

Purcell reviews the technical standards and their importance without making specific recommendations. Particularly helpful is his “technical elements of digitization” on page 118 that entail the four elements: creation, inputs, repository, and output along with figure 7.3. This reviewer found his explanation an easy to understand, simplified version of the OAIS Reference Model.¹ However, Purcell does not specifically name the model as a resource for the reader. The OAIS reference model, immensely influential in digital preservation, outlines a framework of concepts and functions needed for the preservation of digital objects. The reference model is a recommended component for anyone involved in the management of digital programs and should be mentioned as an important resource for digital preservation in this chapter.

Part three consists of eight exercises pertaining to digital library planning and relates to topics covered in the prior chapters. These exercises encourage the reader to engage thoughtfully to build a vision and create a variety of plans and preparational lists that support the creation and development of a digital program. The exercises are followed by a bibliography and list of relevant websites for those interested in learning about best practices and other institutions involved in the world of digital collections.

Scanning a collection of images is not all it takes to create a digital program. The author fulfills his goal to outline the varied and faceted aspects necessary to run and maintain a digital program or project with attention to the varieties of necessary metadata, and standards, without making specific recommendations. Other necessary aspects include a preservation plan, consideration of technological needs or limitations, followed by buy-in, long-term support, outreach, and integrating the day-to-day processes into the daily workflow of the department. Overall, Purcell has provided a detailed, thorough, and thoughtful step-by-step process for beginning practitioners who are interested in creating, managing, and sustaining digital archives programs. This reviewer highly recommends this text for practitioners who need guidance and those who can use a refresher. Both are bound to pick up new ideas to enhance their digital program management skills.—*Meghan Bailey (meghan.bailey@umb.edu), University of Massachusetts Boston, Boston, Massachusetts*

References

1. Consultative Committee for Space Data Systems - CCSDS. *Reference Model for an Open Archival Information System (OAIS): Recommended practice, Issue 2. CCSDS 650.0-M-2. Magenta Book* (Washington, DC: CCSDS, June 2012), <http://urlib.net/sid.inpe.br/mtc-m18/2012/07.12.18.08>.

Managing Metadata in Web-scale Discovery Systems. Ed. Louise F. Spiteri. London: Facet Publishing, 2016. 197 p. \$85.00 paperback (ISBN 978-1-78330-069-3); hardback (ISBN 978-1-78330-116-4); e-book (ISBN 978-1-78330-154-6).

Managing metadata in libraries today presents challenges to information professionals concerned with quality control, providing relevant search results, and taming the volume of items available for access in a web-scale discovery system. No longer are libraries limited to the collections they “own.” Catalogers and metadata professionals now assume the responsibility of providing access to millions of resources, often with limitations on who can access that resource. Relationships with vendors provide opportunities to help manage the gargantuan scale of information. Of course those opportunities come with their own problems as relationships among vendors can be contentious, leaving metadata managers to figure out quality control on a grand scale. In addition to this politicized information landscape, new ways of managing and creating metadata are emerging, leaving information professionals with the task of managing multiple schema in different formats. The essays in *Managing Metadata in Web-scale Discovery Systems* seek to address issues in managing the large scale of information overwhelming catalogers today, with potential solutions for taming the beast of exponentially increasing data.

The book begins with an essay on sharing metadata by Marshall Breeding, Angela Kroeger, and Heather Moulaison Sandy. The authors provide an overview of how discovery works in libraries compared to the historical aspects of cataloging. The current landscape of discovery services offered by the top vendors in our profession, such as ProQuest and EBSCO, are discussed in length. When comparing these new discovery tools with traditional library catalogs, some of the features of discovery are problematic to quality control. The size and scope of a centralized index means librarians must work closely and diligently with vendors to provide the best data with many disparate metadata schema, which can sometimes be inoperable if not properly encoded or mapped. Other problems librarians encounter have more to do with volatile vendor relationships, resulting in having to choose a system that works best to provide access to local subscriptions. Understanding the system in which a librarian works is also crucial to providing the best access in these new systems. Breeding, et. al. leaves us with the task of focusing efforts “on improving shared metadata, rather than on making local enhancements that benefit only a single catalogue” (42). The end goal of improving interoperability becomes increasingly important as more and more data from outside the library becomes available.

