the OA2020 movement. This is a trend for librarians to monitor, as it could have significant implications for collec-

tions budgets, subscriptions, and campus priorities.

In an effort to streamline access to licensed content and reduce or eliminate the need for users to resort to tools like SciHub and ResearchGate (threatened with a lawsuit), publishers, librarians, and other stakeholders have been collaborating on RA21.⁹ HighWire Press, meanwhile, has partnered with Google Scholar to develop CASA (Campus-Activated Subscriber Access).¹⁰ These tools propose a federated identity system that would eliminate the need for IP authentication and proxy servers, allowing users to login once and be recognized across all participating platforms.

There are numbers of issues at play in the establishment and diffusion of federated identity systems,¹¹ including 1) privacy concerns associated with the aggregation of this much user data, 2) potential challenges for smaller publishers unable to participate in the federated process, and 3) an increase in barriers faced by on-campus users. Access and discovery will continue to be both a priority and a challenge for libraries, as outside companies and individuals develop alternative mechanisms that are perceived as easier to use.¹²

Fake news and information literacy

Though far from being a new phenomenon, *fake news* has proved to be highly influential as a descriptive term and rhetorical device. Fake news played a significant role in the 2016 presidential election,¹³ and is a phrase frequently used by the current President of the United States to undermine mainstream news media. Libraries have responded to the issue of fake news, defined as deliberate misinformation that relies on attention-grabbing or inflammatory content to spread widely and influence others, by promoting information literacy as a means of verifying the accuracy and credibility of information. Initiatives, such as IFLA's "How To Spot Fake News" infographic, have gone viral and appeared in international news.¹⁴

Fake news and other forms of specious information presented as fact have drawn

new attention to the old problems of resource evaluation and information credibility. Librarians have been quick to respond, and information trust and fake news are topics of forthcoming research studies from Project Information Literacy, a book from ALA Editions, and the spring 2018 issue of *Reference and User Services Quarterly*.¹⁵ Academic librarians have developed numerous workshops and research guides devoted to fighting fake news and to promoting information literacy.

Going forward, it will be important to consider the complexity of fake news and the limits of information literacy in fighting it. A recent study found that fake news may not be as profoundly influential as previously reported, primarily affects hyperpartisan readers, and generally is used by individuals to reinforce what they want to believe.¹⁶ The problem of fake news is not restricted to facts as information alone is unlikely to change one's beliefs.¹⁷ The impact of the fractured and contested media landscape is well worth further consideration and action from the profession, and opens possibilities for partnerships with other people on our campuses who face the same concerns.

Project management approaches in libraries

Project management principles focus on an incremental, team-based approach when tackling large, digital projects, enabling libraries to effectively and efficiently prioritize staffing models, collections, and budgets. Project management has become part of the everyday work of many academic librarians, and most of them have participated in three-to-eight projects in the last five years.¹⁸ This is especially true as academic libraries collaborate on scholarly digital projects or involve institutional partners beyond the library or campus.¹⁹

Michael J. Dulock and Holley Long report on how their library incorporated project management methodology adapted from techniques used in agile software development to deliver digital objects and collections with recommendation for other libraries.²⁰

Documentation and visualization of the iterative process has evolved from group editing bulleted, narrative texts and Gantt charts to more robust, collaborative software and applications that can be shared across many users and several institutional partners.

With an increased need for the knowledge and skills associated with formal project management principles, many professionals traditionally trained in library and information science find themselves lacking or needing additional coursework to become familiar with, or certified, in project management.

James H. Walther, a library and information management professor, examined the specific skill of project management by tailoring graduate coursework to incorporate personal course plans. From this approach he recommends using this teaching method more broadly in library and information science education.²¹ Brett D. Currier, Rafia Mirza, and Jeff Downing propose that project management planning skills have always existed within libraries and librarians, but an increased involvement in digital humanities initiatives requires an adjustment to a more "holistic mindset," where librarians "position themselves as collaborative partners on projects instead of service providers to projects."²²

Textbook affordability and OER

Open Educational Resources (OER) continue to demonstrate importance in a number of ways: sustainable collections in libraries, affordable textbooks for students, new options for curriculum development, and avenues for digital scholarship. Challenges to faculty adoption include difficulty finding resources, lack of resources in a subject area, quality, and the content updates.²³ These perceived barriers can turn into opportunities for librarians to cultivate partnerships with faculty in the discovery, advocacy, and preservation of OER.

