universities: producing knowledge, affording access to academic communities, providing and managing information resources, and serving as a means of representing accomplishment. It also is a pointed discussion of the patterns of scholarly communication and the interrelationships of faculty research, academic evaluation, publishing patterns, research libraries, and intellectual property rights. Emerging information technologies may both demand and enable restructuring of academe to assure that these purposes and responsibilities are satisfied. The structure and authoritativeness of library collections and the assumption by libraries of responsibility for preservation are contrasted to the relatively unstructured, uncontrolled, and non-preservationist nature of the Internet.

In the section "Challenges in Implementation," after noting the increasingly prohibitive costs of materials, personnel, and space, Brian Hawkins states that "As great as the economic threats to libraries are, the greater threat is the perception that technology will solve these problems . . ." (129). He argues in favor of a new paradigm for collecting and providing access to information, involving deinstitutionalization and collective remote data repositories. Richard N. Katz outlines assumptions underlying "the premise that academic information resources must be reconfigured in the first significant way since the opening of the Alexandrian Library" (155), and describes their implications, ranging from an imperative for collaboration among all segments of the university, to the need for standards and for rethinking intellectual property rights. In the other papers, the essayists explore issues relating to creation, preservation of, and access to digital information resources, and posit that regardless of how or where information resources are held, current means of bibliographic control and information retrieval will be insufficient for the needs of users, though the Web may be even less satisfactory.

In "Leadership, Staffing and Management," the future information resources professional is described as an "eclectic member of the university community, and a person who can span the boundaries of the various subunits on campus" (265), but in order for such persons to exist and to provide the kind of leadership necessary for steering a course through a transformational period, there will need to be substantive modifications in the preparation and mindset of these professionals, as well as changes in how such people are viewed in the university, and even in how successes are measured.

The Mirage of Continuity is an uncomfortable book to read. It is a success like few others in provoking thought and persuading readers that the digital revolution will bring changes that cannot be ignored until we retire and that cannot be handled by grafting solutions onto existing structures. The book's particular strength is its breadth of vision. The essayists see the future in the context of academe as a whole rather than in terms of organizational details. Although libraries are central to their discussions, the authors do not treat them as self-contained institutions. Instead, libraries are considered as collections of functions, principles and purposes that have been located in a particular organizational unit, but which may be disaggregated as part of our response to the approaching discontinuity in the world of information resources. This work is not a prescription for the future, and it is not a survival guide. It is instead a detailed, thoughtful, and compelling fair warning, or even a call to arms that academic librarians would do well to take to heart.—*Janet Swan Hill (hilljs@ spot.colorado.edu), University of Colorado Libraries, Boulder*

The Principles and Future of AACR: Proceedings of the International Conference on the Principles and Future of AACR, Toronto, Ontario, Canada, October 23–25, 1997. Ed. Jean Weihs. Ottawa: Canadian Library Association; Chicago, American Library Association, 1998. 272p. $25 (ISBN 0-8389-3493-5) LC 98-34562.

Many of the authors presenting papers at the International Conference on the Principles and Future Development of AACR (Anglo-American Cataloguing

Rules) advocate moving cataloging boldly into the new millennium. Their recommendations address many of AACR's most significant weaknesses: the lack of a statement of principles, the absence of an explication of the rationale behind many of the rules, inconsistencies in treatment of content and carrier, and inadequate treatment of various types of materials, demonstrated most clearly by the lack of a general rule for new works of mixed responsibility and problems with the dichotomous monographs/serials model of the bibliographic universe. Because all of the papers are worthy of discussion, each will be discussed separately here.

In his introductory paper, "Modeling the Logic of AACR," Tom Delsey advocates the use of modeling techniques (e.g., entity-relationship modeling) to illuminate the structure and assumptions underlying AACR. As an example of how such modeling could be of assistance, Delsey tackles the dichotomy between intellectual content and physical form in the cataloging code, in which rules for description are supposedly based on physical form, and rules for access, on intellectual content. In an insightful and probing analysis of the rules reflecting this issue, Delsey discovers many contradictions and complexities. For instance, while some of the chapters in part I of the *Anglo-American Cataloguing Rules,* Second Edition *(AACR2),* base description on the physical form of items (e.g., sound recordings and videorecordings), others do not (e.g., cartographic materials and music). This paper provides a critical assessment essential for understanding *AACR2*'s approach to form and content in the cataloging of an item.

