plex subject heading system. Even the same cataloger might interpret the subject of a given work differently on different days. However, a review of Chapter 8, "Assigning Subject Headings," and the subsequent chapters on assigning headings for particular formats of material and subject disciplines, might help even experienced catalogers to be more thorough and consistent in their own cataloging. The often thorny areas of literature, music, fine art, religion, law, history and genealogy, and archaeology are given particular focus.

There are important changes and updates to this edition. Chapter 5, "Subdivisions," adds a discussion on the distinction between form and topical subdivisions. Chapter 7, "Subject Authority Control and Maintenance," now discusses authority control headings for subdivisions. Chapter 9, "Subject Cataloging of Special Types of Materials," has undergone some reorganization to better reflect the scope of materials being cataloged in today's libraries. Formerly a two-page subsection under the section "Nonprint Materials," electronic resources now warrant their own section, encompassing computer software, databases, computer and video games, and Internet or Web resources. Electronic serials are discussed separately in the "Serial Publications" section. Cartographic materials also have their own section rather than being placed inappropriately under "Nonprint Materials." That section now covers films, non-music sound recordings, and interactive multimedia, but perhaps would be better dissolved altogether. Because so many library resources now cross over the traditional format lines and are well-established in our collections, the concept of "nonprint cataloging" seems a bit quaint in today's world, and serves no real purpose in the book under discussion.

While addressed briefly in the sections on subject cataloging of literature and film, a more in-depth discussion of form and genre headings would have been welcome. This topic is important in digital resource cataloging as well as in the rare books and archives communities. Although LCSH is one of the major thesauri recommended in standards for describing the form or genre of a resource, conceptualizing the use of the terms for this purpose rather than the "aboutness" of subject access requires a different thought process, one that warrants further discussion.

The most significant change in the new edition is the substantially reworked Part 3, "Current and Future Prospects" (called simply "Future Prospects" in the third edition). Here Chan asks whether LCSH has a role to play in today's information environment. She argues that LCSH is widely accepted worldwide and has been adopted beyond the traditional library setting. However, to gain wider acceptance it will need to adapt so that it can be used by a wider variety of people at varying levels of skill and training. She follows this discussion with a new chapter on the Faceted Application of Subject Terminology (FAST) schema, developed by OCLC Online Computer Library Center (OCLC)

for use with Dublin Core records for electronic resources. FAST is an adaptation of LCSH that simplifies its structure and application by relying on postcoordination rather than precoordinated subject strings to identify the subject facets of an item. FAST identifies eight distinct facets: topical, geographic name, personal name, corporate name, form, chronological, title as subject, and meeting name. It is too early to tell whether FAST will gain wide use and acceptance. For the purposes of Chan's book, it functions as a concrete example of how LCSH can remain relevant in the new information environment, but it must be rethought as the information-seeking behavior of our users changes.

The new edition of *Library of Congress Subject Headings: Principles and Application* will fulfill the same multiple purposes of its previous editions: as a textbook in library and information science graduate programs; as a hands-on training tool, and as a handy reference for staff in cataloging departments.—*Christine DeZelar-Tiedman (dezel002@umn.edu), University of Minnesota Libraries, Minneapolis*

Reference

1. Lois Mai Chan, *Library of Congress Subject Headings: Principles and Application,* 3rd ed. (Englewood, Colo.: Libraries Unlimited, 1995).

Metadata for Information Management and Retrieval. By David Haynes. London: Facet Publ., 2004. 186p. $75 cloth (1-85604-489-0).

There is much to recommend in David Haynes' *Metadata for Information Management and Retrieval.* As he writes in the preface "the intention of this book is to help specialists who manage information resources to become easily conversant with this important and rapidly developing area" (xi). The specialists addressed are those seeking to "develop their knowledge and skills in order to manage metadata effectively," and those "faced with strategic decisions about adoption of IT [information technology] applications that use metadata" (xi). When read as a whole, the book serves an additional purpose of reminding its audience of the many and varied types of metadata that need to be considered by information professionals. Readers who will find this book useful include librarians and IT professionals, as well as those interested in pursuing these careers.