To build a sustainable OER collection in any medium, librarians must first identify user needs in supporting curriculum and research through a variety of collection management practices. By incorporating

OER into the curriculum, librarians have the unique opportunity to develop collaborations with faculty, subject librarians, and academic technologists to assist in determining what OER are available, assessing their quality, and adding these materials into the course management system (CMS).²⁴

Librarians have also advocated for the adoption of OER through grant award programs and assistance in developing and publishing OER.²⁵ OER production can be a goal for library-based publishing efforts by leveraging advocacy efforts through the library and publishing experience through university presses to reduce costs for students, while showcasing research and teaching strengths at a university.²⁶

Libraries are not the only group advocating for OERs and textbook affordability. There are numerous campus partners, including students. To help students with controlling the cost of their education and to encourage faculty to choose affordable options, some schools include designators in their course registration systems to indicate courses with low-cost and zero-cost required texts.²⁷

A number of libraries are also leveraging their e-book content to support textbook affordability initiatives. These initiatives focus on providing e-access to course texts, as well as offering faculty the ability to consider and select available e-book titles for course use.²⁸ Limitations in the marketplace, such as DRM restrictions and required logins and software that users may not have already installed, are impediments to implementation.

Products from publishers and CMS platforms may create opportunities for libraries to work with faculty. The CMS Canvas allows for a feed from the bookstore into individual courses highlighting required texts.²⁹ EBSCO Course Builder integrates with the Blackboard CMS to enable faculty to search EBSCO³⁰ and quickly create their own links to readings from within the CMS.

These approaches are an evolution of the traditional print and e-reserves roles of the library, and leverage content that the

library has licensed, creating an opportunity for awareness of the library's value for the library to support faculty course development in new ways.

Learning analytics, data collection, and ethical concerns

The use of learning analytics, which involves the mining and analysis of student data to make improvements or predictions based on past student behavior, has intensified across higher education. Academic libraries are part of this trend, tying the use of library materials and services to student performance measures, such as GPA and retention rates. The use of learning analytics is viewed by some librarians and administrators as a promising tool for achieving positive outcomes for students and institutions, as well as for illustrating ways that academic libraries contribute to institutional productivity and academic achievement. The ACRL *Academic Library Impact* report advocates working with stakeholders to “statistically analyze and predict student learning and success based on shared analytics.”³¹

Learning analytics, however, may pose significant conflicts with ALA's Code of Ethics and “professional commitments to promote intellectual freedom; protect patron privacy and confidentiality; and balance intellectual property interests between library users, their institution, and content creators and vendors.”³²

Across higher education, concerns are being raised about reducing student learning and experiences to a set of variables and using data to identify “at-risk” students. The ethical dimensions of involvement in this area will be of increasing importance as college and research library participation in analytics programs progresses.

Librarians and other information professionals have raised concerns regarding how patron data is captured by library discovery tools and, in particular, how and with whom it is shared. Libraries seek to provide more refined and efficient services (marketing, discovery interfaces, collection use), but these

improvements may be generated or informed through the analysis of user activity, creating a conundrum between user service and user privacy.³³ For example, proxy servers might involve collecting user IDs (and associated demographic information) and relating them to use of resources originating from that user. Issues of privacy and data aggregation and retention must be considered and balanced against library service enhancement, and often necessitate sustained communications between campus IT and the library.³⁴

Research datasets acquisition, text mining, and data science

With the growth of data science and quantitative research needs, collection managers have engaged in the establishment of more defined guidelines and best practices for the acquisition of standalone spatial and quantitative datasets. Data sources now go beyond text and numeric data, extending to multimedia data, social media data, and hypertext and hypermedia data.³⁵

Relevant mining techniques and methods range from information extraction, information retrieval, natural language processing, classification, and clustering to different ways of text summarization.³⁶

Datasets possess their own sets of acquisition and management challenges, including licensing restrictions, access and ownership, support, maintenance, discovery, and cost. Some libraries are beginning to offer more secure and dedicated funding lines for research datasets.³⁷ Most libraries are determining the best means of managing, funding, and developing these small data set collections.³⁸

There are challenges to the librarian and researcher since data sources are usually in silos and use different standards, rendering data integration difficult.³⁹ When dealing with datasets containing sensitive information, such as social media data, enterprise data, and health data, privacy-preserving techniques need to be applied carefully throughout the data integration, sharing, and processing stages.⁴⁰

Getting access to data remains a significant challenge. Many datasets are copyright-protected, and fair use rights could be limited by licenses.⁴¹ There are still a variety of approaches among vendors for access to their respective corpus of data/text, which may or may not be in line with library best practices or library technical capabilities (e.g., dedicated servers for storage or development of content requirement of local developer resources to support).

