

with the IFLA conferences in Seoul, South Korea, in 2006, and Durban, South Africa, in 2007. The Frankfurt meeting, which included representatives of all the European as well as the Anglo-American cataloging traditions, laid the foundation for the other meetings by comparing various cataloging codes and drafting the initial statement of principles. This seems only appropriate, as Europe and North America have the longest and most-developed cataloging traditions. It seems likely that the other regional meetings will introduce some refinements to the work done in Frankfurt, but no major breaks with the principles developed there. It is unclear what kind of input the experts from the earlier meetings will have concerning changes recommended by the later meetings.—*John Hostage* (hostage@law.harvard.edu), *Harvard Law School, Cambridge, Mass.*

### Reference

1. Statement of International Cataloguing Principles, "Final" Draft Based on Responses through Dec. 2004 showing further recommended changes from Buenos Aires August 2004 and Cairo Dec. 2005, Apr. 3, 2006, draft, [www.ddb.de/standardisierung/afs/imeicc\\_papers.htm](http://www.ddb.de/standardisierung/afs/imeicc_papers.htm) (accessed July 9, 2006).

***Metadata in Practice.*** By Diane I. Hillmann and Elaine L. Westbrook. Chicago: ALA, 2004. 285 p. \$50 (\$45 ALA members) paper (ISBN 0-8389-0882-9).

*Metadata in Practice* is a compilation of essays that describe the real-world applications of metadata to digital projects across a spectrum of cultural heritage and library institutions of various sizes and discuss the future development metadata. The editors, Diane I. Hillmann and Elaine L. Westbrook, both of Cornell University Library, have brought together discussions of the project-planning and implementations stages of nearly a dozen disparate projects to organize and increase the accessibility of digital and digitized materials. *Metadata in Practice* is organized into two main sections: "Part I: Project-Based Implementations," which contains eleven chapters describing eleven separate projects; and "Part II: The Future of Metadata Development and Practice," which contains five chapters describe various theoretical aspects of the future of metadata. These sections are preceded by a thoughtful and well-written introduction by the editors.

In their very thorough introduction, the editors provide both a narrative and a synthesis of the major points, or themes, discussed throughout the upcoming chapters. They state that *Metadata in Practice* is an attempt "to cover a broad range of communities and metadata formats" (xv), which they have accomplished quite nicely. While the stated aim of the book is to aid "wanderers in the [metadata] wilderness" (xv), it is not intended to replace Priscilla Caplan's *Metadata Fundamentals for All Librarians*, which is a survey

of metadata formats, standards and definitions.<sup>1</sup> *Metadata in Practice* complements Caplan's work and provides case studies on successful digital- and digitized-resource projects; addressing metadata decisions made by project planners and implementers.

However, it does not consider the history or development of metadata standards or the technical aspects of data retrieval. A useful guide for those interested in the history and development of several metadata standards is David Haynes's *Metadata for Information Management and Retrieval*.<sup>2</sup> Haynes's text also has some case-study-like examples from implemented projects, but they are not as comprehensive as those in *Metadata in Practice*. Approximately two-thirds of *Metadata in Practice* discusses specific, project-related applications of metadata standards, schema, and thesauri, as well as (and just as importantly) the decision-making processes leading up to the implementation of those standards for those projects. This aspect of the project description is what I found to be the among the greatest strengths of *Metadata in Practice*.

Another important aspect of *Metadata in Practice* is that the editors succinctly delineate the questions and problems facing all metadata-related project planners, such as:

- Where do I start?
- What is the current standard for [organizing, describing, creating digital versions, recording administrative or preservation metadata]?
- How can I recognize when the terminology changes from document to document?

After discussing the pervasive questions of project planners, the editors identify three major themes from the "lessons learned" portions of each chapter in section I of the book: (1) change happens—constantly, (2) stick to standards as much as possible, and (3) try to anticipate future use of your data (xvi). Although *Metadata in Practice* as a whole may seem to be disjointed because the reader is required to shift a number of times, it can be seen as an important resource for digital resource project planners.

The projects described in part I span those created in a consortial environment to those from single institutions, while the project implementation descriptions discuss such varied schema as Dublin Core (DC), the Visual Resources Association Core Categories, Machine Readable Cataloging, and Resource Description Framework as well as home-grown metadata schema. The chapters not only describe a variety of metadata standards and tools, but the topics of the diverse projects include educational materials, image collections, citation metadata, and geographic information systems. The authors of all of the chapters emphasize the importance of following the established standards and creating documentation. Several of them stress the importance

of remaining up-to-date on the standards and recognizing the discrepancy between emerging standards and those that are established. Many of the chapters include descriptions of efforts to address Open Archives Initiative-Protocol for Metadata Harvesting (OAI-PMH). Simply, OAI-PMH is a framework that enables metadata sharing, which is frequently a requirement of grant-funded, archival projects.

