

Global Text



Contemporary
Cataloging

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Contemporary Cataloging

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Preface and acknowledgements

One of the things that frustrate technical services managers most is the never-ending need for trained catalogers and copy catalogers. As the former head of a cataloging department, I can attest to the fact that the dearth of ALA-accredited library schools that require cataloging courses over and above “Organization of Information” contributes significantly to those frustrations. Entry-level catalogers arrive without the foundational knowledge necessary to quickly become fully contributing members of a technical services department.

As the cataloging profession anticipates the adoption of *RDA (Resources: Description and Access)* in a few years to replace *AACR2r (Anglo-American Cataloging Rules, 2nd ed., revised)*, they recognize that catalogers and copy catalogers, as well as cataloging students, will continue to need training in current practices and rules. The following chapters are designed to be approachable by cataloging students, entry-level catalogers and copy catalogers. It can be used as a classroom textbook or as a text for individual study and it covers all formats except serials and archives/special collections.

In this book, Sylvia Hall-Ellis and her colleagues, Ann Jerabek and Merrie Valliant, present the essentials in accessible language with appropriate examples and explanations. Beginning with an overview of the development of cataloging and national and international bodies that influence cataloging principles and practices, each chapter has a set of review questions followed by extensive resources lists.

Following the chapters on descriptive cataloging, authority control and MARC are those covering the different material formats. The chapter on monographs brings together all the various aspects that make up cataloging (descriptive cataloging, classification, and subject analysis) and also discusses cataloging tools. The chapters covering non-print materials each includes sections on the aspects of that type of resource in a library, a primer and the collection development issues relating to the resource, and the unique characteristics of the resource. They also cover how AACR2r and MARC are used in cataloging the material as well as the relevant subject analysis and classification tools.

The appendices are also divided by material formats and each contains sample bibliographic records, worksheets, and required MARC elements and their values. There is also a chart showing what AACR2r rule governs the required MARC tags for the format. Each appendix ends with charts listing the possible notes fields and related variable fields for the material.

Contemporary Cataloging: A Handbook for Practitioners and Students does not attempt to cover all aspects of cataloging, just the basics and those issues most likely to be encountered by entry-level catalogers, copy catalogers, or cataloging students. Virtually every cataloging textbook will need to be updated when *RDA* is released, and this one is no exception. But until such a time, this volume will provide an excellent grounding.

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Library and information science students provided the impetus for this book. The demands for clear, understandable texts and materials designed for the adult learner in cataloging and bibliographic control began years ago when I began teaching as a young assistant professor. During the early years students provided lists of the types of materials that they could not find and questions for which locating an answer provide to be frustrating and, at time, impossible. The information, tips for using tools and resources for descriptive cataloging, and explanations of the ways they used together progressed from class handouts to a notebook to this volume. Had students not continued to encourage and support this effort, I would have pursued other research activities. To my alumni colleagues and current students I express my sincere appreciation.

My collaborators, Merrie Valliant and Ann Jerabek, and I are grateful to the faculty and staff of Library and Information Science Program in the Morgridge College of Education at the University of Denver (USA), the Denver Campus Library of Johnson and Wales University, and the Newton Gresham Library at Sam Houston State University (USA) for sharing their expertise with us. Of course, this volume reflects the hard work of my graduate students, Amanda Samland, Beatrice Gerrish, and Christopher Hudson.

Finally, I am grateful to my husband, Theodore Ellis, for tolerating the countless emails, telephone calls, and the late nights spent in the office writing and editing.

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Introduction and overview

The 21st century is filled with conveniences, technologies and data. Serious and casual information seekers may access data, information and knowledge in paper, digital, electronic and online formats by logging onto a computer anywhere in the world. No longer does the information seeker have to call the nearest library, travel across town, or wait for the postman. Information providers bombard us through commercial and subscription media. Manufacturers and vendors tempt us with the latest electronic device or convenience. Telecommunications and internet service providers offer bargains for packages of the fastest, most reliable and inexpensive connectivity configurations. Publishers and websites offer born digital, resources and online references.

Evolving technologies since the end of World War II have benefited traditional libraries as well as consumers. In concert with the technology-driven research and development efforts of the private sector, librarians, computer scientists, systems analysts and technicians invested significant efforts into the organization, retrieval and access challenges present within their organizations. The development of computers, peripheral devices and software gradually converged into the integrated library system, functioning as a local point of service and as the web portal to a network of global, multilingual resources. Blending the advantages of technologies to provide ultimate access, retrieval and delivery of resources to their clientele (be it users, patrons, clients, customers, or the like), librarians have evolved from the stereotypical, horned-rimmed bespectacled individual to an innovative, information literate, computer and technologically savvy professional.

The proliferation of formats in which information seekers request and use resources has resulted in specializations among information professionals. No longer are the individuals working in libraries and information centers the products of generic graduate education. The curricula offered through graduate programs accredited by the American Library Association (ALA) vary significantly. Students may select and attend a library and information science (LIS) program that focuses on their professional interests and career aspirations. Lively discussions within the library education community and the profession challenge participants and listeners alike about the shared future with its paper, digital and virtual segments.

Within the profession, we agree that changes will continue, technologies will evolve and resources will be collected, organized and housed within our facilities. In order for information professionals to continue these historically appropriate roles, a select number of them choose to work in each of these and related areas. From the 19th century beginnings of library training and education, these individuals were known as catalogers and technical services librarians. Their collective reputations suggested quiet, introverted, unfriendly personalities because they performed their tasks in the back room, often located away from the public's view.

Despite the evolution of technologies, modes of access and telecommunications infrastructures, organizing, inventorying, describing and providing access to the institution's materials regardless of format, size, language, subject matter or intended user has remained a responsibility of paramount importance. During the last decades of the 20th century and into this millennium the meticulous, time-consuming work that catalogers have traditionally performed has evolved exponentially. No longer do they function as the stewards of catalog records for printed materials alone. Contemporary library collections include printed, electronic and online works in a variety of formats, languages, and locations.

The professional responsibilities shouldered by catalogers and their technical services colleagues have increased to include bibliographic access, database building and maintenance, serials control, acquisitions, binding, as well as mastering the use of computer equipment, peripheral devices, accompanying technologies, specialized websites, integrated library systems, resource sharing networks and bibliographic utilities. Because these changes have been profound, the cataloger works with remarkably complex resources and services. Yet, because human learning is based upon the ability to analyze and organize data, information and knowledge, the catalog librarian continues to describe information, resources and materials so that library staff members and the organization's clientele are able to find (retrieve) resources in paper, electronic, digital and online formats, locate information, assemble, and maintain a usable record of human endeavors.

Becoming a cataloger

The tripartite education of library school students who seek careers as catalogers begins in a formal graduate program. Employers and students articulate expectations that graduate library education will include the mastery of technical competencies supported through the incorporation of computer-dependent technologies into the teaching and learning environment. Consequently, basic and advanced cataloging courses include metadata and classification schemes, bibliographic utilities, electronic resources, internet-resident tools, integrated library systems, interoperability technologies, human-computer interactions, networking and telecommunications.

Library school faculty members teaching the sequence of cataloging courses face a daunting challenge. The breadth and scope of material that must be included in order to prepare a student for a career in bibliographic control, cataloging or technical services is far-reaching and complex. Course instruction and hands-on exercises need to include the construction and enhancement of descriptive cataloging data; selection and completion of classification numbers in several schema; importance, identification and construction of authority records; and the use of bibliographic utilities. Consequently, library school students will benefit significantly from a learning environment in which the actual tools, technologies and resources used in libraries and information centers are incorporated into course instructional units, discussions and exercises.

Cataloging—what is it all about?

The contemporary library or information center purchases a variety of information packages (e.g. resources) for its permanent collection. From the cataloger's perspective, an information package is an instance of recorded information (sometimes called an intellectual entity) that needs to be described bibliographically so that users can identify, retrieve, locate and use it. The informational content of an information package is considered independently of its physical format or packaging.

Cataloging is routinely referred to as the process of describing an information package, choosing name and title access points, conducting subject analysis, assigning subject headings and constructing a classification number. As information professionals move toward a global framework for the description of information packages, catalogers are beginning to refer to an information package as the manifestation of a work, focusing on the physical object, as distinct from its intellectual content. The cataloging of information packages is performed to support four activities: to identify items in a collection; to organize items within the collection; to provide access to each item; and to perform inventory of the collection.

The library school student learns three processes that make up the tasks referred to collectively as cataloging. Students learn to describe the information package of a work (descriptive cataloging), determine where the work fits into a given hierarchy (classifying) and discern the concepts addressed in a work through subject analysis (subject cataloging).

In the 21st century library or information organization, this comprehensive process may be broken into processes that can be handled by one or more individuals who become experts. A number of libraries choose to purchase bibliographic records from a vendor or jobber, thus decreasing the amount of time and resources that local staff will invest in building and maintaining the bibliographic database.

As a means of reducing costs mandated by economic challenges, selected library administrators decide to staff the technical services operations with a number of high-level paraprofessional staff members. The 21st century cataloger (also called a catalog librarian) is a professional librarian who works in an archive, a library or other information organization and creates surrogate records for the institution's collection of information packages and maintains the integrated system through which they are made available to users. In these situations, the cataloger may be the sole librarian in the unit and will devote time to training and supervising the work of staff while performing difficult cataloging tasks and resolving bibliographic and authority control issues.

Three steps comprise the cataloger's work. First, the cataloger identifies, enhances and constructs bibliographic records (also called surrogate records) for the information packages in the collection. In the second part of the process, the cataloger classifies each information package. The classification process is the determination of the placement for each information package within the hierarchical arrangement of the collection. After the classification number (also called a notation) is selected, the cataloger assigns a cutter or other designation of the main entry and may include a date to indicate the edition or chronological period for the content. Finally, the cataloger conducts a subject analysis of the information package. The cataloger identifies the concepts treated in the information package in order to assign subject headings, index terms and specific terminology present in the surrogate record.

The preparation of surrogate records for individual information packages enables the cataloger to maintain bibliographic control for the collection. Bibliographic control empowers the cataloger to identify the existence of all types of available information packages, determine the editions (e.g. hardcover, paperback, e-book, etc.), assemble them into collections and sub-collections, construct data elements for access resources, provide the means of locating items (i.e. copies) and produce lists (e.g. bibliographies or finding aids) according to standard citation rules.

Overview of international and national bodies important to cataloging

Committees representing professional organizations, individual practitioners and libraries invest significant time and effort into the drafting, revision and preparation of the manuals, guidebooks and other documentation that catalogers use during the cataloging process. These committees represent the constituencies of librarians, library staff members and vendors who use the manuals, guidebooks and other documentation (commonly called tools). Charged with the responsibility to review and update a tool, committee members take their assignments seriously, devoting countless hours over months and years in order to draft an updated version that will serve the community of catalogers well for an extended period of time.

Library students and novice catalogers need to recognize the bodies that are responsible for these tools. Understanding the cataloging tools that they use provides an appreciation of the important tasks that they undertake on behalf of their colleagues. For the learner's convenience, a brief, representative list follows.

The Machine-Readable Bibliographic Information Committee (commonly called MARBI)¹ is an interdivisional group of representatives from three divisions within the American Library Association. The nine voting MARBI members include representatives from the Association for Library Collections and Technical Services (ALCTS),² the Library and Information Technology Association (LITA)³ and the Reference and User Services Association (RUSA).⁴ MARBI members are responsible for drafting official ALA positions regarding the standards for the representation of bibliographic information. Comprehensive information and an introduction to MARBI and its work are available in *The USMARC Formats: Background and Principles*.⁵

The MARBI Committee is responsible for the following tasks: to encourage the creation of needed standards for the representation in machine-readable form of bibliographic information; to review and evaluate proposed standards; to recommend approval of standards in conformity with ALA policy (especially the ALA Standards Committee); to establish a mechanism for continuing review of standards (including the monitoring of further development); to provide commentary on the content of various implementations of standards to concerned agencies; and, to maintain liaison with concerned units within ALA and relevant outside agencies.