Librarians can assist researchers by clarifying legal aspects and negotiating licensing permissions with publishers.⁴² By creating guides on text and data mining tools and methods and providing information on library databases and data sources, librarians support training and awareness of the data resources and tools that they purchase. Librarians and library technicians also provide support in areas such as digitization, data extraction, data preparation, and even devising models for data analysis.⁴³ At the end of text and data-mining projects, libraries may help preserve the datasets for reuse, assist researchers to contribute to open access datasets, and record metadata for discovery.⁴⁴

The establishment of data science programs at numerous institutions has led to the need for librarians to adapt and integrate growing management, accessibility, and technical subject expertise to support data scientists.⁴⁵ Professional associations and information science programs should continue to expand and enhance training in data management and data analytics to prepare librarians in using and addressing big data questions with colleagues and patrons.⁴⁶

Collection management Acquisition model developments

Demand-driven acquisition (DDA) patterns continue to evolve as the majority of publishers have altered, restricted or eliminated their short-term loan (STL) options (particularly for front-list titles). These market changes and publisher responses to revenue losses have challenged the sustainability and attractiveness of broad-based e-book DDA.⁴⁷

A more viable option for numerous libraries has been to engage with established library vendors for new DDA plans that do away with the STL model and provide non-DRM (digital rights management) access to university press titles. Although the corpus of titles, particularly frontlist titles, remains limited, aggregators are working to provide more DRM-free options, as well, for purchase through book jobbers.

Outside of “traditional” e-book DDA plans, newer streaming video plans have become increasingly popular to meet demand for streaming content.⁴⁸

The evidence-based acquisitions model (EBM) is a newer development, in which libraries make an upfront financial commitment to a publisher list of titles, and subsequently choose an agreed amount of titles for perpetual ownership. While this model is attractive to libraries and publishers alike, principal concerns of the EBA model are 1) the potential need for long-term annual commitment, due to potential variations in e-book use by discipline, and 2) the need for robust usage statistics for decision-making.

Open access collection development policies and funding schemes

A continuing challenge for collection budgets and policies surrounds the funding of open access initiatives, including the support of article-processing charges. David W. Lewis has called on libraries to consider devoting 2.5% of their budgets to supporting the open access infrastructure.⁴⁹ Depending on how the open access investment is defined⁵⁰ and an individual library’s budget, 2.5% could have a substantial impact on the collections budget.

Cumulatively, if many libraries devote 2.5%, this could also have a substantial impact on open access initiatives. Therefore, it is incumbent upon libraries, particularly collection managers, to establish clear policies that outline parameters for the support and funding of specific open access initiatives and programs.⁵¹ In addition, there is increasing discussion about how to incorporate

open access developments into collection decision-making, in particular, in relation to ever-increasing serial budgets (an open access-adjusted cost per download measure as proposed by Kristin Antelman).⁵² There has been some movement both in the United States and Europe for vendor licenses that allow for suspension of author-processing charges in the publisher’s journal.⁵³

Legacy print collections

Several new large-scale print retention initiatives are in various stages of development, including the HathiTrust Print Retention Program, which has amassed retention commitments of more than 4.8 million volumes from member institutions.⁵⁴ At the same time as libraries are digitizing collections and purchasing more in electronic format, there is discussion in the profession about how to manage, promote, and engage users with the library print collection. The Arizona State University report on open stacks, funded by the Andrew W. Mellon Foundation, begins to explore potential approaches to better tailor, diversify, and market the local print collection, and includes materials and tools to help guide individual libraries.⁵⁵ Interestingly, some traditional measures, such as in-house usage, are being used to better understand patron engagement with onsite collections.⁵⁶