In "*AACR2* and Catalogue Production Technology," Rahmatollah Fattahi examines existing cataloging principles and concepts in light of their relevance in the online environment. Not surprisingly, he concludes that the finding and collocating functions of the catalog are still relevant, and suggests that cataloging practice be expanded to enhance functionality in the online environment, for example, to require additional descriptive elements such as tables of contents and summaries.

Fattahi urges code makers to clarify the rationale for and functions of the concepts of main entry, uniform headings for titles and persons, and content and form of name headings in online cataloging environments. In addition, he believes that *AACR2* should provide detailed guidelines for various levels of catalog displays as well as guidelines for the indexing of fields and subfields in online catalogs.

Martha M. Yee tackles many of the problems in *AACR2*'s treatment of works in her paper, "What is a Work?" Yee makes more excellent points and suggestions in this paper than can be covered in a brief review, so I will discuss only a few of them here. Yee analyzes the criteria currently used in *AACR2* to determine whether or not a change in an item justifies the creation of a new bibliographic record, finding them to be case-based as opposed to principle-based. She suggests a more principled approach using "fundamental content" such as text, music, and spatial data to determine the status of a particular item with respect to an existing work. She focuses on one of *AACR2*'s most glaring weaknesses—the lack of general rules for entry of new works of mixed responsibility—and suggests how such rules might be created. Yee ends her paper with several pages of suggestions for changes in *AACR2*, in particular, changes to chapter 21, "Choice of Access Points." Like Fattahi, she urges including statements of objectives and principles to guide catalogers in decision-making.

Sherry L. Vellucci's "Bibliographic Relationships" is an excellent critical overview of the definition and treatment of bibliographic relationships in cataloging history. She ties together theoretical concerns, current practice in *AACR2*, MARC (MAchine Readable Cataloging), and online catalogs, and recent work on entity-relationship modeling, for example, the International Federation of Library Association's (IFLA) *Functional Requirements for Bibliographic Records* (1998), placing all in the context of user needs and research. Vellucci includes many suggestions for making the handling of bibliographic relationships in cataloging practice more consistent, concluding with

four general principles of bibliographic relationships to guide future revisions of the code: (1) relationship identification: bibliographic records should identify all important bibliographic relationships; (2) enabling linkage: data elements of bibliographic records should enable related bibliographic records to be linked; (3) multilevel description: the code should provide for description at several levels, including work, expression, physical item, and specific copy; and (4) consistency: identification and linkage of like relationships should be treated in a consistent manner.

In "Content versus Carrier," Lynne C. Howarth provides a much-needed critique of the contradictions of a code that bases description on the physical form of an item (rule 0.24) and access points on its intellectual or artistic content (rule 20.1). Howarth notes the profession's shift in emphasis from the creation of a surrogate based on carrier to one based on content. She advocates including both content and carrier into our view in a mutually inclusive way by implementing a four-tier model record based on recommendations from IFLA's *Functional Requirements for Bibliographic Records* (1998) and from the *Multiple Versions Forum Report* (1990). In this model, a bibliographic record would include elements of description common to any work ("work level" tier); access points linked to authority records ("authority level" tier); unique physical properties or format-specific details ("manifestation level" tier); and copy specific information ("item-level" tier). While this model is not entirely without problems, it may have potential to improve access to resources described within the existing framework of AACR.

Michael Gorman and Pat Oddy review the history, principles, and impact of AACR2 in their "The *Anglo-American Cataloguing Rules*, Second Edition." Perhaps their contribution—urging caution in integrating radical changes into AACR2—is *de rigueur* at a conference devoted to the future development of AACR, considering that many of the changes advocated in the other papers may be considered somewhat revolution-

ary. The authors make several modestly useful recommendations, including purging rules for special cases and resolving the problem of unpublished items.

