

immune; in fact, it can illustrate how quickly some things change. Jean Hiron of the Library of Congress and Les Hawkins of the National Serials Data Program presented one of the first discussions of the proposed changes in the definition of “seriality” at NASIG in 1998. The proposal moved forward quickly and is now well known and accepted in the serials community. The 1999 NASIG workshop, however, still presents a succinct and clear summary of the proposal. Similarly, the preconference on metadata might seem less relevant now that there have been many articles and larger workshops on the topic, but the NASIG report is still a good, straightforward introduction to metadata.

The special feature of the annual NASIG proceedings, as opposed to the rest of the serial literature, is its careful blend of theory and practice. NASIG’s program planning committee has perfected the mixture of the two, while maintaining the generally high quality of the presentations. This makes the NASIG proceedings one of the few library science annuals actually worth reading every year.—*Bob Persing (persing@pobox.upenn.edu), University of Pennsylvania Libraries, Philadelphia*

From Gutenberg to the Global Information Infrastructure: Access to Information in the Networked World. By Christine L. Borgman. Digital Libraries and Electronic Publishing. Cambridge, Mass.: The MIT Pr., 2000. 324p. \$42 (ISBN 0-262-02473-X).

An outpouring of titles about the “D” word—digital libraries, digital publishing, digital technologies, digitizing for preservation, digital materials, etc.—gluts the professional literature. Readers have a right to ask why we need this book too, which is about digital libraries even if it doesn’t use the “D” word in its title. The answer is twofold: first, it is eminently readable; and, second, it takes a step back from

the fray, aiming to assess the larger picture into which all the large and small individual digital initiatives might fit. *From Gutenberg to the Global Information Infrastructure* pulls together what we know now about the world of networked information systems with what research and intuition lead us to anticipate in the future. The author attempts to integrate what we know about technology, human behavior, and policy regarding access to information.

Borgman begins with definitions. First, she defines digital libraries as both “a set of electronic resources and associated technical capabilities for creating, searching, and using information” and an entity “constructed—collected and organized—by [and for] a community of users” (42). Then, she seeks to enlarge the reader’s vision still further as well as to match it with the complexity of the real world, stating, “I propose ‘global digital library’ as a construct to encompass digital libraries that are connected to, and accessible through, a global information infrastructure. A global digital library would not be a single entity, nor would it be controlled by any single organization” (52). The words are straightforward and clear; the ideas are compelling and reflect with ease the diversity—some might say chaos—that now characterizes our professional environment.

In the first four chapters, Borgman defines and explains the basic elements of the GII (Global Information Infrastructure), and explores relationships among them: chapter 1, “The Premise and the Promise of a Global Information Infrastructure”; chapter 2, “Is It Digital or Is It a Library? Digital Libraries and Information Infrastructure”; chapter 3, “Access to Information”; and chapter 4, “Books, Bytes, and Behavior.” As their titles suggest, chapter 1 defines what is meant by GII and explains how it might be expected to function; chapter 2 describes digital

libraries as both document collections (using “document” generically) and systems in which users interact with the documents, much like libraries are both discrete collections of materials and systems in which users interact with those materials; chapter 3 covers familiar territory about methods of providing access to information, including the latest metadata schemas; and chapter 4, on electronic publishing, technology, and institutions, examines the life cycle of information and how developing technologies and society’s institutions affect it.

Chapters 5 and 6, “Why Are Digital Libraries Hard to Use?” and “Making Digital Libraries Easier to Use,” contain the central core of ideas for which the first four chapters prepare the reader. Here Borgman lays out her principal theses. Digital libraries were not easy to use in the past; but, now, design must aim for ease of use. She says, “The audience for digital libraries has changed radically since the early days of information retrieval, from expert search intermediaries to ‘every citizen’ who has access to the network. The next generation of digital libraries must serve a large and diverse community and provide a large and diverse collection of information resources” (141). Research and development can do more than address today’s problems. Chapter 7 outlines “a research agenda for making the next generation of digital libraries better suited to people’s information-related behavior in work, education, and leisure contexts” (166–67). Four trends provide the skeleton around which research should develop: (1) availability of full-text databases, not just bibliographic data, and (2) linked, not stand-alone, systems; (3) systems that require users to navigate, not just perform simple searches; and (4) concentrating on group processes and social context, not merely the individual user’s search behavior. Borgman sees a “fundamental challenge of balancing the need for

tailoring digital libraries to a community of users with the need to construct a vast, interoperable, global digital library" (168).