The National Information Standards Organization (NISO)⁶ is a non-profit association that is accredited by the American National Standards Institute (ANSI).⁷ The leaders of more than 70 publishers, information technological corporations, libraries and organizations serve as representatives and voting members of NISO. The association's members identify, develop, maintain and publish technical standards to manage information in print, electronic, online and digital formats. The NISO standards apply to traditional and emerging technologies and include the full range of information-related needs, including retrieval, re-purposing, storage, metadata and preservation.

NISO standards are developed through consensus and identify model methods, materials or practices for libraries, bibliographic and information services, and publishers. Of particular interest and importance to catalogers are standards ANSI/NISO Z39.2-1994, R2001 (Information Interchange Format), the ANSI/NISO Z39.47-1998, (Extended Latin Alphabet Coded Character Set for Bibliographic Use), ANSI/NISO Z39.50-2003 (Information Retrieval: Application Service Definition & Protocol Specification), ANSI/NISO Z39.53-2001 (Codes for the Representation of Languages for Information Interchange), ANSI/NISO Z39.64-1989, R2004 (East Asian Character Code for Bibliographic Use), ANSI/NISO Z39.82-2001 (Title Pages for Conference Publications), ANSI/NISO Z39.84-2005 (Syntax for the Digital Object Identifier), ANSI/NISO Z39.85-2007 (Dublin Core Metadata Element Set), ANSI/NISO Z39.87-2006 (Data Dictionary–Technical Metadata for Digital Still Images), and ANSI/NISO Z39.89-2003 (The U.S. National Z39.50 Profile for Library Applications).

Overview of basic tools for cataloging

The education, training, and preparation of catalogers and classifiers can be traced to the days when Melvil Dewey demanded that students in his two-year preliminary class in the Columbia College Library⁸ achieve technical excellence. The integration of theoretical considerations into cataloging practices began with the animated discussions of Sir Anthony Panizzi at the British Museum, moved to the innovative work of Charles Ammi Cutter, evolved with Seymour Lubetsky's visionary leadership, combined with the development of MARC and online public access catalogs, and currently resides in challenges driven by the internet and metadata.

The tools used to catalog and classify information packages have evolved over more than 100 years. Consequently, library students will benefit from an abbreviated understanding of the origins and philosophical frameworks from which 21st century tools originated. The foundation for the cataloging code, machine-readable formats and bibliographic functions rest on four landmark publications.

Panizzi's 91 Rules

Italian attorney Antonio Genesio Maria Panizzi (known as Anthony Panizzi) began working at the British Museum in 1831 and did not become the Principal Librarian until 1856. The library had minimal financial support and few staff members who served the scholarly and conscientious patrons, most of whom were clergymen and physicians, although visitors were begrudgingly admitted.⁹ Following his appointment as keeper of the printed books in 1837, he determined that rules for a new printed catalog needed to be compiled. He devised 91 cataloging rules based on the use of references and entries. Until this time books were identified by the author's last name or the title. The British Museum approved the *91 Rules* in 1839, published them two years later¹⁰ and continued to use them until 1936. Panizzi's cataloging code with its principle of authorship became the practical standard for cataloging, the basis for the International Standard Bibliographic Description (ISBD) and the development of metadata schema.

Cutter's Rules For a Dictionary Catalog

Noted librarian of the Boston Athenaeum, Charles Ammi Cutter began to compile and publish catalogs of holdings in 1868. He noted that few rules and guides existed for the construction of a dictionary catalog. His work resulted in the publication of the five-volume catalog of the library's holdings and a model that his contemporaries followed. Cutter's code included rules for dictionary catalogs and featured entries for authors, titles, subjects, form headings and bibliographic description. More significantly, his innovative work established Cutter in the library profession. Published in 1904, Cutter's *Rules for a Dictionary Catalog* was "recognized immediately as the treatise on cataloguing and remains classic".¹¹ Librarians quickly accepted his pragmatic approach—the dictionary catalog should be easy for the library patron to use—and adopted his handbook.

Development of an international cataloging code

Librarians began to develop a cataloging code for use in the United States and United Kingdom in 1904. Following dedicated correspondence and negotiations, the first international cataloging code appeared as *Catalog Rules, Author and Title Entries*¹² in the United States and *Cataloguing Rules, Author and Title Entries* in England.² Both the American and the British editions contained the 174 rules for entry and headings for authors, titles and bibliographic descriptions. Disagreements of usage appeared with notes to explain the differences and interpretations for catalogers. These cataloging codes did not contain rules for descriptive cataloging. Therefore,

when the committee members identified an area that would benefit from further explanation, they included supplementary rules prepared by librarians at the Library of Congress. Revisions and expansions to the cataloging code appeared in 1941 and 1949. The Library Association and the American Library Association continued to publish editions of their respective cataloging codes for domestic use. In 1949 the American Library Association published the descriptive cataloging rules for monographs, serials and some non-book materials developed at the Library of Congress.³ Supplemental publications contained rules for non-book materials.

Attention to the development of a cataloging code continued after the 1949 revision. In 1951 the American Library Association commissioned Seymour Lubetsky to analyze the cataloging code and prepare a report. Issued two years later, *Cataloging Rules and Principles*⁴ advocated a transition for the cataloging code from a case-based to a principle-based perspective. In 1956 Lubetsky was appointed the editor of the anticipated cataloging code. The American Library Association published his draft cataloging code, *Code of Cataloging Rules; Author and Title Entry*, in 1960.⁵

The Paris Principles

Sponsored by the International Federation of Library Associations, the International Conference on Cataloguing Principles was held in Paris in 1961. Conference participants examined the choice and form of headings in author/title catalogues. They published a statement of 12 principles (commonly called the *Paris Principles*⁶) and envisioned this document to serve as the framework for the future standardization of cataloging internationally.

Work to update the next revision of the cataloging code continued. The American Library Association and Library Association continued to work collaboratively on a new cataloging code. Members of their respective committees exchanged minutes and working papers and attended each other's meetings. In support of their work, the Library of Congress assisted with revision of the descriptive cataloging rules, and the representatives of the Canadian Library Association participated in the review of drafts of the rules. In 1966, the American Library Association and the Library Association signed a memorandum of agreement for continued revision of the cataloging rules. Because of the importance of their involvement, the Library of Congress and the Canadian Library Association agreed to participate formally in the revision process.

Anglo-American Cataloguing Rules

The combined efforts of the American Library Association and the Library Association culminated in 1967 with the publication of two versions of the *Anglo-American Cataloguing Rules* (AACR), a North American text⁷ and a British text.⁸ The long-awaited AACR text contained four sections: part one, Entry and Heading (based on the *Paris Principles*, the 1949 ALA Rules, and Lubetzky's 1960 draft), part two, Description (consisted of revised rules from the 1949 *Library of Congress Rules*), part three, Non-book Materials (contained rules for both entry and description of non-book materials and revised rules from the 1949 *Library of Congress Rules* with supplementary Library of Congress Rules) and an appendix that listed rules for entry and heading that differed in the other version. Between 1969 and 1975 amendments for the North American text appeared in the Library of Congress *Cataloging Service* and for the British text in the Library Association *Anglo-American Cataloguing Rules Amendment Bulletin*.

International standard bibliographic description

Attendees of the International Meeting of Cataloguing Experts in Copenhagen in 1969 developed a program of International Standard Bibliographic Description (ISBD). Designed for international adoption, ISBD standards were designed to identify components in a bibliographic description, a preferred order and necessary punctuation. The first ISBD standard for Monographs (ISBD(M)) was published in 1971.⁹ By 1974 cataloging experts completed a revision of AACR chapter 6 following the ISBD(M) that was available in two versions.^{10,11} The chapter 6 revision included rules for printed monographs and reproductions of printed monographs (including microform reproductions). Revisions to AACR chapter 12 (AV and Special Instruction Materials)¹² and AACR chapter 14 (Sound Recordings)¹³ soon followed. The wide acceptance of these three ISBD standards led to the development of a general framework for standard bibliographic description known as ISBD(G).¹⁴

Joint Steering Committee for the revision of AACR

Representatives from five professional library associations work together as members of the Joint Steering Committee for Revision of AACR (JSC).¹⁵ Established in 1974, the JSC includes members representing the American Library Association, the British Library, the Canadian Library Association (represented by the Canadian Committee on Cataloguing), the Library Association and the Library of Congress. An Australian Committee on Cataloguing (ACOC) representative attended JSC meetings from 1981 and ACOC became a full JSC member five years later. Assigned the task of incorporating the North American and British texts into a single version, the JSC appointed two editors for the revised code, Michael Gorman of the British Library and Paul W. Winkler of the Library of Congress.

In 1978, the JSC published one version of the *Anglo-American Cataloguing Rules*.¹⁶ Known affectionately as AACR2, the cataloging code was divided into two parts. Part one, entitled *Description*, was based on the International Standard Bibliographic Description (ISBD(G)) framework and included a general chapter (chapter 1), and chapters for individual formats, including new chapters for machine-readable data files (chapter 9) and three-dimensional artifacts and realia (chapter 10). Titled *Entry and Heading*, part two contained rules for descriptive cataloging that were more closely aligned with the *Paris Principles*. The Library of Congress, the National Library of Canada, the British Library and the Australian National Library adopted AACR2 in January 1981. The *Concise AACR2*,¹⁷ an abridged version of the cataloging code, was published later that year. The JSC released revisions to AACR2 in 1982 (published 1984), and 1985 (published 1986). By 1987 the JSC completed a draft revision of AACR2 chapter 9 (Computer Files).¹⁸

The substantive changes to *AACR2* were sufficient in number and extent for JSC to incorporate the 1982, 1983 and 1985 revisions along with unpublished modifications into a new edition. Published in 1988, catalogers could purchase book and loose-leaf editions of *Anglo-American Cataloguing Rules, 2d ed., 1988 revision*.¹⁹ In 1993, the JSC released a set of amendments. Further amendments that the JSC approved between 1992 and 1996 were incorporated into a second revision of *Anglo-American Cataloguing Rules, 2d ed.*²⁰ Catalogers had a choice between book and CD-ROM formats. The JSC released two sets of amendments, one in 1999 and the second in 2001, which included a revision of chapter 9 (Electronic Resources). By 2002, JSC adopted a new edition of *AACR2* that incorporated the amendments issued to date and revisions of chapter 3 (Cartographic Materials) and chapter 12 (Continuing Resources).²¹ A recommendation of the International Conference on the Principles and Future Development of AACR and IFLA-led efforts to harmonize ISBD(CR), ISSN practice, and *AACR2* resulted in the revision of Chapter 12.

The second revision (2002) of the *Anglo-American Cataloguing Rules* is currently available in a loose-leaf format. Amendments were published in 2003, 2004 and 2005. The American Library Association, the Canadian Library Association and the Chartered Institute of Library and Information Professionals (CILIP) publish the cataloging code. The JSC is working on a new cataloging code, *RDA: Resource Description and Access*²² with an anticipated publication date of August 2008.