In “Managing linked open data across discovery systems,” Ali Shiri and Danoosh Davoodi address the

responsibility of libraries to open their resources as linked data. They discuss the benefits, as these expand opportunities for libraries to enhance the findability of their resources. The authors address opportunities for development of linked data through the advancement of projects such as BIBFRAME. Though they do not address how librarians will educate themselves and implement linked data in their own libraries, there are examples provided in the library world to follow as developments in linked data unfold.

A common theme in many of the chapters touches on quality control in library discovery systems, or lack thereof. Christine DeZelar-Tiedman discusses the changes in the management of resources and what those mean in discovery systems, addressing issues such as granularity of description for search and access. She acknowledges the daunting task of managing licensed resources as a balancing act between our use of time and our role as stewards of information resources. Aaron Tay addresses the sheer volume of content in our discovery systems, asking whether providing access to everything risks quality of the returned results. Trying to fill indexes with as much content as possible and relying on relevancy ranking is problematic for libraries trying to maintain the content and the end-user experience. He provides a thoughtful approach as to how libraries will maintain or give up control of resources in the future, and the effect that has on searching. Tay argues that librarians should be thoughtful about the search experience in an index as large as a discovery system. Consider whether users will benefit from the vast amounts of owned and unowned collections a library offers, especially when relying on search results that favor high results over quality ones. In “Managing outsourced metadata in discovery systems,” Laurel Tarulli grapples with a healthy conversation about the lack of transparency in discovery systems metadata. The ultimate loser in the fight for transparency with outsourced metadata is the end user. Librarians will have to continue to fight harder for standardized metadata and work closely with vendors to find a balance that benefits their users.

The final chapter, written by editor Louise F. Spiteri, argues for the importance of user-generated metadata. She discusses the social features of discovery systems and the benefits to enhancement of bibliographic information with user-generated content. Her particular focus is on enhancing subject access with social tagging, highlighting the benefits to such library services as readers’ advisory.

While the book aims to address issues of quality access of metadata within web-scale discovery systems for all types of librarians, it is most appropriate for academic professionals already managing, or considering management of, data within these systems. There are redundant histories of library data management sprinkled throughout each

chapter, which Spiteri addresses in the introduction as intentional. The chapters can therefore be read individually or as a whole; however, there lacks an overall cohesiveness when taken in full. The book has a nice balance of the practical, describing challenges of managing metadata in web-scale discovery systems, and the theoretical, encouraging libraries to explore those “what if” moments in discovery systems. Important conversations about the quality of data being offered in discovery systems take place. As user experience and the search process becomes more and more relevant, the topics in *Managing Metadata in Web-scale Discovery Systems* become critical to librarians who manage large volumes of data in discovery systems.—*Brianne Hagen (brianne.hagen@humboldt.edu), Humboldt State University, Arcata, California*

Linked Data for Cultural Heritage (An ALCTS Monograph). Eds. Ed Jones and Michele Seikel. Chicago: ALA Editions, 2016. 134p. \$75.00 softcover (ISBN 978-0-8389-1439-7).

While linked data has been on the horizon for librarians, archivists, and other curators of cultural memory nearly since it was first expounded fifteen years ago, for many it has remained an abstraction.¹ Jones and Seikel present six contributions by those engaged in implementing linked data projects across the cultural heritage landscape, seeking to bridge the gap between the idea of linked data and concrete applications that can be adopted at a local level. The focus is not on the technology of linked data, though each of the chapters discuss some technical issues relevant to the projects, but rather on how the technology can overcome the limits of earlier cultural metadata encoding systems (e.g., MARC) and what new challenges and opportunities it presents. By presenting studies of real-world implementations of linked data, this volume effectively communicates the progress made and a sense of what the technology could do for a local collection.

Again, the collection is not a primer on linked data, or a technical manual or a guide to implementation, but each contribution does discuss some technical aspects. The introduction provides a brief overview of the basic structure of linked data, and individual chapters develop particular issues relevant to the projects described; these descriptions of the structure and syntax of linked data are sufficient to follow how the projects used them, but readers without previous familiarity with the topic may wish to review an introduction to linked data, such as Weese and Segal.² Again, while the synopses of the individual projects discuss challenges met, the goal of the work is not to provide a roadmap to exposing your data as linked data, such as is provided by Hyvönen or Hooland and Verborgh.³ Rather, the intent is to highlight the potentials and challenges of linked data for cultural memory