

case, software choice, and so on. The final section is on usability, which makes sense since such testing could be done after the modeling and creation of a site's information architecture. Nonetheless, the editors explain the reader is not expected to be read the book in order, but rather each section as needed.

On behalf of the professional indexing community, I am a little embarrassed about the index to this book, created by Indexing Specialists (UK) Ltd. While it is usable, it has lacks: not enough see also references (none, actually), some scattering of terms (an entry for "distributed citizen's information systems" but no connection to the single locator for "information systems"), and odd choices for some entry terms. Having indexed books at the tail end of the publishing cycle, I know how hard it is to get the final editing done. Still, it would have improved the user experience (which is what Part 4 is all about) to have an index with a more cohesive structure and greater integrity.

There is no overall bibliography, as the editors felt anything they listed would no longer be useful by the time of publication. I find this explanation specious; using that reasoning, would this book be useful by the time of publication? However, several of the chapter contributors have included bibliographical references so the reader has somewhere to go after digesting the material.

The chapters themselves are packed with methodologies and practical approaches to the individual issues they aim to elucidate. Information modeling is an underutilized initiation of Web site architecture, and the writers on this topic provide well-documented definitions and visualizations of the process. Following the advice in these chapters will go a long way to assuring a successful build-out of the information architecture.

The chapters on software are interesting in that they don't (can't,

really) talk much about actual software. It changes too quickly, and individual site needs vary too greatly. The authors provide instead a way of looking at software needs and assessing available solutions. It is gratifying to see the business case brought up in this section—again, an underused approach to not only architecting a site, but re-architecting it in response to change. The chapter on software vendors makes an important point, at least from a government Web site perspective, about the need to access isolated silos of information in a usable way. (Perhaps "silos" is a Midwestern term; the author calls them "stovepipes.") This chapter borders on project management, which is not otherwise addressed in the book.

Part 3 is titled "Managing Metadata," but runs the gamut from interoperability to XML to topic maps to taxonomies, taking side trips to define related such terms as controlled vocabularies, thesauri, even ontologies. Chapter 9 makes an important point that could be the rallying cry for this entire section, "Standards are the key" (148). This section doesn't have the cohesiveness of the other parts of the book, but it certainly displays valuable understanding of the issues.

The final section, on user interface, discusses some aspects of usability testing. It is a rather brief introduction to a topic that could truly run throughout the information architecture process. Of the three chapters in this section, the second is a rather fey interview and the third a case study. I would like to have seen a concluding chapter that summarizes and brings together the many threads presented in the book.

Information Architecture provides a needed approach to the many topic areas encompassed by this new discipline. That it was written by practicing experts in the field makes it especially worthwhile. The editors and authors have given us a lot to digest in a way that is useful, manageable, and applicable.—Eileen Quam (eileen.

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Managing Preservation for Libraries and Archives. Ed. John Feather. Burlington, Vt.: Ashgate Pub., 2004. 189p. \$79.95 Hardcover (ISBN 0-7546-0705-4).

This book consists of eight essays written by an international group of contributors and covers major current preservation management issues. As stated by John Feather in the preface, the topics range from state-of-the-art developments in the field to well-proven methods of preserving traditional library materials. That said, a full three chapters are dedicated to digital preservation, understandably giving this newer and rapidly changing area more consideration than other subjects. As books about library preservation tend to be published few and far between, this volume is a welcome addition to the available literature.

Feather opens the book with an introductory chapter, laying a foundation for the rest of the book by providing an overview of the underlying ideals of preservation, giving the reader some background of the field, and then moving on to creating preservation policies. He discusses the philosophy of preserving cultural and documentary heritage and writes that preservation is the means by which documentary heritage is passed on to future generations. He explains the often-conflicting principles of artifactual value verses intellectual content and the search for balance between current and future use. He touches on differing levels of preservation commitment and the issues surrounding selection for preservation. Feather then covers some obstacles to preservation and discusses principles of preservation policies for libraries and archives.

The second chapter is the first that focuses on various aspects of digital preservation. Colin Webb gives a straightforward overview of the challenges involved in digital preservation.