Cataloging tools

Learning the cataloging process requires the library student or novice to develop a familiarity with specialized manuals, codes, and guidelines (called tools) that are designed specifically for these tasks. Each of the tools is developed independently and is published according its individual schedule. The developers, revisers, and authors of each tool anticipate its use as part of the cataloger's resources. However, guidance and instruction for the use of individual tools independently and in concert with the others is the responsibility of the instructor. A brief overview of these cataloging tools will enable the user to become familiar with them. Read about the following cataloging tools with which the student and novice cataloger need to become familiar. *Anglo-American Cataloging Rules, 2d ed., rev. with amendments (AACR2r)*

The authoritative guide to descriptive cataloging, catalogers use *AACR2r* as they construct bibliographic records that will be added to an integrated library system (ILS) and an online public access catalog (OPAC), or potentially contributed to a bibliographic utility for use by libraries of all sizes and types. The rules cover the bibliographic description and the provision of access points for library materials collected in an array of formats and languages. Part one provides information and guidance for the bibliographic description of the information package being cataloged. Part two provides guidance and examples for the identification and establishment of access points and references to them. In both parts, the rules proceed from the general to the specific.²³ Catalogers can purchase *AACR2r* from the American Library Association, and the tool is included in *Cataloger's Desktop*, a compilation of resources used in the cataloging process, that is available through an institutional subscription from the Cataloging Distribution Services at the Library of Congress.²⁴

Library of Congress Rule Interpretations

The *Library of Congress Rule Interpretations (LCRI)* provide for a common practice, sometimes called national practice.²⁵ *LCRI* reflects the descriptive cataloging practices followed by the Library of Congress and other libraries engaged in the sharing of cataloging records. In November 1995, the orientation of the *Library of Congress Rule Interpretations* shifted to bibliographic control in a machine-readable environment. *LCRI* contains examples using the content designation conventions of MARC. The Library of Congress provides access to *LCRI*s through its website.²⁶

Authority records

Librarians use authority records to establish forms of names of persons, places, meetings, and organizations, titles, and subjects that serve as access points for bibliographic records. Authority records enable librarians to standardize form of access points associated with information packages and to provide clear identification of authors and subject headings. The MARC 21 Format for Authority Data²⁷ defines the authority record as a carrier for information concerning the authorized forms of names and subjects to be used as access points in MARC records, the forms of these names, subjects and subdivisions to be used as references to the authorized forms, and the interrelationships among these forms.

The Library of Congress updates authority records each evening Monday through Saturday and provides access to them free of charge in a machine-readable format.²⁸ Catalogers may access authority records through institutional subscriptions to products and services from a bibliographic utility. Libraries with integrated library systems frequently download authority records for the access points present in the bibliographic records that constitute the local OPAC. These authority records become part of the authority file that the catalogers build and maintain for local use in the cataloging process.

Dewey Decimal Classification (Dewey 22)

Developed by Melvil Dewey in 1876, the Dewey Decimal (DDC) classification scheme is used in libraries around the world. The classification system attempts to organize all knowledge into ten main classes and uses decimals to achieve a numerical and infinitely hierarchical structure. A faceted classification system, DDC combines elements from the structure itself to construct (or build) a number (i.e. notation) to represent subjects rather than maintaining a comprehensive list of content areas with pre-determined designations. Now in the twenty-second edition, the classification system is updated regularly and published in a complete, new edition every seven years. DDC is available in print, abridged and online versions from OCLC.²⁹

Library of Congress Classification

The Library of Congress Classification (LCC) scheme organizes information packages according to 21 branches of knowledge. These categories (or classes) are labeled A to Z (with the exception of I, O, W, X and Y) and are further divided by adding one or two additional letters and a set of Arabic numbers. This system is in use at the Library of Congress and at many academic and research libraries in Canada and the United States. Originally developed for the Library of Congress and published at the turn of the 20th century, the enumerative LCC system was influenced by Cutter's Expansive Classification, DDC and classification schemes used in major European libraries.

Subject bibliographers and specialists at the Library of Congress prepare revisions to the schedules. When a sufficient number of revisions occur within an individual schedule, a new edition is published. LCC has been criticized as lacking a sound theoretical basis because decisions meet classification needs at the Library of Congress and may not reflect considerations of epistemological elegance. Outlines of the LCC schedules are accessible from the Library of Congress website.³⁰ Libraries may purchase paper copies of individual volumes, download PDF versions or secure access to the LCC schedules through *Cataloger's Desktop* or *Classification Web*³¹ through the Cataloging Distribution Service at the Library of Congress⁴⁰ and to the weekly classification update lists.

Library of Congress Subject Headings

The *Library of Congress Subject Headings*³² (*LCSH*) provides access to a controlled vocabulary that can be used in the assignment of subject indexing of information packages in a library collection. A cumulative, alphabetical list that originated in 1898, *LCSH* contains the authorized headings or preferred terms that reflect philosophies and policies followed at the Library of Congress over many years. The headings contained in *LCSH* reflect the underlying principles that govern current work on the formulation of subject headings at the Library of Congress, the structure of the subject headings list as a whole, and the general policies that govern the assignment of subject headings to MARC records.

Subject bibliographers and specialists at the Library of Congress prepare revisions to the schedules. Revisions occur regularly and are available as authority records from the Library of Congress website and to the weekly subject headings lists.³³ Libraries may purchase the five-volume annual update in paper or secure access to *LCSH* through *Cataloger's Desktop* or *Classification Web* through the Cataloging Distribution Service at the Library of Congress.³⁴

Guidelines on Subject Access to Individual Works of Fiction, Drama, Etc.

Published in 2000, the *Guidelines on Subject Access to Individual Works of Fiction, Drama, Etc.*³⁵ (GSAFD) constitute a recommendation for national standard practice in the provision of genre and subject access to individual works of fiction, drama, poetry, humor and folklore in all formats. Catalogers may use this tool for guidance in resolving theoretical and practical problems in assigning topical, character, setting and genre headings. Available as machine-readable authority records and in print from the American Library Association, the genre headings include reference structure, scope notes from the printed list and for coding MARC that align with that found in other subject heading systems, such as *LCSH*.

MARC formats

The acronym for MACHine-Readable Cataloging, MARC defines a data format that emerged from a Library of Congress-led initiative that began in the 1960s. MARC formats provide the mechanisms by which computers exchange, use and interpret bibliographic information, and its data elements make up the foundation of online library catalogs used today.

The Council of the British National Bibliography organized a similar development in United Kingdom. By 1968 these efforts came together as MARC II. Since its inception, MARC designers envisioned a framework for data representing library materials in a variety of formats and languages that could be used in automated systems with flexibility to support related applications (circulation, cataloging, acquisitions, inventory, collection analysis and the like).

Differing requirements promulgated by their controlling bodies led to the development of USMARC and UK MARC in the 1980s. By the late 1990s, nearly 50 different versions of MARC existed around the world. Catalogers and their colleagues in systems development recognized the benefits of bringing the differing versions of MARC together. Long, thoughtful deliberations and consultation between the Library of Congress and the British Library led to the discontinuation of UK MARC, the adoption of USMARC in the United Kingdom, and renaming the Library of Congress version MARC 21 in 1998.

The Network Development and MARC Standards Office (NDMSO)³⁶ at the Library of Congress maintains and publishes the official versions the MARC 21 formats and associated documentation³⁷ and issues annual updates. The MARC 21 suite of documentation includes the bibliographic format (and includes eight types of materials), the authority format, the holdings format, the classification format and the community information format. In addition to these formats, NDMSO publishes official documentation for country codes, language codes, geographic codes, organization codes, and relator, sources, and description conventions codes.

Catalogers may access MARC from the Library of Congress website free of charge or purchase the documentation from a bibliographic utility, integrated library system vendor, or outside supplier of cataloging data.

Summary

Cataloging is routinely referred to as the process of describing an information package, choosing name and title access points, conducting subject analysis, assigning subject headings and a classification number. Learning to catalog requires the mastery of technical competencies supported through the incorporation of computer-dependent technologies into the teaching and learning environment. Three components comprise the descriptive

cataloging process: the identification, enhancement and construction of bibliographic records; classification; and the subject analysis for the assignment of access points to the information package. Representatives from professional organizations, publishers, vendors and libraries invest significant time and effort into the drafting, revision and preparation of the manuals, guidebooks and other documentation for use in the cataloging process. Learning to catalog requires the library student or novice to develop a familiarity with specialized manuals, and guidelines (called tools) that are designed specifically for these tasks. These tools include the *Anglo-American Cataloging Rules*, 2nd ed., rev., authority records and files, classification schemes (e.g. *DDC* and *LCC*), subject heading lists (*LCSH* and *GSAFD*), and MARC documentation.

Review exercises

- Name the four most useful tools to use when performing descriptive cataloging.
- Name the three main classification schemes and predominant types of libraries in which the scheme is used in the United States.
- What is the Functional Requirements for Bibliographic Records document? Why is it important in cataloging and classification?
- Describe NISO and its role in bibliographic control.
- How do cataloging and classification processes differ? How are these processes used together?
- Describe the potential uses of an online public access catalog (OPAC). What is the importance of each use and how does it influence cataloging and classification?
- Describe the format and content of Anglo-American Cataloging Rules (revised edition, 2003 with updates) as it relates to authority control.
- Identify the three main purposes of authority control in an online public access catalog (OPAC).
- Explain the relationship between AACR2r and LCRI. What is the impact of these documents on cataloging?
- List the six most critical websites to use in the cataloging process.

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Putting it together

State-of-the-art library catalogs contain the local bibliographic database and provide successful integration between the patron and the computer-based system. The technical capabilities in the Integrated Library System (ILS) enable users to query, search and interact with the local Online Public Access Catalog (OPAC) and comparable systems that are geographically distant. Because these activities are technologically feasible and efficient, the goal to consider information resources, regardless of format or geographic location, is the cornerstone of multi-type resource sharing and interlibrary loan environment.

Libraries have not progressed uniformly toward the goal of integrated systems. The presence of fragmented bibliographic data about library materials in brief and incomplete surrogate records continues to complicate the process of identifying the exact status of items. Library staff must search the catalog, on-order files, shelf lists, officials, binding files, circulation files, overdue materials files, continuing resources (serials) files, and departmental activity-specific files. Until libraries build, access and maintain a comprehensive integrated system reflecting the intellectual qualities of all resources, the lack of cohesion and incomplete bibliographic records will frustrate staff members and patrons alike. They will continue to expend significant resources (human, capital and time) in order to compensate for incorrect, incomplete data. The planning, implementation and evaluation required to achieve this goal requires appropriate attention from librarians and their staffs in the twenty-first century.

Understanding the cataloging process requires familiarity and ease of use of the cataloging rules, authority records and files, classification schemes, subject heading lists, MARC documentation, and local practices. The cataloging process enables the cataloger to construct bibliographic records that support several functions in the library's integrated library system. Points of access within the bibliographic record facilitate the searches that librarians conduct as part of reference, readers' advisory, and collection development processes. Patrons query the OPAC to determine whether or not the library owns specific titles, to identify online or e-resources pertaining to a particular subject, and to identify the locations in which the items are held.

The evolution of a bibliographic record from the acquisitions process through the cataloging process is important for the novice cataloger and LIS student to understand. The cataloger creates or identifies brief entries as shown in Figure 2.1, contributes them to the OPAC during the acquisitions process, and enhances them during the descriptive cataloging process as shown in Figure 2.2.

008	050525s2006	nyu	000 f eng
010	2005049866		
020	0399153071 (alk. paper)		
040	DLC# cDLC		
043	n-us---		
050 00	PS3552.R354 #b C3355 2006		
082 00	813/.54 #222		
100 1	Braun, Lilian Jackson.		
245 14	The cat who dropped a bombshell.		
260	New York :#b G.P. Putnam's Sons, #cc2006.		
300	p. ;#c cm.		

Figure 2.1. Brief bibliographic record for acquisitions process.

```

008 050525s2006 nyu 000 f eng
010 2005049866
020 0399153071 (alk. paper)
040 DLC #c DLC #d DSG
043 n-us---
050 00 PS3552.R354 #b C3355 2006
082 00 813/.54 #2 22
099 9 #f M #a FICTION #b BRAUN
100 1 Braun, Lilian Jackson.
245 14 The cat who dropped a bombshell / #c Lilian Jackson Braun.
260 New York : #b G.P. Putnam's Sons, #c c2006.
300 191 p. ; #c 23 cm.
520 While the town of Pickax is celebrating the 150th anniversary of its founding, Jim Qwilleran must
    make time to entertain an aspiring architect. Jim's cats start behaving oddly around the visitor
    and when a psychic predicts a murder and a woman from California leaves a message for Jim, it
    is up to Koko to help put the clues together.
650 o Qwilleran, Jim (Fictitious character) #v Fiction.
650 o Yum Yum (Fictitious character : Braun) #v Fiction.
650 o Moose County (Imaginary place) #v Fiction.
650 o Koko (Fictitious character) #v Fiction.
650 o Country life #v Fiction.
650 o Millionaires #v Fiction.
650 o Siamese cat #v Fiction.
650 o Cat owners #v Fiction.
650 o Cats #v Fiction.
655 7 Mystery fiction. #2 gsafd

```

Figure 2.2. Bibliographic record after cataloging process.