Notes

1. Lindsay Mackenzie, “Elsevier Expands Footprint in Scholarly Workflow.” *Inside Higher Ed*, August 3, 2017, <http://bit.ly/2oD3Zpg>.
2. Daniel Hook and Christian Herzog, “The Next Generation of Discovery—Dimensions,” *Digital Science*, January 14, 2018, <https://bit.ly/2DiTd01>.
3. See Richard Van Noorden, “Web of Science Owner Buys Up Booming Peer-Review Platform,” June 1, 2017, <https://go.nature.com/2qrfsJNn>, and Roger Schonfeld, “In Latest Sign of Its Resurgence, Clarivate Acquires Kopernio” *The Scholarly Kitchen*, April 10, 2018, <https://bit.ly/2GOOXIF>.

4. Alejandro Posada and George Chen, "Preliminary Findings: Rent-Seeking by Elsevier: Publishers are Increasingly in Control of Scholarly Infrastructure and Why We Should Care," *The Knowledge Gap: Geopolitics of Academic Production* (blog), accessed April 8, 2018, <http://bit.ly/2xKRnSr>.
5. Roger Schonfeld, "Workflow Strategy for Those Left Behind: Strategic Context," *The Scholarly Kitchen*, December 18, 2017, <http://bit.ly/2FbGo9I>.
6. Kyle Siler, "Future Challenges and Opportunities in Academic Publishing," *Canadian Journal of Sociology* 42, no. 1: 83–114.
7. Andrew V. Suarez and Terry McGlynn, "The Fallacy of Open-Access Publication," *The Chronicle of Higher Education*, November 15, 2017.
8. Gretchen Vogel and Kai Kupferschmidt, "A Bold Open-Access Push in Germany Could Change the Future of Academic Publishing," *Science | AAAS*, August 23, 2017.
9. "RA21: Resource Access for the 21st Century," accessed January 29, 2018, <https://ra21.org/>.
10. "HighWire Press Adds CASA to Eliminate Barriers to off-Campus and Mobile Access to Subscriptions," accessed April 10, 2017, <http://bit.ly/2FaQH9J>.
11. Lisa Janicke Hinchliffe, "What Will You Do When They Come for Your Proxy Server?" *The Scholarly Kitchen*, January 16, 2018, <http://bit.ly/2F8PZOz>.
12. Kendall Bartsch, "The Napster Moment: Access and Innovation in Academic Publishing," *Information Services & Use* 37, no. 3: 343–48.
13. Eric Alterman, "The News is Breaking," *Nation* 306, no. 5 (February 26, 2018): 6–8.
14. "IFLA—How To Spot Fake News," *International Federation of Library Associations*, 5 December 2017, <https://www.ifla.org/publications/node/11174>.
15. "How Do Students Consume News?" *Project Information Literacy*, January 12, 2018, http://www.projectinfolit.org/news_study.html; Nicole A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, ALA Editions, 2018; *Reference and User Services Quarterly*, "Special Edition: Trusted Information in an Age of Uncertainty," Spring 2018.
16. Andrew Guess, Brendan Nyhan, and Jason Reifler, "Selective Exposure to Misinformation: Evidence from the Consumption of Fake News during the 2016 U.S. Presidential Campaign" accessed April 10, 2018, <https://www.dartmouth.edu/~nyhan/fake-news-2016.pdf>.
17. Shankar Vedantam, "How Humans Use 'Strategic Ignorance' When Facts Get In The Way," NPR, December 22, 2017, <http://n.pr/2Fc54dS>.
18. Silvia Cobo Serrano and Rosario Arquero Aviles, "Academic Librarians and Project Management: An International Study," *portal: Libraries & the Academy* 16, no. 3 (2016): 465–75.
19. Theresa Burress and Chelcie Juliet Rowell, "Project Management for Digital Projects with Collaborators Beyond the Library," *College & Undergraduate Libraries* 24, nos. 2–4 (April 2017): 300–21.
20. Michael J. Dulock and Holley Long, "Digital Collections are a Sprint, Not a Marathon: Adapting Scrum Project Management Techniques to Library Digital Initiatives," *Information Technology & Libraries* 34, no. 4 (2015): 5–17.
21. James H. Walther, "Developing Personal Course Plans (PCPs) as an Example of Self-Directed Learning in Library Management and Project Management Education," *Journal of Library Administration* 58, no. 1 (2018): 91–100.
22. Brett D. Currier, Rafia Mirza, and Jeff Downing, "They Think all of This is New: Leveraging Librarians' Project Management Skills for the Digital Humanities," *College & Undergraduate Libraries* 24, no. 2–4 (April 2017): 270–89.
23. Tomalee Doan, "Why Not OER?" *portal: Libraries and the Academy* 17, no. 4 (2017): 665.
24. Andrew Wesolek, Anne Langley and Jonathan Lashley, eds., *OER: A Field*

Guide for Academic Librarians, Pacific Grove: Pacific University Press, 2017.