The book is organized into ten chapters intended for either individual consultation or to be read as a whole. The first chapter provides an historical overview of the development of metadata from its originations more than two thousand years ago in the Alexandria Library, to the modern conception of the term. An analysis of the purposes of metadata leads Haynes to propose a new, five-point model for considering the purposes of metadata: Purpose 1, Describing information resources; Purpose 2, Enhancing

information retrieval; Purpose 3, Managing of information resources; Purpose 4, Documenting ownership and authenticity; and Purpose 5, Exchanging data between systems.

Much of the rest of the book is dedicated to explicating these five purposes, each having its own chapter, comprising chapters four through eight. Within these chapters Haynes provides very clear descriptions of various metadata standards, schemas, and application profiles for each of the areas in his five-point model. In addition, there are succinct descriptions of the evolution of metadata standards such as the Dublin Core Element Set (DC), MAchine Readable Cataloging (MARC), Digital Object Identifiers (DOIs), and ONline Information eXchange (ONIX). Haynes also elaborates on the applications and the relationships between the various standards. While regularly referring to the model, the explication of each point gives the reader an excellent understanding of how the five purposes relate to each other and why each is important. An understanding of this new model can bring about a conceptualization of the relationships between different standards.

Chapters 2 and 3 provide exceptionally brief overviews of metadata standards, encoding schema, and mark-up languages. This section is the most problematic in that neither of the chapters can be readily understandable on its own. The regular citation of upcoming chapters of the book indicates that more clarity and examples are forthcoming. This leaves the reader with only a vague understanding of concepts explained later in the book. Perhaps these chapters could have been left out and any unique and important content added to a brief section to the introduction or later chapters.

These chapters are not as robust as the reader may expect given the chapter and heading titles. For example, the section "How to catalogue data" does not explain how to do this, but rather gives a few examples of metadata tags used in marking up HTML pages. Within this section, there is no description of how to go about describing data, no reference to guidelines to construct the tags, and no information on how to fill in the data, which would make it more useful to the reader. The section ends, somewhat disappointingly, with the statement that the Dublin Core will be more fully described in Chapter 3. This is one of several examples where potentially useful illustrations are alluded to, but the few remarks provided without illustration may confuse a novice audience. While examples of this nature are primarily limited to these beginning chapters, readers may lose interest in reading the book as a whole, possibly becoming frustrated with the lack of details in the earliest descriptions of metadata standards and practices.

One of the strengths of *Metadata for Information Management and Retrieval* is that Haynes not only discusses the technical aspects of metadata elements for various types of applications, but also the principles and guidelines that guide and promote their use. He repeatedly points to the need for the development of standards, or at least common frameworks, across different interest groups so that those groups can more easily share information about resources to promote access to those resources. Another strong element of the book is that each of the five stated purposes is laid out in clear terms. Haynes provides theory for the concepts, applications for the five purposes, and possible future developments of metadata.

Chapter 5, for example, which deals with the second purpose, begins with an introduction of information retrieval concepts and how retrieval performance can be measured, before continuing with a consideration of ways in which metadata might improve retrieval. In discussing efficient information retrieval systems, the chapter also deals with the role of indexing, the development of encoding standards, and the use of thesauri, taxonomies, and classification schema. The chapter concludes with a discussion of alternatives and the merits of emerging approaches to resource discovery, followed by an in-depth list of sources for further information.

Each of the chapters that discuss the five-point model for considering the uses of metadata has a similar structure, which is very effective. The last two chapters of the book offer a general handling of metadata and it prospects for the future. This is such a new field that a view of the future is an important element in gaining knowledge of metadata standards, schema, and practices. Each chapter begins with an overview and ends with a summary, making the book more accessible to those who are learning the concepts presented in them for the first time. This strategy works well, as it emphasizes what the author intended to present as the most important aspects of each section.

As a whole, the book accomplishes its purpose of making some of the conceptual aspects of metadata uses and functions more understandable for its readers; however, it does not cover the fundamentals of how to encode with specific schema as does *Metadata Fundamentals for all Librarians*.[1] In addition, while the book does briefly mention some metadata projects, such as DirectGov (www.direct.gov.uk), which provides a portal to United Kingdom government Web sites, it does not go into these in as much depth or breadth as does *Metadata in Practice*.[2] Haynes's text provides in-depth coverage of theoretical aspects, such as how metadata is important for specific tasks, which the two books mentioned above do not do as well. While both of them delve deeply into how librarians can and do use metadata to manage data of interest to library and other cultural heritage institutions' patrons, they do not address many other uses for metadata, such as information retrieval, data modeling, and management of metadata that *Metadata for Information Management and Retrieval* does cover thoroughly.