The descriptive cataloging process

Library patrons, librarians and staff members depend on the online public access catalog for accurate, comprehensive information regarding the institution's holdings. An institution's OPAC reflects unique information that cannot be duplicated from another catalog or purchased from a commercial vendor. Therefore, because of the users' collective dependence on the bibliographic data and holdings information in the OPAC, these databases are the most expensive and valuable resources in the library.

Contrary to popular opinion, bibliographic records do not create themselves. Sadly, there is no magic contributing to the cataloging at the Library of Congress, a bibliographic utility, commercial vendor, or a large library. Therefore, professional librarians and their paraprofessional co-workers shoulder the responsibility for procuring or creating individual bibliographic records for each unique information package added to the library's growing collection.

Libraries have shared cataloging data since the advent of printed cards. The integration of computers into the cataloging process and technical services units enabled librarians to benefit from the bibliographic records created at other libraries, modify them for local use, and pay a fee so that they could download them into the library's server.

Despite the growing reliance on large bibliographic databases, graduate library school students and novice catalogers benefit from an understanding of the cataloging process itself. Without a familiarity of the cataloging process, the selection of the correct MARC format (see chapters 4-11 for specific explanations and examples) into which the bibliographic data are to be transcribed, determining the appropriateness of the available bibliographic record, its level of completeness and the assignment of access points will remain a potential rather than a reality.

The descriptive cataloging process is essential for building and maintaining the OPAC. In order for each item in the library's collection to be described accurately, a bibliographic record must be procured and added to the database. In order to ensure that all of the appropriate fields are included in the bibliographic record for each information package, the catalogers customarily works with reference librarians to prepare a document that specifies the required points of access. Known as the library's bibliographic input standards document, it provides guidance to catalogers regarding the fields that need to be present in each bibliographic records reviewed, enhanced, and created for the OPAC.

Bibliographic data used to describe an information package are transcribed (i.e. written) into one of the eight MARC formats. The purpose of the MARC formats is to provide a standard framework for the placement of

bibliographic data so that the integrated library system software can read, index, search and display surrogate records in the OPAC. Catalogers procure the bibliographic data from the information package and transcribe them into the appropriate MARC format (see the “MARC: purpose, features, formats and punctuation” chapter for a more detailed explanation). A machine-readable bibliographic record is made up of four distinct parts: the leader, the directory, an unlimited number of fixed and variable length fields, and the end-of-record mark. The fixed and variable length fields are designated with a three-digit tag, two potential numeric indicators, and subfields that contain specified data elements.

The neophyte cataloger should follow these steps in the cataloging process regardless of the format, language, size or other physical characteristic of the information package. The cataloger needs to check and correct spelling and data transposition errors during each step of the cataloging process.

Step 1—Examine the information package. The cataloger must determine the type (monograph, projected media, etc.) of information package (i.e. the item). Unless the cataloger identifies the correct type of item, the selection of the correct format and descriptive elements that need to be included in the bibliographic record will be in doubt. The cataloger needs to verify that the entire information package is present (inserts, CDs in book pocket, etc.). Each component of the information package needs to be included in the bibliographic description. (Tools needed for this step: the information package.)

Step 2—Identify the correct MARC format to use. The cataloger must determine the physical format of the information package. Unless the cataloger identifies the correct MARC format, the requirements that dictate the inclusion of specific fields and subfields cannot be identified. There are eight MARC formats for bibliographic data, each of which has a specified set of fields and subfields into which bibliographic data are transcribed.

The MARC bibliographic formats are monograph (the “MARC: purpose, features, formats and punctuation” chapter and the “Cataloging monographs” chapter), projected media (the “Cataloging project media” chapter) sound recording (the “Cataloging sound recordings” chapter), cartographic material (the “Cataloging cartographic materials” chapter), notated music and scores (the “Cataloging notated music” chapter), electronic resource (the “Cataloging electronic resources” chapter). Tools needed for this step: the information package and MARC documentation.)

Step 3—Locate chief source of information. Each format has a chief source of information, the most credible data that the cataloger transcribes into the bibliographic record. After the cataloger identifies the correct physical format and MARC format, the chief source of information can be located according to the provisions in *Anglo-American Cataloging Rules, revised with updates*¹ (*AACR2r*). Each material type is discussed in a chapter of part one in *AACR2r* and is used with a specific MARC bibliographic format.² The cataloger consults the appropriate chapter on *AACR2r* to review the priority list of the chief source of information for the item. (Tools needed for this step: the information package, *AACR2r* with updates, and MARC documentation.)

Step 4—Find standard numbers. Publishers and manufacturers customarily include standard numbers, their corporate identification numbers, and universal product codes on information packages. These standard numbers can be used to search the OPAC, the databases of bibliographic utilities and commercial vendors. These standard numbers include (but are not limited to) the following: the International Standard Book Number (ISBN), the Library of Congress Control Number (LCCN), the International Standard Serial Number (ISSN), the Universal product code (UPC), the music publishers’ number, and the publisher’s catalog number. (Tools needed for this step: the information package, *AACR2r* and MARC documentation.)

Step 5—Log into the bibliographic utility or cataloging software. The cataloger needs to have online access to the bibliographic database that will be searched. The cataloger needs to log in using the correct username and password. (Tools needed for this step: Internet, documentation for the bibliographic utility, username and password.)

Step 6—Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find each bibliographic record that may match the information package. Searches by standard numbers are the most efficient. However, the cataloger may need to search by title or author. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 7—Examine the search results. The cataloger must determine whether the bibliographic record and its title match the information package. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 8—Determine if a bibliographic record matches the information package. In order to determine whether or not the bibliographic record matches the information package exactly, the cataloger will check and verify the following data elements: ISBN (020 #a), LCCN (010 #a), author (1XX #a), title (245 #a) and subtitle (245 #b), publisher (260 #b), date (publication and copyright, 260 #c), and number of pages (300 #a).

After the cataloger determines that the content of the variable fields in the bibliographic record match the information package, then the fixed fields must be reviewed to verify that they correlate accurately with these data. (Tools needed for this step: the information package, *AACR2r*, and MARC documentation.)

Step 9—Verify the access points. The cataloger needs to determine whether or not the bibliographic record contains all of the access points that patrons and library staff may need for searching and retrieving the information package. If the bibliographic record includes all of the access points that the library's bibliographic input standard document requires, then no additional fields are needed. However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and the appropriate bibliographic data. (Tools needed for this step: the information package, *AACR2r*, and MARC documentation.)

Step 10—Verify the classification. The cataloger needs to determine if the classification notation (i.e. number) present in the online record is part of the scheme that the library has adopted. If the bibliographic record includes a classification notation in the local scheme and if it is formatted correctly, the cataloger does not need to make modifications. However, if the classification notation does not correspond to the local scheme, then the cataloger needs to add an appropriate call number. In either instance the cataloger is responsible for ensuring that a correct Cutter designation is added. (Tools needed for this step: the information package, *AACR2r*, MARC documentation, and classification scheme.)

Step 11—Determine other tags to include. The cataloger needs to determine whether or not all of the fields needed for accessing and retrieving the information package in accordance with the library's bibliographic input standards document are present. If the bibliographic record includes all of the specified fields, no others are needed. However, the cataloger needs to add each of the missing fields. (Tools needed for this step: the information package, *AACR2r*, and MARC documentation.)

Step 12—Review each point of access in the authority file. The cataloger needs to determine whether or not all of the fields in the bibliographic record have been verified for content and structure against an authority record for each access point. If the bibliographic record contains an indication that it was created at a Program for Cooperative Cataloging (PCC) library or the Library of Congress, then no further authority work needs to be done. However, the cataloger needs to search an authority file and verify each access point (author (1XX #a), series (4XX / 8XX #a), subjects (6XX #a), added entries (7XX #a) if the bibliographic record was not created at one of these institutions. (Tools needed for this step: the information package, *AACR2r*, MARC documentation, and an authority file.)

Role of authority control in bibliographic databases

Authority control refers to several processes related to cataloging and library materials. A minimum of five complex processes can be included in the discussion of authority control work: (a) the creation of authority records; (b) the gathering of records into an authority file; (c) the linking of that file to a bibliographic file; (d) the maintenance of the authority file and system; and (e) the evaluation of the file and system.

Authority control has three purposes. First, authority control provides uniform terminology to group together materials associated with a particular name, a series, and items on a given subject. Second, authority control provides a standardized bibliographic product, allowing libraries to share cataloging records with minimal modification. Third, authority control established entries are maintained to answer questions expeditiously without additional research.

Each unique item is in the bibliographic database by two types of records. The first type is the bibliographic record, containing the access points, the descriptive cataloging data, and the location. The relationship between the bibliographic record and authority record can be understood most clearly when comparing the MARC tags. Some of the fields are parallel (the control fields and 1XX fields when the authorized headings reflect different types of names). Other fields are significantly different (*see* and *see also* references) and those which are defined for specific data (complete references, history notes, sources for the name choice, and notes identifying the sources used to establish the heading).

The second type is the authority record. Authority records have two main functions. First, the record locates in a single place the standard form and variant forms of the name of a person, place, corporate body, subject, series, or title. The record also contains information describing the authority on which the authenticated form is based and the date on which the record was prepared and updated.

Authority records contain a form of access points required in the cataloging rules and verified data referencing personal names, corporate names, uniform titles of specific works, and subjects (topical and geographic); the collocation of records in a bibliographic file that have the same access point; the issuance of standardized bibliographic surrogates; documents decisions made with respect to the form of access points; and to record cross-references, variant forms of access points, different sets of cataloging rules, and local policy.

MARC authority control records contain the following elements: the established heading for a person, corporate body, uniform title, geographic place name, or a subject heading; cross-references from variant forms, titles, or

terms not used for the established form of the heading; and the sources used to establish the heading. The established form in the authority record will be used whenever the heading is required, regardless of the type of entry: main, added or subject. Changes are required whenever additional information is added to the authority record. These changes include the authentication and verification of new forms of the name.

Successful bibliographic database building and implementation will eliminate the “seek and ye shall perhaps find something...if you're lucky” technique required to use paper card catalogs. When Charles Ammi Cutter prepared his rules, he did not envision library staff and patrons performing random searches, inaccurate fumbling through the catalog.

The multidimensional online catalog contains links between the descriptive cataloging record and authority records. Including machine-readable authority records in the online catalog is more efficient and effective than maintaining paper files. When the authority records are part of the online catalog, headings are automatically replaced in all bibliographic records when appropriate references and cross-references are generated or revised. Given that the library staff generates and enters required machine-readable authority records, each bibliographic record will connect to the access points and authority records for names (personal and/or corporate), titles (specific, series, and/or uniform), and subjects (topical and/or geographic).

Some library staffs created machine-readable lists of the forms of the names used in the online catalog within their institutions. These headings reflect the entries found in the paper catalog before the completion of a retrospective conversion initiative during which paper catalog records became machine-readable. A review of the headings list reveals inconsistencies, many of which are so different that they are difficult to identify as incorrect or are variants of an authenticated form. The extent to which inconsistencies, variant forms and errors occur cannot be easily determined or estimated. Library patrons seeking a specific item or resources identified by a specific subject key word can be successful in their use of the catalog (whether paper or online) without realizing the extent of errors present. OPACs bring together headings with commonalities and resolve the problems of collocation and correlation.

Online catalogs that contain authority records need to provide access and manipulation of them. When the authority records are correctly prepared, loaded, indexed, and integrated into the OPAC, the information seeker will be able to find information regardless of the form of entry used. Incorrect forms of personal names, corporate bodies, geographic names, subjects, titles, and series will locate the item requested by the user.

The differences between main and added entries as described in cataloging rules no longer serve as barriers when searching the catalog. In the online environment, the indexing of entries does not differentiate between the main and added entries, but rather combines those fields that provide access to an item through a related point. The elimination of these unnecessary distinctions expands and enhances the retrieval capabilities for library materials regardless of the format, user, or point of access.