The most important issues discussed in part II are found in chapter 15, "The Continuum of Metadata Quality: Defining, Expressing, Exploiting," by Thomas R. Bruce and Diane I. Hillmann, and in chapter 16, "Metadata Futures: Steps toward Semantic Interoperability," by Rachel Heery. In chapter 15, Bruce and Hillmann discuss the implications of approaching questions of quality, quality measures and metrics, defining levels of quality for metadata, and improving metadata quality both in the short and long terms. The chapter usefully includes a chart that provides a rubric of quality measures, quality criteria, and compliance indicators that can be employed when assessing metadata quality for a wide range of projects, domains, media types, and funding levels. In chapter 16, Heery emphasizes the need to "future-proof investment in systems" (257) in light of the rapid change in technologies, but focuses primarily on the developments regarding the Semantic Web and how improvements in interoperability and the deployment of technology could support its realization.

Overall, *Metadata in Practice* both provides guidance in planning digital resource projects and interesting points for future consideration. The editors did a fine job of bringing together discussions of seemingly unrelated projects under one framework and highlighting the ways in which the decision-making processes during planning were similar. Many of the essays provide assistance in the planning and implementation processes, so, even when the projects might vary greatly, *Metadata in Practice* provides a useful guide.—*Jacqueline Samples (jacquie\_samples@ncsu.edu), North Carolina State University Libraries, Raleigh*

### References

1. Priscilla Caplan, *Metadata Fundamentals for All Librarians* (Chicago: ALA, 2003).
2. David Haynes, *Metadata for Information Management and Retrieval* (London: Facet Pub., 2004).

***Metadata: A Cataloger's Primer***. Ed. Richard P. Smiraglia. New York: Haworth, 2005. 303p. \$59.95 cloth (ISBN 978-0-7890-2800-6/0-7890-2800-X); \$39.95 paper (ISBN 978-0-7890-2301-3/0-7890-2301-8). Published simultaneously as *Cataloging & Classification Quarterly* 40, no. 3/4.

Even though the term "metadata" has been batted around now for ten years, it still causes confusion. Even catalogers, who basically invented the practice, do not always understand the full meaning of the term, nor how

their work falls into its definition. Therefore, yet another book on metadata for librarians is warranted in this field. The subtitle of this book clearly defines its audience, an audience that would do well to read these chapters if they are not already working with metadata projects outside of the traditional bibliographic realm.

Priscilla Caplan's *Metadata Fundamentals for All Librarians* is a good overview, with enough detail to give the reader a strong sense of the metadata field.<sup>1</sup> This book's more-specific purpose centers on the craft of metadata application (part II in particular). It also offers a rather rigorous foundation in part I, which introduces readers to metadata in the "bibliographic sphere" (14). While the introduction indicates that chapters will pair metadata and cataloging throughout the text, I found that depends on the writer and topic. Each chapter is written by a professional in a specific area, and naturally the context, as well as discussion of cataloging, varies. It was easier for me to experience each chapter individually and let it flow based on its own worldview. The authors are very good at defining the context and terms at the opening of each chapter. This approach makes it easy to read the chapters out of order, according to interest level, rather than strictly sequentially.

Diane Hillmann's and Elaine Westbrook's *Metadata in Practice* also is complemented by this volume.<sup>2</sup> As a book of reports and case studies, it offers good background in a practical sense. *Metadata: A Cataloger's Primer*, by contrast, gives a greater understanding to such studies by showing the intellectual foundations behind their development. The introduction, for example, discusses metalanguages, such as SGML and HTML, defining such standardized markup languages within the world of bibliographic description.

Part I, "Intellectual Foundations," covers a favorite topic of mine in Jane Greenberg's opening chapter. There is a philosophical basis to metadata and controlled values, particularly in controlled vocabularies for subject terms and keywords. Thesauri and classification themes owe a debt to the field of epistemology (theory of knowledge and *Weltanschauungen*) that should be emphasized and studied, at least briefly, for a well-rounded understanding of how such systems are developed. That this volume can include this concept, in an accessible manner, speaks well for its intellectual rigor.

The second chapter in this part meets the introductory goal of connecting metadata and bibliographic control with a coherent discussion of comparisons and contrasts. As with most chapters, the author sets out definitions clearly and succinctly. Interoperability is the emphasis in the road to converging these two concepts and disciplines.

Just as the first chapter cites a philosophical basis for metadata scheme elements, the third chapter draws from structuralist literary theory. "Metadata, Metaphor, and Metonymy" delves into the types of metadata, including