25. Jeremy Smith, "Seeking Alternatives to High-Cost Textbooks: Six Years of the Open Education Initiative at the University of Massachusetts Amherst," in *OER: A Field Guide for Academic Librarians*, eds., Andrew Wesolek, Anne Langley, and Jonathan Lashley (Pacific Grove: Pacific University Press, 2017).

26. Faye A. Chadwell and Dianna M. Fisher, "Creating Open Textbooks: A Unique Partnership between Oregon State University Libraries and Press and Open Oregon State," *Open Praxis* 8, no. 2 (2016): 123–30.

27. See https://www.affordablelearninggeorgia.org/about/course_catalog_designators, and <https://www.lanec.edu/oer/oer-and-low-cost-designations>, accessed April 11, 2018.

28. Jason Boczar and Laura Pascual, "E-Books for the Classroom and Open Access Textbooks: Two Ways to Help Students Save on Textbooks," *The Serials Librarian* 72, nos. 1–4 (2017): 95–101.

29. See https://www.eou.edu/lms/bookstore_integration/, accessed April 9, 2018.

30. See https://help.ebsco.com/interfaces/Curriculum_Builder, accessed April 9, 2018.

31. Lynn Silipigni Connaway, William Harvey, Vanessa Kitzie, and Stephanie Mikitish, *Academic Library Impact: Improving Practice and Essential Areas to Research* (Chicago, IL: Association of College and Research Libraries, 2017).

32. Kyle M. L. Jones and Dorothea Salo, "Learning Analytics and the Academic Library: Professional Ethics Commitments at a Crossroads," *College & Research Libraries* 79, no. 3 (April 2018): 304–23.

33. Shayna Pekala, "Privacy and User Experience in 21st Century Library Discovery," *Information Technology and Libraries* 36, no. 2 (June 2017): 53.

34. Tiffany LeMaistre, Qingmin Shi, and Sandip Thanki, "Connecting Library Use to Student Success," *portal: Libraries*

and the Academy 18, no. 1 (January 2018): 117–140.

35. Pankaj Kumar Singh, "Significance of Data Mining for Library Personnel," *International Journal of Information Dissemination & Technology* 6, no. 3 (2016): 159–60.

36. Ramzan Talib, Muhammad Kashif Hanif, Shaeela Ayesha, and Fakeeha Fatima, "Text Mining: Techniques, Applications and Issues," *International Journal of Advanced Computer Science and Applications (IJACSA)* 7, no. 11 (2016): 414–18.

37. See <https://www.lib.umich.edu/library-data-grants-program>, accessed April 10, 2018.

38. Karen Hogenboom and Michele Hayslett, "Pioneers in the Wild West: Managing Data Collections," *portal: Libraries and the Academy* 111, no. 2 (2017): 295–319.

39. Nancy Herther, Daniel Dollar, Darby Orcutt, Alicia Wise, and Meg White, "Text and Data Mining Contracts: The Issues and Needs," in *Proceedings of the Charleston Library Conference, 2016*.

40. Ganesh D. Puri and D. Haritha, "Survey Big Data Analytics, Applications and Privacy Concerns," *Indian Journal of Science and Technology* 9, no. 17 (May 18, 2016): 1–8.

41. Patricia Kleary, Kristen Garlock, Denise Novak, Ethan Pullman, and Sanjeet Mann, "Text Mining 101: What You Should Know," *The Serials Librarian* 72, no. 1–4 (May 2017): 156–59, <https://doi.org/10.1080/0361526X.2017.1320876>.

42. Inga Haugen, Edward F. Lener, Virginia Pannabecker, and Philip Young, "Digging Deeper into Text and Data Mining," <https://vtechworks.lib.vt.edu/handle/10919/79483>.