Retrievability is further augmented by the ability to manipulate authority records. Bibliographic database maintenance requires the ongoing correction, review, verification, and authentication of entries. The use of authority records in an online catalog enables library staff members to modify and enhance points of access without the tedious, burdensome, time consuming, and expensive procedures required when maintaining a paper card catalog.

The ability to maintain authority records is essential and must be performed in tandem with an OPAC to provide an efficient, rapid, inexpensive method to update and correct points of access. The library staff must be able to modify authority records so that they reflect higher-level upgrades and authentications while retaining older, incomplete, incorrect, and variant forms of the entry. The system provides assistance with the difficult, intellectually demanding work of original cataloging.

Quality control must be established and maintained at a high level without allocating a disproportionate level of resources. When additional variant forms of the name are identified, they are added to the authority record. Each entry for a person, place, corporate body, subject, series, or title must be represented in the authority files within the online catalog environment. To include only a selected subset of the entries defeats the purpose of authority control. Hybrid systems containing a partial representation of authority records is prejudicial in nature, compromises the system capabilities to update, modify, manipulate and maintain the complete online catalog, and complicates the ongoing cataloging process.

Links between the bibliographic records and the authority records have two characteristics. First, the links provide two-way access. Each term refers from the established form to the variant form(s) and vice versa. Second, the links will be fully expressive. MARC formats contain a number of linking fields and should be utilized fully at the tag, indicators, and subfield levels.

Effect of authority control on in-house cataloging activities

Library catalogs are designed to provide quick, efficient location of materials. Entries for the OPAC are prepared according to a uniformly adopted set of cataloging rules. Items in the library collection are described according to the rules so that all materials can be identified uniquely. Consistency in the transcription of bibliographic data is of value only after the user locates the record.

Until the user locates the record in the catalog, the data describing the unique item, its location and status within the library are not useful. When the record for any specific item can be located in the catalog using any of its points of access, the material can be retrieved.

Several ground rules must be established. First, libraries are not warehouses of discrete books, but collections of materials that have been carefully assembled to satisfy a specific mission. Second, online access is by its very nature extremely specific and literal. Third, computing devices are unforgiving and obedient. Fourth, the human tendency to assume that the first search result is universally comprehensive and correct is not accurate. Fifth, every search will not be successful. Not all searches are for a known, discrete item.

Authority records will abolish some of the original cataloger's perennial problems. All forms of each entry must be available online in order to eliminate the requirement that the cataloger differentiate between them. The ability to switch between forms of personal names, corporate names, uniform and titles of specific works, and subjects (topical and geographic) will eliminate tedious verification and the establishment of entries activities. This capability will make further superimposition requirements from changes to the cataloging rules significantly more manageable.

Developing quality standards for authority control

Quality control is essential for an authority control system. Library administrators must evaluate systems in order to make decisions about them. Decisions must be made to reduce or avoid the incidence of system failures and to justify the allocation of resources required to support them. Evaluation of authority control systems focuses on five areas: legality of data, legality of format, accuracy of data, accuracy of format, and comprehensiveness of data.

Legality of data

The most important aspect is the extent to which the data conform with cataloging rules, *Library of Congress Rule Interpretations*,³ and local practice. The data may be evaluated as they are entered into the system or sampled for possible error. Technical services staff have established elaborate systems for checking and revising cataloging and authority data prior to loading into the online system. Techniques may include checking the cataloging work of one cataloger by another, funneling work or copy slips and authority records to a centralized location for review by a quality control team, or a combination of these methods.

Legality of format

The format is the structure into which the data are placed for loading into the online system. In a digital environment, this process requires the correct coding into a machine-readable record. Format eliminates ambiguity and provides consistency among records.

Accuracy of data

The legality of data must be checked for legal errors. The individual performing this aspect of the work must be familiar with the cataloging rules, local practices, and prescriptive requirements for authority records. In a machine-readable environment, the errors can be identified by software checking routines. Misspellings and typographical errors must be identified and corrected.

Accuracy of format

In a paper environment, the reviewer may check for the accuracy of data and format simultaneously. In an online environment, the human checks for the legality of data, and the software may check for the legality of format. The software checks a table to determine whether or not a tag and subfield are allowed (or valid) and present (if mandatory).

Comprehensiveness of data

Cross-references and notes are added to authority records to provide a cross-reference structure and to provide information to users of the authority file. The determination with regard to the completeness of the authority record includes an analysis of sufficient cross-references and notes about the heading. Evaluation may also be conducted by answering the following questions:

- Does each cataloger follow the rules and rule interpretations consistently?
- Does each cataloger have the necessary documentation, or access to it, that will ensure consistency?
- Are the rules and rule interpretations well written? Are the rules clear and free of ambiguity?

- Do revisers of authority records perform consistently and according to some measurable standard?
- What is the length of time required to prepare an authority record?
- What are the tasks in a given library necessary to prepare an authority record?
- Are authority records prepared for all entries?
- Does the cataloger search extensively to validate the form of name chosen for an entry?
- Are authority records entered quickly into the library's system so that duplicate records are not created?
- Is a clear record kept of changes in the policy for preparation of authority records?
- What is the frequency in authority records of "see from" references, "see also from" references, notes, citations of evidence necessary to establish the heading, etc.?
- What is the length, in bytes, of the authority records?
- What is the average length of the various fields in an authority record?
- Does the authority system accomplish the finding and gathering functions?
- Does the authority system penalize the searcher for using variant forms of the name?
- Do variant forms of names and titles lead directly to bibliographic records, through the mechanism of the catalog or indirectly to bibliographic records by requiring the entry of the authorized form?
- Can the patron understand the authority displays and systems messages?
- Is enough information given in the display?
- How quickly is the authority file growing?
- How many changes in a specific time period must be made to the authority file?
- What are the space requirements on the library server for the authority file?

Developing authority control policies and procedures

A library may establish and develop an authority control system using one or more methods. The easiest method is to purchase a file of authority records from the Library of Congress, a commercial vendor or a bibliographic utility and load them into the local server. Policies must be implemented to govern the creation of the authority records and the routines to which catalogers must adhere. Staff members must be trained and assigned to the ongoing maintenance of the authority records.

Local policy for authority work should consist of four facets: the prescribed format for authority records; the assignment of a different rank to each external source of authority records and different procedures to be followed with various sources; the extent to which cross-references are to be made in given situations; and how to handle names that are the same as, or similar to, other names.

If the authority file is used to govern the development of the bibliographic database, the library staff must provide for two phenomena: maintenance of the authority file and its logical structure; and facilities to achieve bibliographic control. The authority file control system must be concerned with database requirements: the expression and maintenance of relationships within an authority file and the use of the authority file to ensure consistency of a separate file. The authority file provides effective control over access elements common to more than one bibliographic record. The authority file can display its contents as a guide for catalogers as they are creating new bibliographic records and validating established and variant forms of the headings.

When the authority record is used to validate a heading, the online system creates a link with all occurrences of that heading in cataloging records. This capability empowers the library staff to maintain the bibliographic database with ease and to avoid errors that develop during the cataloging process. Machine links can identify relationships between subject headings. The advantage of this structure is the ability to make changes at any level automatically in all related headings.

Authority control in cooperative cataloging networks

All libraries regardless of type must be committed to bibliographic control in order to ensure its success. Cooperation between an individual library and the bibliographic utility to which it subscribes and among groups of libraries participating in cooperative efforts (i.e. *Access Pennsylvania*,⁴ *Prospector*,⁵ and the *Iowa Locator*⁶) must achieve a new level of bibliographic control. Unfortunately, librarians have not yet achieved a well-developed spirit of cooperation.

Historically, an undercurrent of reluctance to participate with smaller organizations, other types of libraries, and geographically distant colleagues has impeded collective progress. Sadly, librarians can experience insufficient financial support, lack of trust, fear of resources depletion, superiority, short-sightedness, and pettiness when asked to participate fully with professional colleagues to build, maintain and access a collective bibliographic database, owned by independent entities, geographically distant, and technologically different.

The expense to develop and maintain a rigorous bibliographic control system is significant. Each library expends funds in support of a *de facto* form of authority control. The direct cost to the individual library can be attributed to the cataloging process for those items that will not merge automatically into the catalog.

However, despite their intentions, librarians do not uniformly realize the scarcity of individuals experienced and capable of designing comprehensive online catalog and resource sharing environments. The shrinking number of library schools does not provide a training ground for these individuals. In fact, a significant number of system designers were not trained exclusively in library schools. To identify these individuals and to benefit collectively from their experiences and wisdom, librarians must set aside their personal points of view and local differences to cooperate and work for the common goals required for information technology access in the twenty-first century.

Trends in automated authority control capabilities in online catalogs

As a general rule, librarians do not create all of the authority records that they use. A significant majority of libraries purchase authority records from one of five commercial sources. Commercial vendors that can supply and authenticate authority records according to MARC standards include (but are not limited to) the Library of Congress,⁷ MARCive,⁸ Library Technologies, Inc. (LTI),⁹ Auto-Graphics,¹⁰ and OCLC.¹¹

The true importance of the developed machine system lies not in its conceptual advance or bibliographic elegance but in the impact it will have on library efficiency and the service we give to the users in our libraries. Future developments may include the following:

- rigorous definition of the term *access point*;
- sophisticated and streamlined processes by which authority control can be carried out;
- surveys on the ways authority systems are used and who uses them;
- system-generated evaluations for authority files and their use so that librarians can make better decisions with regard to processing;
- understanding of the meaning of the ratio of authority file size to bibliographic file size;
- empirical research to reveal optimal methods of controlling the quality in authority files;
- efficient ways of developing maintenance procedures for authority systems;
- research findings to reveal how the use of the authority file helps or hinders search and retrieval from a bibliographic file;
- redesign of subject authority lists;
- rewriting of the cataloging code to include instructions with regard to linking descriptive records to existing authority records; and
- revision of MARC formats to reflect multidimensional bibliographic data.

Bar code technology

Integrated library systems use bar codes (a series of printed lines and spaces of varying widths which represent numbers, symbols, and/or letters) to track items through the circulation process. A bar code is a self-contained message with information encoded in the widths of bars and spaces in a printed pattern. Since bar codes are used with computers, binary code is used. The black bars and white spaces represent a series of zeros and ones. Bar codes are read by sweeping a light across the symbology. The sweep begins before the first bar and ends after the last bar.

Bar code symbology

A symbol is defined as something that stands for or suggests something else by reason of a relationship, association or convention. The array of bars and spaces represent characters, letters, numbers, or other graphic symbols in a machine-readable form. The width of the bars and spaces, as well as the number of each is determined by a specific convention. The specification sets the minimum nominal width of the narrowed elements (bars and spaces), the ratio of the wide elements to the narrow ones, the printing tolerances (the changes in width because of the printing process), the structure of unique bar and space combinations to represent various characters, the bar/space patterns that specify the beginning and the end of the bar code message, and the clear area, or quiet zone, required in front of and at the end of the symbol.

The basic element of a bar code is the width of the narrow element. This width is called the X dimension. Frequently, the widths of the wider elements are measured in multiples of X. In some codes the width of each element is precisely defined. Beyond simply varying the widths of the elements, individual characters can be coded by using differing numbers of bar code elements. Different bar code symbologies use five, seven, eight, and nine elements to code a single character. Some symbologies can represent letters, numbers and other graphic symbols. Most bar code symbologies, however, encode strictly numeric data and a few special characters and have a unique start/stop character combination, although a few permit multiple start/stop codes with varying purposes.

Bar codes are either discrete or continuous. Simply stated, discrete bar codes start with a bar, end with a bar, and have a space between characters, referred to as an intercharacter gap. By contrast, continuous codes start with a bar, end with a space, and have no intercharacter gap. Bar code symbologies can achieve differing densities (numbers of characters per inch of code). The density of a bar code is determined by the minimum X dimensions, the wide-to-narrow element ratio, the number of elements required to represent a character of information, and the overhead characters needed by the symbology, such as start and stop codes and check characters.