Haynes provides a clear background in the history of metadata, where it has its roots, and where it may be heading in the future, including metadata for bibliographic description, information retrieval, and business applications. *Metadata for Information Management and Retrieval* is an especially good survey of the issues and implications of metadata and its uses, how these affect precision and recall, retrieval and resource discovery, and management of information resources. Unlike other works in the field of metadata, this book does not require a cataloging background to be understood and appreciated.

However, readers with a cataloging background might learn quite a bit about metadata whose sole purpose is not resource description, including the importance of interoperability between well-established metadata standards, such as MARC, and newer standards whose purposes are enhancing information retrieval, rights management, the management of information resources, and the exchange of data between systems in an online environment. Overall, I would recommend this book to those selecting books for library and information science programs, technical services librarians with a metadata interest, and information professionals in the IT field.—*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. Diane I. Hillman and Elaine L. Westbrooks, *Metadata in Practice* (Chicago: ALA, 2004).

Brief Review

Introduction to Serials Work for Library Technicians. By Scott Millard. New York: Haworth, 2004. 147p. $39.95 cloth (ISBN 0-7890-2154-4); $24.95 paper (ISBN 0-7890-2155-2).

The book is billed on the cover as a "practical, how-to-do-it text for library technicians and library science students," a much-needed addition to the library technician literature. Serials have been very much neglected in this realm. There is a section on serials in the seventh edition of *Introduction to Technical Services,* and there are dated (prior to 2000) serials management works, but they are exclusively directed to the library support staff.[1] Scott Millard has made an admirable attempt but, unfortunately, the result is a very uneven work.

The chapters cover acquisitions, ordering, receipt and check-in, cataloging, processing and shelving arrangements, claims, binding, renewals, cessations, automation, and new technology. Every chapter begins with a stated objective for a student using the chapter. For the most part, the chapters

accomplish the stated objectives of the individual chapter and of the book: they do lead the student step-by-step through the various serial processes. Along the way, the content shows the author's experience and biases.

Much of the discussion of ordering, receipt, check-in, and processing focuses on manual methods, including the use of Kardex. The section on receipt and check-in contains a discussion of the advantages and disadvantages of using automated systems that leans heavily against automated systems. One of the disadvantages mentioned is "Training is necessary" (52), as if training were not necessary for a manual check-in process. A large portion of this chapter also is devoted to recording holdings, including a fairly detailed discussion of the MARC holdings standard. Given Millard's previous negative review of an automated check-in system, I find the discussion of MARC (which can be of use only in an automated system) to be somewhat jarring. Also, given the discussion of MARC holdings, I find it curious that the MARC bibliographic structure is not addressed at all in the discussion of cataloging.

The cataloging chapter has some completely incorrect information, probably reflecting the author's unfamiliarity with actual cataloging practice. For example, he states that "the first decision in cataloging a serial is to determine the main entry" (80). This has not been true since the second edition of the Anglo-American Cataloguing Rules (AACR2) was introduced in 1981. At that time there was a major change in the rules, requiring description of the entity before determining entry points. On the same page, the author indicates that "chapter 12 of *AACR2* is devoted to cataloging serials." He cites the 2002 edition of AACR2 in his bibliography, which means that he should have realized that chapter 12 is now devoted to continuing resources, which include (but are not exclusively) serials. Much of the rest of the chapter consists of gross simplifications of cataloging issues. Considering that this book is meant for library technicians, this is not a particularly egregious failing, but the factual errors are.

The index is very light and incomplete. For example, although there is some discussion of invoices in the text, and *invoice* and *debit memo* are included in the glossary, there is not a single reference to *invoice* or *invoicing* in the index. Under the entry "Title changes," the pages from the cataloging chapter dealing with title changes (94–95) are omitted. Despite a substantial discussion of holdings creation and maintenance, there is no entry for *holdings creation* or *holdings guidelines,* just an entry for *holdings list.* I would not rely on this index to refer me to all appropriate pages in the book, although I suppose the book is short enough that I could skim it to find all pertinent areas.

As is appropriate for a book of this kind, there is very little theoretical discussion of any of the areas of serials work. However, some of the how-to instructions are so