43. Clifford B. Anderson and Hilary A. Craiglow, "Text Mining in Business Libraries," *Journal of Business & Finance Librarianship* 22, no. 2 (April 2017): 149–65.

44. Philip Young, Inga Haugen, Edward F. Lener, Virginia Pannabecker, and Collin Brittle, "Library Support for Text and Data Mining: A Report for the University Libraries

(continues on page 300)

on Spies," *The New York Times*, September 18, 1987, sec. N.Y. / Region, www.nytimes.com/1987/09/18/nyregion/fbi-in-new-york-asks-librarians-aid-in-reporting-on-spies.html; Dustin Volz, "IBM Urged to Avoid Working on 'Extreme Vetting' of U.S. Immigrants," *Reuters*, November 16, 2017, <https://www.reuters.com/article/us-ibm-immigration/rights-groups-pressure-ibm-to-renounce-interest-in-trumps-extreme-vetting-idUSKBN1DG1VT>.

16. "2018 SPARC Program Plan," SPARC, accessed April 14, 2018, <https://sparcopen.org/who-we-are/program-plan/>; David W. Lewis, "The 2.5% Commitment," Working Paper, September 11, 2017, <https://doi.org/10.7912/>

C2JD29; Leslie Chan, "Transforming Global Knowledge Exchange: Reframing the Roles of the Libraries," last modified August 9, 2010, <https://www.slideshare.net/lesliechan/chan-pre-ifla2010>; "Next Generation Repositories," COAR, accessed April 14, 2018, <https://www.coar-repositories.org/activities/advocacy-leadership/working-group-next-generation-repositories/>.

17. "Gale Digital Scholar Lab," GALE, accessed April 18, 2018, <https://www.gale.com/primary-sources/digital-scholarship/>; "Springer Nature Research Data Support," *Springer Nature*, accessed April 18, 2018, <https://www.springernature.com/gp/authors/research-data-policy/>. *ZZ*

(“2018 top trends . . . ” continues from page 293)

at Virginia Tech,” Report, Virginia Tech, June 22, 2017, <http://bit.ly/2FccOwu>.

45. Alexandre Ribas Semeler, Adilson Luiz Pinto, and Helen Beatriz Frota Rozados, "Data science in data Librarianship: Core competencies of a Data Librarian," *Journal of Librarianship and Information Science* (November 2017): 1–10.

46. Andrew Weiss, *Big Data Shocks: An Introduction to Big Data for Librarians and Information Professionals* (London: Rowman and Littlefield, 2018).

47. Michael Zeoli, "Trends in Academic Library Acquisitions," presentation at the Charlotte Initiative Symposium, held at the Charleston Conference, November 6–10, 2017.

48. Stephanie J. Spratt, Gabrielle Wiersma, Rhonda Glazier, and Denise Pan, "Exploring the Evidence in Evidence-Based Acquisition," *The Serials Librarian* 72, nos. 1-4 (2017): 183–89.

49. David W. Lewis, "The 2.5% Commitment," IUPUI Scholar Works, September 11, 2017, <http://hdl.handle.net/1805/14063>.

50. David W. Lewis, Lori Goetsch, Diane Graves, and Mike Roy, "Funding Community Controlled Open Infrastructure for Scholarly Communication," *College and Research Libraries News* 79, no. 3 (March 2018): 133–36.

51. Lisa Macklin and Chris Palazzolo, "Open Access Collection Development Policy at Emory," ASERL Webinar, June 6, 2016, <http://bit.ly/2FkmN6p>.

52. Kristin Antelman, "Leveraging the Growth of Open Access in Library Collection Decision-Making," <http://bit.ly/2FOpICk>.

53. "Austrian Open Access Agreement with Publisher Wiley," accessed April 8, 2018, <http://bit.ly/2tdgfSg>.

54. See https://www.hathitrust.org/shared_print_program.

55. "The Future of the Academic Library Print Collection: A Space for Engagement," Arizona State University White Paper, <http://bit.ly/2Fa50vx>.

56. Lisa M. Rose-Wiles and John P. Irwin, "An Old Horse Revised?: In-House Use of Print Books at Seton Hall University," *The Journal of Academic Librarianship* 42, no. 3 (2016): 207–2014. *ZZ*