There are two measures of a bar code symbology's friendliness. The first is its human friendliness, often referred to as its first and second pass read rate. The first read rate (FRR) is the ratio of the number of times in which a good read occurs on the first try, divided by the number of attempts. The second pass read rate (SRR) is the ratio of the number of times in which a good scan occurs in two or fewer tries divided by the number of attempts. Bar code systems should achieve at least an 85 per cent FRR and at least a 99 per cent SRR. Low read rates ultimately lead to user dissatisfaction and a bar code system that will not be used. While low read rates indicate a high level of no scans, user dissatisfaction is the main concern.

Far more difficult to measure is the symbology's system friendliness, or substitution error rate (SER). A substitution error exists when the data encoded in the printed symbol does not agree with the data read by the bar code reader. The SER measure is the number of substitution errors that occur over all symbols read. Some bar code symbologies have a proven SER of better than one character in one million scanned. The operator or bar code reading system can detect a no scan problem. But a bad scan or substitution error is not detected until after the data has been stored in the data processing system. Even then, the error may not be caught. There is a direct relationship between a symbology's FRR and its SER, since the bar code reading system really tried to decode the scanned message. The more times that a bar code is passed over the scanner to read a symbol, the higher the probability that a substitution error will occur. However, bar code substitution error rates are much lower than the rate of one substitution error for every 300 characters entered experienced in manual key entry. Even the weakest symbologies are substantially better.

Code 39

Code 39 was developed in 1975 by Dr David Allais and Ray Stevens of Interface Mechanisms (now Intermec) and is the code for industrial and commercial applications.¹² In 1981 the Department of Defense selected Code 39 as its official symbology with the publication of the *Final Report of the Joint Steering Group for Logistics Applications of Automated Marking and Reading Symbols*.¹³ Code 39 is one of three symbologies identified in the National Information Standards Organization standard MH 10.8-1983 and the only one of the three having alphanumeric capability. Code 39 was later standardized as ANSI MH 10.8-1983 and MIL-STD-1189.

The name Code 39 is both a descriptor of its original character set of 39 characters (currently Code 39 has 43 characters) and the structure of the code, namely that three of the nine elements per character are wide, with the remaining six being narrow. Each character in Code 39 is represented by a group of five bars and four spaces. The complete character set includes a start/stop character (conventionally decoded as an asterisk) and 43 data characters consisting of the ten digits, the 26 letters of the alphabet, space, and the six symbols (-, ., \$, /, +, and %).

The strong self-checking property of Code 39 provides a high level of data security. With properly designed scanning equipment and excellent quality symbol printing, one can expect only one substitution error out of 70,000,000 characters scanned. For those applications that require exceptional data security, an optional check character is often used.

Code 39 is a variable length code whose maximum length depends upon the reading equipment used. Code 39 is self-checking and does not require a check character in normal commercial and industrial applications. Because it is discrete with a range of intercharacter gaps permitted, Code 39 characters are bi-directional, meaning that the bar code can be scanned from left to right or right to left. The size of Code 39 is variable over a wide range, lending itself to light pen, hand-held laser, and fixed mounted scanner reading. The standard density of Code 39 is 9.4 characters per inch, but densities as low as 1.4 characters per inch are included in the recommended practices of corrugated containers. A unique character, conventionally interpreted as an asterisk (*), is used exclusively for both a start and stop character.

A Code 39, symbol consists of a leading quiet zone, a start character, appropriate data characters, a stop character, and a trailing quiet zone. In Code 39 wide elements are considered multiples of the narrow elements. The minimum nominal wide-to-narrow ratio is 2.0:1 and the maximum is 3.0:1. The best first pass read rates and substitution error rates can be expected when the wide-to-narrow ratio is at its maximum of 3.0:1. To achieve the standard density of 9.4 characters per inch, the nominal width of the narrow elements must be 7.5 mils and the wide-to-narrow ratio must be 2.25:1. When printed at 3.0:1 ratio, the Code 39 character density with a 7.5-mil nominal narrow element width is 8.3 characters per inch.¹⁴

Laminates

In applications that require the bar code symbol to be exposed to adverse environments or if the symbol is going to be scanned at least 50 times, it should be protected with a transparent coating having a thickness of 10 mils or less. Suitable coating materials include clear plastic laminate, polypropylene film, matte acetate film, polyester film, and lacquer spray.

A laminate is a thin, transparent film or mylar, polyester, vinyl, or other polymer substance, which is applied to label stock after the symbol is printed. Laminate stock generally comes in sheets or rolls and is typically 1 mil thick. The laminate is bonded to the printing surface by heat or pressure. Laminates can be applied to one side of a pressure-sensitive label or to both sides, as is the case for catalog order forms, identification badges, and menu cards.

Print quality

The print mechanism, the media (or substrate) and the ink together determine the quality of the printed symbol. Assuming the printer is capable of printing the density desired, the major factors influencing quality are: ink spread/shrinkage; ink voids/specks; ink smearing; nonuniformity of ink; bat/space width tolerances; and edge roughness. All of these factors are potential sources of both systematic and random errors. These errors must be closely controlled to ensure that the symbol will be easily scannable.

Summary

Patrons, librarians and staff members depend on the online public access catalog for accurate, comprehensive information about the resources that the library owns. Because of users' collective dependence on the bibliographic data and holdings information in the OPAC, the online catalog is the most expensive and valuable library asset. Therefore, novice catalogers need to learn how to catalog, become familiar with the MARC formats, and understand the importance of providing complete, accurate bibliographic records.

The multidimensional online catalog contains links between the bibliographic record and authority records. When the authority records are part of the online catalog, headings are automatically replaced in all bibliographic records when appropriate references and cross-references are generated or revised. Bibliographic control includes the creation of authority records, the gathering of records into an authority file, linking of that file to descriptive data, maintaining the authority file, and evaluating the online and system.

Review exercises

Please list the correct entry and cross-references (variant entries [4XX fields] and former entries [5XX] for corporate bodies).

- Marilyn Monroe [the motion picture actress]
- United States Forest Service [the government agency]
- T S Eliot [the British author]
- Feodor Dostoevsky [the Russian author]
- The Girl Scouts [the organization]
- T A Edison [the inventor]
- University of North Texas [the academic institution]
- FDR [the US President]
- Geological Survey [the Federal agency]
- The Brothers Grimm [ascribed authors of fairy tales]

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MARC: purpose, features, formats and punctuation

Systems analysts and librarians developed MARC at the Library of Congress primarily for the purpose of standardizing the computer and communications specifications required for the exchange of bibliographic and related information among systems.¹ The development of MARC predated the development of integrated library systems and national and international standards for the exchange of data.²

The designation of MARC as a communications format did not include mandates for internal storage or display formats for individual libraries. Because of the variety of exchange and processing environments in the information environment, querying and viewing data in the online public access catalogs of libraries located away from the searcher's home institution was time consuming and challenging. Each library had a unique searching protocol searchers had to learn. Online querying of a neighboring library's catalog frequently required the searcher to access the computer through a dial-access telephone line, log on as a guest, and establish the local computer as a dumb terminal on the mainframe host.

Although the Library of Congress had printed and sold card sets since 1901 and sold copies of book catalogs³ to larger libraries, a growing integration and dependence on computer-based programs created a new market for its high-quality cataloging. Initially developed at the Library of Congress to facilitate the sharing of catalog records, the bibliographic data and authority files were a reliable source of machine-readable cataloging that libraries and commercial vendors could use to produce printed card sets and images of main entry cards in microform products (e.g. microfiche and microfilm).

The availability of library catalogs in microform enabled librarians to use the data for cataloging and interlibrary loan. While interlibrary loan activities relied on the use of paper forms sent through the United States Postal Service or communicated through teletype or telephone, viewing the catalog of a potential lending library improved the accuracy of bibliographic verification, increased the probability of borrowing and decreased the number of unverified or blind requests.

The current MARC formats⁴ and earlier versions of them have traditionally had a close relationship to the needs and practices of North American libraries with universal collections. The placement of data elements and authenticated values reflect the cataloging rules as applied by practitioners in the library and archives communities. Consequently, the MARC authors and developers attempt to preserve reasonable compatibility with other national and international formats. Because of their roles as creators and providers of authoritative cataloging and in response to their assigned responsibilities for certain data elements, national agencies in the United States (Library of Congress,⁵ National Agricultural Library,⁶ National Library of Medicine,⁷ United States Government Printing Office,⁸ and Canada (National Library of Canada)⁹ receive special emphasis and consideration in the MARC formats.

Important features about MARC

An understanding of the ways in which the MARC formats support bibliographic control and support for integrated library systems is critical for the library school student and novice cataloger. Although librarians use MARC or machine-readable records as common terms, several features about them merit consideration.

MARC and the cataloging rules have different purposes

The explicit and implicit purposes of the MARC formats and the cataloging rules differ significantly. Experts who understand and appreciate the purposes and implementation requirements maintain and update each tool. The schedules for updating, revision and enhancement are independent and complement rather than rely on each other. Learning to use these tools together is a significant challenge for the novice cataloger and library school student.

MARC was developed to facilitate online access to the catalog

The development of MARC was independent of the continued review and updating of the cataloging rules. While the MARC format is designed for the transcription of descriptive bibliographic data by the cataloger, the order of the fields does not parallel the provisions found in *AACR2r* nor does it contain a comprehensive set of rules for each of the fields and subfields.

The primary purpose of the MARC formats is to represent and communicate bibliographic and related information. Because of its universal application and transferability among computer-based systems, MARC does not reflect the unique capabilities of a particular integrated library system. Therefore, catalogers must understand the local system-related decisions, cataloging practices, and implementation strategies. The exchange of bibliographic data does not include local decisions regarding the application of bibliographic input standards, the addition of access points, or displays in the online public access catalog.

Each MARC record contains four components or levels

The **content designation** codes and conventions within each MARC record enable the cataloger to identify and characterize the data elements within a machine-readable record in support of reading, interpreting, displaying

and communicating those data in computer-based systems. The *Information Interchange Format* (ANSI/NISO Z39.2-1994 (R2001 & ISO 2709) provides for four levels. A comprehensive explanation of the MARC record structure appears in *MARC 21 Specifications for Record Structure, Character Sets, and Exchange Media*.¹⁰

A three-character tag composed of Arabic digits designates each MARC field. Two numeric digits called indicators follow the tag and convey information to interpret and supplement the data transcribed by the cataloger into the field. While the indicators can be considered to be a pair of digits, each indicator is treated independently. Therefore, the cataloger must interpret the meaning of each indicator separately.

Each indicator is represented by a lowercase numeric character. In selected situations the indicator may be blank and, therefore, indicates that *no information is provided*. The blank may have specific meaning to accommodate upward compatibility.

Subfield codes identify data elements within a field. A pair of characters, usually a delimiter and a lowercase alpha or numeric, represents each subfield. The designation of subfields facilitates the manipulation of data elements within them. Designed for independent consideration with respect to each field, subfield codes are defined to identify data elements. The cataloging rules specify the order of subfields within fields. Although all data elements may be repeated in theory, the nature of the descriptive data often precludes repetition. Therefore, the MARC format documentation includes instructions for the repeatability or non-repeatability of each field and subfield code. A mark of punctuation may appear after the data in a subfield and at the end of a field.

MARC bibliographic format provides content designation

The *MARC 21 Concise Formats* are published to provide detailed field descriptions, guidelines for applying the defined content designation, selected examples, and the identification of recommended conventions that insure input consistency. These publications can be used as quick reference guides to the content designators defined in each MARC format. They provide a concise description of each field, character position of the fixed-length data element fields, and defined indicators in the variable data fields. When the names of subfield codes and their possible values are insufficient for the cataloger to make a determination regarding use, descriptions are included in the documentation. The *MARC 21 Concise Formats* are officially published online once a year (usually in the last quarter of the calendar year) and use red highlights to indicate changes.