He begins with a relatively simple definition of digital information and then proceeds to a discussion of how digital information affects libraries and archives. Webb identifies threats to digital information and explains the need for proactive preservation, listing the two fundamental tasks of digital preservation as keeping the information safe and keeping the information accessible. He states that we must decide on the significant properties of digital information that are to be preserved. Next follows a discussion of the numerous challenges to digital preservation and some responses to those challenges. At the end of the chapter, Webb lists some useful resources for finding additional information.

Following this introduction to digital preservation, Majilis Bremer-Laamanen and Jani Stenvall delve into the specifics of selection for digital preservation. The authors take a national point of view in this chapter, focusing on how cultural institutions can collaborate to preserve digital cultural heritage. They state the goal should be to combine digital efforts into systematic programs, which will require cooperation on national and international levels. They write that digital preservation selection decisions can begin by following guidelines developed for the rest of the collection and suggest some important further considerations for digital selection criteria. Bremer-Laamanen and Stenvall also discuss implementation on national and international levels, including developing a coordinated effort among heritage institutions. They assert that improvements in technical infrastructure and funding are essential to meet the goal of national and international systematic programs.

The topic of Adrienne Muir's essay is long-term management of digital information, a broad subject covered nicely in the fourth chapter. Muir begins by emphasizing the need for ongoing intervention to keep digi-

tal objects accessible and usable over time. She discusses the issue of access versus ownership and copyright as well as the resulting questions of who is responsible for preserving digital material and how to proceed, given the confines of copyright laws. She also examines the problem of discovery and acquisition of material and the role legal deposit agreements can play in ensuring material is not lost. Muir looks at the challenge of maintaining both authenticity and integrity over time and explains why preservation decisions must be made at the time of selection of digital material. She discusses the Open Archival Information System (OAIS) model and its preservation planning component. Muir concludes that metadata is the key to long-term management of digital objects.

The next chapter returns to the more traditional topic of preserving paper. René Teygeler discusses recent advances in methods and technology, giving conservators and preservation librarians a review of the last several years. He begins with the switch in the early 1990s from preserving individual artifacts to large-scale national and international preservation activities due to the acidic paper crisis. He recounts recent studies of paper decay and resulting advances, analyzes the progress in the search for non-destructive paper testing, and provides an update on studies of artificial and natural paper aging. He also reviews the improvements in the quality of paper used by publishers, writes about studies in ink corrosion and paper discolorations, and describes recent findings on the effects of air pollutants on paper. Finally Teygeler discusses various treatments for pest control, ink corrosion, and advances in laser cleaning and paper splitting before moving on to storage conditions, including climate, lighting, and storage materials.

Dietrich Schuller provides a useful examination of the full range of sound recordings and methods of pre-

serving them. He begins by explaining why sound recordings, even more so than other audiovisual media, are inherently more vulnerable to damage and corruption. Schuller examines the susceptibility of a number of media to material degradation and then gives recommendations for storage and handling of the same media. He includes cylinders, coarse groove discs (shellacs), instantaneous discs, vinyl records, magnetic tape, and optical discs. Schuller also discusses hardware obsolescence and preservation strategies, such as multiple copies and migration. He ends the essay with a discussion of Digital Mass Storage Systems and how they will affect the preservation of sound recordings.

Next, Graham Matthews categorizes and lists a wide variety of preservation resources relevant to the topic of preservation management, a practical addition to the book. He begins by listing more general sources categorized into textbooks, bibliographies, periodicals, and Web sites. He then covers more specific sources that include the topics of collections care, audiovisual materials, surrogacy and substitution, digital materials, disaster management, security, preservation needs assessment, preservation policy, research, and education and training. Matthews includes commentary that places the resources in context. The chapter is an in-depth and valuable bibliography of preservation literature.

The final chapter is an insightful look into the future of preservation. Marie-Thérèse Varlamoff briefly reviews the history of preservation and the current state of the field in different parts of the world. She predicts that in the future the preservation world will become more flexible as new technologies emerge, cooperation will become essential to the success of preservation, and that sharing responsibilities, equipment, and storage facilities will become more common. She writes that private funding will become more important

for public institutions. Varlamoff also looks at what we will preserve in the future, how we will preserve those materials, and who will preserve them and where.