The final three chapters suggest ways of meeting the challenges of the future, including the possible implementation of the GII. Chapter 7, "Whither, or Wither, Libraries?" is an examination of the issues for libraries, and chapter 8, "Acting Locally, Thinking Globally," is a similar discussion of successful, contributing digital library initiatives. In chapter 9, "Toward a Global Digital Library: Progress and Prospects," Borgman speculates on what may lie ahead, concluding, "Among the greatest challenges faced in realizing a GII is to scale the present-day Internet to a much larger, more complex, and more diverse information infrastructure that will support many more users" (267). That is a sobering thought for readers who believed the Internet was too much to handle.

More than forty pages of references document the author's sources and furnish a bibliography of relevant material for the reader interested in deeper exploration of these themes. The listing is international and draws on the literatures of several disciplines, including computers, human behavior, social science, telecommunications, and more, in addition to the familiar areas of library and information science. While welcome, it lacks the usual formatting, such as italicized titles or indented lines, and is hard to read and use. The book closes with a detailed index.

From Gutenberg to the Global Information Structure is highly recommended to all its potential readers—librarians and information specialists, technologists, network specialists, policymakers, scholars, publishers, and other information industrialists. Borgman offers a well-focused assessment of likely areas of contention and problems in the evolution of a GII, and wisely eschews giv-

ing any easy answers. Instead, she asks that, while we may not know exactly where we are going, we pay attention to what we already have learned about where we are, and use it in deciding how we might set about achieving new, productive results. That shouldn't be too much to ask.—*Sheila S. Intner (shemat@aol.com), Simmons College Graduate School of Library and Information Science, Boston*

The Future of Cataloging: Insights from the Lubetzky Symposium, April 18, 1998, University of California, Los Angeles. Ed. Tschera Harkness Connell and Robert L. Maxwell. Chicago: ALA, 2000. 184p. \$65 (ISBN 0-8389-0778-4). LC99-87247.

This slim volume, like Gaul, is divided into three parts: "The History of Cataloging and the Contributions of Seymour Lubetzky," "Current Research in Cataloging," and "The Future of Cataloging." A small number of pages is devoted to expected and appropriate sentiments expressed for the honoree, who was about to celebrate his one-hundredth birthday at the time the symposium was held. These include a photograph of Lubetzky receiving an honorary degree from the University of California at Los Angeles (UCLA), excerpts from letters pertaining to his career, commentaries on his works, a partial bibliography of his publications, and a clever poem by one of his colleagues. Fifteen authors, including the honoree, contributed fourteen papers (the first is a collaboration of Lubetzky and Elaine Svenonius). One could easily anticipate the authors represented here, since most are associated with UCLA: Marcia Bates, Michael Carpenter (a UCLA Ph.D., now teaching at Louisiana State University), Michèle Cloonan, Sara Shatford Layne, Gregory Leazer, Svenonius, Barbara Tillett (also a UCLA Ph.D., now director for the Integrated Library System at the Library of Congress),

and Martha Yee. The rest are closely associated with cataloging or Lubetzky: John Byrum, Allyson Carlyle, Maurice Freedman, Michael Gorman, Michael Malinconico, and Margaret Maxwell. Together, they cover a broad spectrum, though not all, of the theoretical territory in the world of cataloging.

Part I consists of three chapters. The papers focus on Lubetzky and the origins of Anglo-American cataloging: "The Vicissitudes of Ideology and Technology in Anglo-American Cataloging since Panizzi" by Lubetzky and Svenonius; "Seymour Lubetzky, Man of Principle" by Gorman; and "Musings on Cataloging and Information Science" by Cloonan. Lubetzky and Svenonius highlight the two elements guiding our cataloging traditions—the objectives of the catalog, which Lubetzky reinterpreted, based on the turn-of-the-century statement by Charles A. Cutter, and technology. Gorman, as always, provides readers with a literary delight as well as a piece worth reading for professional reasons. He bridges the gap between Lubetzky's adherence to the principle of authorship and its misinterpretation as being the same as main entry. The book is worth buying and reading for this chapter alone. Cloonan discusses the ideas of Vannevar Bush and the similarities and differences from Lubetzky's work in a chapter that opens the way to deeper exploration of the world of digital information, expanded in subsequent papers in the book.

Part II contains five chapters: "Modeling Relevance in Art History" by Layne; "Creating Efficient and Systematic Catalogs" by Carlyle; "Main and Added Entries" by Carpenter; "Lubetzky's Work Principle" by Yee; and "Applying the Concept of the Work to New Environments" by Leazer. Although all five illuminate important aspects of research in areas in which Lubetzky pioneered study, Yee's paper is by far the most intriguing. After giving a