The cataloger is required to transcribe bibliographic data that apply to a work in order to maximize its value as a shared machine-readable record. Content designation is required to identify and characterize data elements that comprise a MARC record for its manipulation within the integrated library system environment. Specific information that describes the copies held locally is not of interest to others. Descriptive content data elements for locally owned copies need to be transcribed for use in the owning institution's online public access catalog. The transcription requirements for bibliographic data allow catalogers to retain the option of using limited fields to encode data associated only with the information package held locally and identifying the holding institution.

The MARC formats include specifications for the content of coded data elements. Coded data may appear in any field or subfield. However, the coded data appear most frequently in fixed-length subfields and can be identified by their position in the record. Historical exceptions occur in the formats. In particular, a value of blank is often defined as *not applicable* or has been assigned a specific meaning.

MARC record structure

Each MARC record is composed of the record structure, the content designation, and the data content. The records are broken down into units called fields that correspond to areas of description contained in *AACR2r*, points of access, and data that are not mentioned in the cataloging code. An implementation of the *American National Standard for Information Interchange* (ANSI/NISO Z39.2) and its ISO equivalent ISO 2709, the MARC record structure consists of the leader, the directory and the variable fields.

The leader contains data elements required for an integrated library system to process the record. These data elements include numbers or coded values that are identified by their relative character positions. The leader is a fixed-length field of 24 character positions and is the first field in all MARC records. Modifications to the record leader are automatically system-supplied.

The directory of each record contains a series of entries containing the tag, length of individual variable fields, and the starting location for each of them. Each entry is 12 character positions in length. Directory entries for variable control fields appear first, sequenced by tag number in ascending order. In the early days of MARC format use, groups of individual records were copied onto nine-track magnetic tape for transport. MARC records were copied onto magnetic tapes in logical blocks of 2,048 characters each. Each MARC record was considered a unique record and could use up to four local blocks (8,192 characters) called a logical record.

The record directories enable the software in host computer systems to identify tags with the data elements in them. The location, data elements and length of tags within the record must be identified so that the ILS software can sort, index and store them properly. Modifications to the directory are automatically updated and system-supplied after the cataloger makes modifications to the record.

The descriptive bibliographic data in a MARC record are transcribed into variable fields and organized by a three-character numeric tag (also called a field) that is stored in the directory entry for the field. Each field ends with a field terminator character. The MARC record ends with a record terminator (ASCII 1D hex). There are two types of variable fields.

The variable control fields (identified by tags 001-009) differ structurally from the variable data fields. These fields do not contain indicator positions or subfield codes. The variable control fields contain either a single data element or a series of fixed-length data elements identified by their relative character position.

The variable data fields (identified by tags 010-899 fields) contain the descriptive data about the work. Although these fields appear in ascending numerical order in documentation and within the directory, the screen display does not necessarily correspond exactly. The content designation includes tags, codes (fields, indicators and subfields) and cataloging conventions used to identify and characterize the data elements within a record and to support the manipulation of them.

The data content of the fields in a MARC record are defined by cataloging rules, guidelines and practices that are distinct from the formats. They include (but are not limited to) the *International Standard Bibliographic Description (ISBD)*,¹¹ *Anglo-American Cataloguing Rules*, 2nd edition, revised (*AACR2r*),¹² and the standards developed, approved and published by the National Information Standards Organization (NISO) and the American National Standards Institute.¹³ The content of certain coded data elements (e.g. the leader, fields 007 and 008) is defined in the MARC formats themselves. When a tag is repeated within a record, the subsequent occurrences are distinguished by the location of the respective fields. The directory ends with a field terminator character (ASCII 1E hex).

Two types of content designation are used within variable data fields. The first two character positions at the beginning of each variable data field are indicators and contain values to interpret or supplement the data found in the field. Indicator values are interpreted independently and are not considered to be a unit or pair. Generally, indicator values are represented by a lowercase alphabetic or numeric character. In a defined indicator position, a blank may be assigned a meaning or indicate that *no information has been provided*. A blank (ASCII 20 hex) is used to designate an undefined value for an indicator. In this handbook, a blank may also be represented by a pound symbol (#).

The two characters that precede each data element within a field require separate manipulation. Considered as a unit, a subfield code consists of a delimiter (hex 1F), represented as a dollar sign (\$), a pipe (|) or a double dagger (≠) followed by a data element identifier. Subfield codes are defined independently for identification of data elements within a field. The order of subfields is specified by standards for data content and is not open to interpretation or change by the cataloger.

Subfields are not displayed uniformly among systems. Some systems use a separate line for each subfield, while others separate them with ISBD punctuation and the use of subfield codes. In the machine-readable record itself, the characters are run together, so differences are dictated by the system and the instructions for the display.

In some systems the cataloger needs to enter a symbol at the end of each field. Selected systems supply the end-of-field or field mark automatically. The end-of-field mark ensures that the next data are interpreted as the tag for the following field. Systems use paragraph designation mark (¶), a triangle (Δ), or no mark to indicate the end of a field.

Selected variable data fields (1XX-8XX) correlate with coded control fields (leader, 007 and 008). Understanding and appreciating the correlations or pairings of fields intended to be used together enables the cataloger to enter the data so that these relationships are evident. The use of selected variable data fields (1XX-8XX) triggers the inclusion of companion tags (006, 007, 03X, 04X and 5XX-8XX). Understanding and appreciating the cataloging convention of using these fields together enables the cataloger to enter the data so that these relationships are evident.

In theory, each of the fields in the MARC formats may be repeated in an individual record. However, the nature of the data frequently precludes repetition. The provisions for field and subfield repeatability (R) or lack thereof (NR) are indicated at the end of each field and subfield in MARC format documentation.

The MARC formats

Each MARC format provides a framework for the transcription and exchange of encoded data among libraries and across integrated library systems. Although the format for bibliographic data is the most recognized and is supported by library systems worldwide, five distinct types of MARC records exist. Each of them serves a specific purpose and is described briefly.

Format for bibliographic data

The *MARC 21 Format for Bibliographic Data*¹⁴ serves as a framework for universal bibliographic information. The format accommodates descriptive bibliographic data for books (printed and manuscript textual materials), computer files (computer software, numeric data, computer-oriented multimedia, online systems or services), cartographic materials (maps and atlases in printed, manuscript, electronic, and microform), music (printed and notated music), continuing resources (known as serials prior to 2002, textual items with a recurring pattern of publication, e.g. periodicals, newspapers, year-books), visual materials (projected media, two-dimensional graphics, three-dimensional artifacts or naturally occurring objects, and kits), and mixed materials (primarily

archival and manuscript collections of a mixture of forms of material). A sample MARC bibliographic record appears in Figure 3.1.

Bibliographic data commonly includes points of access (titles, names and subjects), notes, publication data, standard identification numbers, and information about the physical description of an item. The MARC bibliographic format includes fields that are required to be present in each record, as well as those that are optional. A listing of the MARC fields and the bibliographic formats in which they may be used and a listing of sets of fields that are used together (i.e. if one field is present, then the other must also be present), appear in “Appendix A”. The cataloger follows the library’s bibliographic input standards document to ensure that the descriptive data and points of access are present in each record. The bibliographic input standards document is a statement developed by the local library staff that lists those fields required to be present in each type of record and the local cataloging conventions for the transcription of data.

Cider House Rules: A Novel

```
008 841205s1985 nyu 000 1 eng
010 84027195 //r932
020 068803036X
020 0688057624 (lim. ed.)
043 n-us-me
050 00 PS3559.R8 #b C5 1985
099 9 FICTION #b IRVING
100 1 Irving, John, #d 1942-
245 14 The Cider house rules : #b a novel / #c John Irving.
250 1st trade ed.
260 New York : #b Morrow, #c c1985.
300 560 p. ; #c 25 cm.
520 Set in rural Maine in the early 20th century, this is the story of Dr. Wilbur Larch, saint and
obstetrician, founder and director of the orphanage in the town of St. Cloud, ether addict and
abortionist, and his favorite orphan, Homer Wells, who is never adopted.
650 o Physicians #z Maine #v Fiction.
650 o Orphanages #v Fiction.
650 o Abortion #v Fiction.
651 o Maine #v Fiction.
```

Figure 3.1. Bibliographic record in MARC format.

Format for authority data

The *MARC 21 Format for Authority Data*¹⁵ serves as a framework for information about the authorized forms of names and subjects to be used as access points in MARC bibliographic records. The MARC authority records contain the officially established (i.e. authenticated) forms of names (personal [X00], corporate bodies [X10], jurisdictions [X51], uniform titles [X30], meetings and conferences [X11]), and subjects (topical [X50], geographic [X51], and genre [X55]).

In order to provide clarity and explain the use of subdivisions as one or more parts of an authenticated name or subject, alternate, older, and related forms that can be used as cross-references appear in the authority record. This MARC format provides authoritative information concerning standard terms that are used as node labels in the systematic section of a thesaurus to indicate the logical basis on which a category has been divided. However, the cataloger is cautioned to avoid assigning node labels because integrated library systems do not index them.

Each MARC authority record is distinguished by the presence of code z (authority data) in the leader/06 (type of record). The *MARC 21 Format for Authority Data* provides for the following seven types of authority records: established heading ([leader code a] in which the 100-155 fields contain established headings and may also contain tracing fields for variant and related headings, and notes recording such information as the sources used to establish the heading and series treatment), reference ([leader code b or c] in which the 100-155 fields contain headings not formally established and either a 260 field [Complex See Reference Subject], a 664 field [Complex See Reference Name], or a 666 field [General Explanatory Reference Name] to guide the user to an established heading, subdivision ([leader code d] in which the 18X field contains an unestablished partial heading to be used as a subject subdivision part of an established heading), established heading and subdivision ([leader code f] in which the 15X

field contains an established heading that may also be used as a subject subdivision with another established heading), reference and subdivision ([leader code g] in which the 15X field contains an unestablished heading that may be used as a reference term and as a subject subdivision with an established heading), and a node label ([leader code e] in which the 150 field contains a term to be used in the systematic section of a thesaurus to indicate the logical basis on which a category has been divided but which is not an established heading and is not assigned to documents as an indexing term). A sample MARC authority record appears in Figure 3.2.

Simon Cameron (Personal Name)

```
100      #a ex 86114834
40       #a <organization code> #c <organization code>
100      1  #a Cameron, Simon, #d 1799-1889

670      #a NUCMC data from NJ Hist. Soc. for Bradley, J.P. Papers, 1836-
1937 #b (Simon Cameron)
670      #a LC data base, 1-21-87 #b (hdg.: Cameron, Simon, 1799-1889)
670      #a DAB #b(Cameron, Simon, 1799-1889; Sen. from Pa.
(Republican boss); financier; Sec. War under Lincoln; Min. to Russia;
s. Charles & Martha (Pfoutz) C.; newspaper editor; owner Harrisburg
Republican; commis. to settle claims of Winnebago Indians; m.
Margaret Brua; father of: J.D. Cameron (1833-1918))
```

Figure 3.2. Authority record in MARC format.

Format for holdings data

The *MARC 21 Format for Holdings Data*¹⁶ serves as a framework for holdings information associated with three types of bibliographic materials that are identified in leader position 06 (type of record). These materials include single-part items ([leader code x] that are complete in a discreet information package), multi-part items ([leader code v] that are complete or intended to be complete in a finite number of separate information packages), and a serial item ([leader code y] that is issued in successive parts at regular or irregular intervals that is intended to be continued indefinitely). Holdings information may include copy-specific information, data specific to the owning institution, requirements and instructions needed for local processing, maintenance or preservation of the item, and data unique to the version held at the institution or collection level. A sample MARC holdings record appears in Figure 3.3.

```
LDR      *****nv###22*****1##4500
001      <control number>
852      o#  #a<location identifier>#hHN535.2#i.M3J68

LEVEL 2  <Location Identifier> HN535.2.M368 19880511
(videocassette--VHS)

LDR      *****nv###22*****2##4500
001      <control number>
007      vfucbaio$
008      8902224u###8###2001bu###0880511
852      o#  #a<location identifier>#hHN535.2#i.M3J68

LEVEL 3  <Location Identifier> HN535.2.M368 19880511
(videocassette--VHS) no. 1-5

LDR      *****nv###22*****3##4500
001      <control number>
007      vfucbaio$
008      8902224u###8###2001bu###0880511
852      o#  #a<location identifier>#hHN535.2#i.M3J68
853      oo  #81#ano.
863      30  #81.1#a1-5#wg
```

Figure 3.3. Holdings record in MARC format.