Overall, this book is useful to both veterans of preservation and those new to the field. The essays included strike a good balance between theory and practice. Readers with some prior knowledge will benefit more from a couple of the chapters, including Teygeler's essay about paper preservation, which has a more technical tone to it than most of the essays. Other chapters, such as that by Schuller on sound recordings, are straightforward enough to require no prior knowledge. The collection gives a good overview of the issues facing preservation today and where the field is headed.—*Mary Ellen Starmer (starmer@utk.edu), University of Tennessee, Knoxville*

Education for Cataloging and the Organization of Information: Pitfalls and the Pendulum. Ed. by Janet Swan Hill. Binghamton, N.Y.: Haworth, 2002. 398p. \$79.95 cloth (ISBN 0-7890-2028-9); \$49.95 paper (ISBN 0-7890-2029-7). Published simultaneously as *Cataloging & Classification Quarterly* 34, nos. 1/2 and 3.

This is the third special issue of *Cataloging & Classification Quarterly* (CCQ) devoted to cataloging and technical services education, the previous two having appeared in 1986 and 1993.¹ Chronologically between them can be found two other collections of essays on training and education for cataloging, both published by Greenwood Press and edited by the present volume's editor and one of its contributors.²

Time for an update, it would appear, especially since closer examination reveals that only the 1986 CCQ special issue can be said to claim the same topical scope as the present volume. The 1993 collection covers

all areas of technical services with no unusual emphasis on cataloging, while the books from Greenwood focus at least as much on recruiting and training as on graduate-level education. Even the 1986 collection concerns itself much more with on-the-job training than the present volume. Consequently there is an intensity of focus that, combined with a size twice that of the 1986 collection, allows a wide-ranging and in-depth look at the issues facing cataloging education.

Education for Cataloging and the Organization of Information is helpfully organized under four rubrics: "A Matter of Opinion," "The Context," "Education for Specific Purposes," and "Alternatives for Instructional Delivery." "A Matter of Opinion" encompasses four essays that consider cataloging as a discipline, its continuing importance within librarianship, and the perceptions of it that affect education and recruitment. The authors—Michael Gorman, Sheila Intner, Heidi Lee Hoerman, and Robert P. Holley—are among the best-known writers and thinkers in the field, and they do not disappoint. Gorman, in his distinctive polemical style, identifies penny-pinching administrators and artificial-intelligence visionaries as the chief enemies of cataloging while stoutly asserting its central place in librarianship. Hoerman, by contrast, exposes the gulf between how catalogers view their work and how library users and other librarians see it. Intner and Holley focus on education, with Intner analyzing three particularly contentious issues in cataloging education and Holley offering suggestions for making the teaching of cataloging more engaging to the student. This is the shortest of the book's four sections, yet for many readers it will constitute the meat of the volume, even if the arguments and suggestions presented are largely familiar; such changing circumstances over the past decade as the rise of networked electronic resources and

the near-disappearance of cataloging course requirements in master's programs have forced the reconsideration and evolution of old disputes.

The next section, "The Context," examines the present environment of education for bibliographic control. Contributions include a brief presentation of Association of Research Libraries data showing a long-term decline in professional staffing for cataloging, along with reports of two surveys suggesting that both library educators and library-school graduates tend to believe that cataloging skills are important for all practicing librarians. These provide valuable information, but of greater interest are "A New Look at US Graduate Courses in Bibliographic Control," a comprehensive survey of curricula and analysis of relevant research literature by Daniel Joudrey, and Jerry Saye's analysis of the decline of the place of cataloging in library education. Joudrey's thorough and wide-ranging study notes a decline in traditional cataloging courses and requirements since the 1980s but a concomitant growth in information-organization and cataloging-of-non-book-formats courses, and finds a surprising stability of the place of bibliographic control in the curriculum, given the pressures of the operating environment: "Despite the beliefs of many library administrators and LIS educators, the reports of the death of cataloging are greatly exaggerated" (90). Saye takes a longer time perspective and sounds a more pessimistic note: "There can be no doubt that the perception of cataloging as an essential knowledge requirement for graduates of our master's programs has taken a serious decline" (132). He examines the forces pushing for de-emphasis and concludes that libraries will need to take much more responsibility for teaching librarians about bibliographic control.

The two remaining sections offer an assortment of essays and reports