"Issues Related to Seriality" by Jean Hirons and Crystal Graham is, in my opinion, the most significant contribution to cataloging theory of this decade. Hirons and Graham propose a new model of the bibliographic universe, consisting of static and ongoing publications (as opposed to monographs and serials), and make a series of intelligent recommendations for its incorporation into *AACR2*. Some of the more intriguing recommendations include adopting a three-dimensional approach to the cataloging rules, which would incorporate content, carrier, and publication status; creating rules for ongoing publications that focus on identification as opposed to transcription; and creating a new conceptual first chapter in *AACR2* that would emphasize what the cataloger seeks to accomplish and why. This paper should be required reading in library schools (it will be in my classes!) and should also be read widely by practitioners.

In "Access Points for Works," Ronald Hagler reviews the history of work identification in the cataloging code and in catalog technology, pointing out the importance of the main entry as a mechanism for identifying works. He also decries the optionality of uniform titles (chapter 25) in *AACR2*, calling it a "cop-out" (219). Hagler's emphasis in this paper is on filing, browsing, and display considerations in online catalogs—the issues that affect users most. His recommendations to the Joint Steering Committee focus on work identification, and include changing terminology to distinguish "work" and "document" more clearly; placing *AACR2*'s context squarely in the online environment as opposed to the manual environment; and requiring catalog agencies to "provide access to every work appearing within each catalogued document" (227).

In "Beyond MARC" Mick Ridley pinpoints several of *AACR2*'s shortcomings, including the optional status of uniform titles and problems with the treatment of physical format. He is also critical of MARC's proliferation in different versions,

as well as its difficulty in structuring information hierarchically. Ridley suggests that we move toward a "work-based system" that accommodates three hierarchical levels: work, manifestation, and copy. He also suggests that we move toward a more commonly used format such as an SGML application. Finally, he addresses the problem of character sets, urging adoption of Unicode to correct the inadequate display of language scripts in current systems.

This volume contains ideas and recommendations with which the cataloging community must acquaint itself to ensure that *AACR2* does not stagnate, but becomes the rational, responsive, and flexible tool that it must be to sustain intelligent cataloging practice in an international context. The conference organizers are to be congratulated for selecting contributors who have produced works of such importance to the cataloging community.—*Allyson Carlyle (acarlyle@u.washington.edu), School of Library and Information Science, University of Washington, Seattle.*

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Management of Serials in Libraries. Thomas E. Nisonger. Englewood, CO: Libraries Unlimited, 1998. 433p. $55 (ISBN 1-56308-213-6) LC98-28879.

Serials always have been known for their complexity and for the many challenges they present to the people who manage them. Today, the challenges are no longer simply changes in title, frequency, and numbering schemes; there are also changes in format, methods of acquisition, and methods of delivery. Add the Internet, licensing contracts, and dwindling budgets, and the serials specialist faces a mind-boggling management task. In today's serials environment, old and familiar problems remain, and they are accompanied by an entirely new set of complexities.

In his new textbook, Thomas Nisonger covers all of the above issues and more. *Management of Serials in Libraries* is a well-researched, comprehensive, up-to-date look at serials management issues. The emphasis is on collection management. This book appears on the heels of several other publications that also address the uniqueness of serials and the special handling that they require. Two recent notable works are *Serials Management: A Practical Guide* by Chiou-sen Dora Chen (1995) and Marcia Tuttle's *Managing Serials*, with chapters by Luke Swindler and Frieda B. Rosenberg (1996). Chen's publication, as its title suggests, is a concise guide of 186 pages that provides basic, straightforward information for efficient serials management. In contrast, Nisonger's book is not a guide, but rather an in-depth study of serials with an intent "to educate rather than train" (xxi). As the author himself suggests, his book nicely complements Tuttle's work by providing separate, detailed chapters on electronic journals, serials automation, citation analysis, and collection management issues.

Nisonger has an admitted bias toward academic libraries because they reflect his background and concerns as an associate professor in the School of Library and Information Science at Indiana University; however, the book is also intended for use by serials managers in public, school, and special libraries. It is written from "the perspective of a library and information science educator rather than a library practitioner" (xxi). Throughout his book, Nisonger consciously and effectively strives to create a balance in describing how serials are actually managed