Format for classification data

The *MARC 21 Format for Classification Data*¹⁷ serves as a framework for information about classification numbers and the captions (summary of the data in subfields a and b) associated with them that are identified in leader position 06 (type of record). Because the MARC classification record is an authority record for the classification number(s) and captions, classification data must be formulated according to a specified authoritative classification scheme.

Classification information includes three types of data: schedule record in field 153 (the classification number or number span is taken from a schedule), a table record in field 153 (the base number of the classification number or number span is taken from a table), and index term record in field 154 (contains an index term that is an explanatory term representing a concept and cannot be associated with a classification number and explanatory text in field 753). Classification numbers with captions (field 153 subfield j) may also appear in field 453 (Invalid Number Tracing) and field 553 (Valid Number Tracing). Index term only records contain field 154 (General Explanatory Index Term) rather than a classification number and caption.

The classification numbers may be one of the following types: single number (one classification number contained in subfield #a in a record), defined number span (a range of classification numbers with a beginning number contained in subfield #a and an ending number contained in subfield #c), and summary number span (a range of classification numbers with a beginning and an ending number with a caption that summarizes a topic that is represented by the span in subfields #a and #c). A sample MARC classification record

appears in Figure 3.4.

```
Record:      WATER TRANSPORTATION
LDR          *****nw###22*****n##4500
001          <control number>
008          901001acaaaaaa
084  o#      #a lcc
153  ##      #a HE380.8#cHE971 #h Transportation and communications
           #j Water transportation
```

Figure 3.4. Classification record in MARC format.

Format for community information data

The *MARC 21 Format for Community Information*¹⁸ serves as a framework for descriptions of non-bibliographic resources that fulfill the information needs of a local community that are identified by code q in leader position 06 (type of record). Community information records are identified in the leader position 07 (kind of data). This format

includes five types of records: individual (data pertain to an individual with a particular expertise), organization (data pertain to an organization or group), program or service (data pertain to an offering or activity which carries out the purposes of an organization or group), event (data pertain to a scheduled happening), and other (data pertain to a kind of community resource not mentioned above). A sample MARC community information data record appears in Figure 3.5.

```
008  930917aaaaaaeng
040  #a <MARC code> #c <MARC code>
##
041  o# #a eng #a spa
110  2# #a Haven House.
270  1# #a P.O. Box 50007 #b Pasadena #c CA #e 91115 #j 213-681-2626 (24 hour hotline)
307  ## #a 24 hours a day, 7 days a week.
520  ## #a A residential shelter for women and their children who have been abused by alcoholic partners.
531  ## #a Women (18-64) with their children (0-18) who need shelter from physical and emotional abuse due to
      alcohol in family member; #b from #1.50/day (Residential) to #20.00/month (Group CNSL.); #c
      telephone; no walk-ins.
546  ## #a English, Spanish.
```

Responsibility for maintaining MARC formats

The Network Development and MARC Standards Office at the Library of Congress¹⁹ and the Support Office at the Library and Archives Canada²⁰ serve as the maintenance agencies for the MARC formats for bibliographic, authority, holdings, classification, and community information data. MARC users worldwide are invited and encouraged to submit input for the further development of the formats. Along with individual MARC user input and the listserv, MARC Forum,²¹ the Library of Congress and the Library and Archives Canada hold open meetings for discussion of changes to the MARC formats.

Building an Online Public Access Catalog (OPAC) with MARC records

The primary purpose of the Internet is to provide access and transfer content among computers. Twenty-first century systems librarians, Web creators and software developers concentrate their individual and collective efforts to build databases-like catalogs that dynamically produce search results and content pages in response to user queries. Recognizing the searching power and accessibility to content that is available through the Internet, these brilliant technocrats use powerful tools such as Dreamweaver,²² ColdFusion,²³ Microsoft SQL Server 7.0,²⁴ and Oracle²⁵ to address constantly changing content, new material, and global access to uncontrolled, mass-change web sites.

The availability of graphics, image, sound, and text contributes to the aesthetic nature of the screen display but does not change the functional capabilities or file transfer mission of the Internet. Despite these developments and the perceived users' demands to force library catalogs into operating in a Google-like manner, the Web remains a network that uses a standardized mechanism to deliver files among computers.

Online public access catalogs contain the surrogate records that patrons and library staff members use to retrieve data about the information packages that the library owns. The purpose of the online public access catalog is to empower library staff members and patrons searching, identifying, and retrieving specific data about the print, online, and electronic resources in the institution's collection. Early-version online catalogs provided author, title and subject searches that emulated manual searching of the divided card catalog.

Retrospective conversion

After an institutional decision to purchase an integrated library system, the technical services team shouldered the responsibility for ensuring the conversion of the content from the paper catalog cards to a machine-readable form. The transfer of these descriptive bibliographic data from paper to electronic form became known as retrospective conversion. This process frequently began before the delivery of ILS hardware and software and continued during the installation and testing phases. Typically the library staff performed this task in-house (usually by hiring and training of temporary paraprofessional staff members), contracted with a commercial firm or used both approaches. Regardless of where the process occurred, staff members used one of two basic methods of retrospective conversion.

Using the more widely accepted method, the worker matched bibliographic data on the paper catalog card with a machine-readable record from a source file such as a bibliographic utility (e.g. OCLC). Local libraries retained the option of accepting the shared machine-readable record or modifying it to match the paper catalog card. When the local staff worked from brief shelf-list cards, the library's database contained points of access that appeared in the source records as well as those assigned locally. If the retrospective conversion team worked from a shelf-list comprised of main entry cards, they included points of access that the catalogers had added during the cataloging process. Regardless of the completeness of the source documents, using a comprehensive file for the retrospective conversion process maximized the sharing of bibliographic records, incurred a modest fee, and enabled catalogers to contribute machine-readable records for a minimal number of titles.

At a select number of libraries retrospective conversion workers re-keyed the data from the paper catalog cards into a database. When the local staff re-keyed the bibliographic data from a source document, the library's database contained points of access that appeared on them. This process did not affect the sharing of bibliographic records directly and did not incur fees to commercial vendors or bibliographic utilities.

The proliferation of interlibrary loan agreements and libraries' reliance on resource sharing resulted in the development of union catalogs (e.g. *Maine Infonet*,²⁶ *Melvyl: The Catalog of the University of California Libraries*,²⁷ and *the New Hampshire Union Public Access Catalog*²⁸) and shared bibliographic databases. These patron-initiated and patron-centered OPACs provide access for library users to query and request information packages (i.e. items) from the group of multi-type participating institutions, and indicate a preferred pickup

location. The requested information package is shipped to the patron's designated library for checkout. When the patron returns the information package, the borrowing library ships it back to the owning institution.

Designed as computer-based, interactive replacements for the traditional card catalog, these contemporary OPACs provide efficient searches through the use of pre-determined, traditional (author, title and subject) strategies. In response to user demands, ILS software developers soon incorporated keyword, standard identifiers, and classification number search capabilities.

Author searches

Library users search for the author of an information package by using an author search in the OPAC. Although the term author search appears on the screen, the data and MARC fields that the software searches include several types of authorship. Consequently, the author search term is misleading because the user may think that an individual or corporate body must bear responsibility for the intellectual content of the information package in order to be searched using this strategy.

In practice, the author search includes persons (field 100) and corporate bodies (field 110) identified on the chief source of information. These data elements also appear in the subfield c portion of field 245. The cataloger can enter the names of individuals and corporate entities that make significant contributions to the intellectual content in two fields. These data elements may be transcribed in the subfield c portion of field 245 or in a note field (5XX). Contributions that may merit transcription into the subfield c portion of field 245 include editor, compiler, or the writer of a preface or introduction. Contributions that may merit transcription into a note field include (but are not limited to) performers (field 511), credits (field 508) or authors of contents within a collection (field 505).

The name of each individual and corporate entity is transcribed into the MARC format according to the provisions in the cataloging rules. Because the main entry is limited to the individual or corporate body that appears first on the chief source of information in a single 1XX field, the companion names are treated as added entries and serve as additional points of access (fields 700 and 710). Transcribing these data elements into the machine-readable record enables each added entry to function as an access point. An author search includes searching all of these access points.

Title searches

Library users search for the title of an information package by using a title search in the OPAC. Although the term title search appears on the screen, the data and MARC fields that the software searches include several types of titles. Consequently, the title search term is misleading because the user may think that the title must appear on the chief source of information of the information package in order to be searched using this strategy.

The main title is limited to the form that appears first on the chief source of information in field 245 subfield a. In practice, the title search includes main titles (field 245 subfield a), variant titles (fields 24X), uniform titles (fields 130, 730, and 830), series titles (fields 440 and 490), and titles of contents within a collection (field 505) identified on the information package. Each form of the title is transcribed into the MARC format according to provisions in the cataloging rules. Transcribing these data elements into the machine-readable record enables each form of the title to function as an access point. A title search includes searching all of these access points.

Subject searches

Library users search for subjects in order to identify and retrieve information packages by using a subject search in the OPAC. Although the term subject search appears on the screen, the data and MARC fields that the software searches include several types of subjects. Consequently, the subject search term is misleading because the user may think that only topical subjects can be searched using this strategy.

In practice, the subject search includes topics (field 650), geographic place names (field 651), names [individuals (field 600) and corporate entities (field 610)], meetings and conferences (field 611), uniform titles (field 630), and genres (field 655). The cataloger transcribes the subjects (called subject headings) that represent the content (sometimes called the aboutness) and form of the information package. Each subject heading is constructed and transcribed into the MARC format. Transcribing these data elements into the machine-readable record enables each subject heading to function as an access point. A subject search includes searching all of these access points.

Keyword searches

The traditional paper card catalog did not include keyword searching. Library users had to depend on the cataloger's judgment and the assignment of subject headings for keywords that could be used to search the card catalog. Librarians and library users probably missed the availability of keyword searching. However, the physical limitations of the card catalog and the data elements included on the paper card precluded keyword searching.

The wide acceptance of the Internet and the sophisticated graphic Web browsers reminded library users of the ease with which large amounts of information could be searched using keywords. Search engines designed specifically for the Internet use automated software programs (called spiders or bots) to survey the web and build databases. Search engines retrieve and analyze web-resident documents in order to add data from them to the search engine index. When users query the search engine, the term or phrase is checked against the search engine's index. The search engine returns the best sites (i.e. provides hyperlinks to the uniform resource locator or URL) in ranked order.

Keyword searches are the most common form of query on the Web. Searchers can perform text queries and retrievals using keywords. Web search engines are designed to return responses to queries on any word that appears in a document. Unless the author of a website or web page uses metadata to identify keywords, the search engine determines them. Therefore, keyword searching has several disadvantages. First, more websites can be retrieved than the user will want to review. If the websites at the top of the list do not contain the most accurate or comprehensive information, the user has no effective way to know that important hyperlinks appear lower in the rankings. Second, search engines cannot distinguish easily between words that are spelled the same way, but mean something different. Therefore, inappropriate or irrelevant results may appear as the result of a query. Third, search engines do not operate within an environment of authority control. Therefore, the search engine cannot operate with certainty regarding singular and plural forms of a term, variant spellings, different verb tenses or homonyms.

Regardless of the challenges associated with keyword searching on the Internet, library users have come to expect this capability in the OPAC. Their expectations for ease of search and comprehensive retrieval push the OPAC to its design and functional limitations. When the term keyword search appears on the screen, the software searches all of the fields in the bibliographic record. This type of search includes the data included in author, title and subject searches as well as fields not included in them. Consequently, the note fields (5XX) contain the data elements added to the fields that the keyword search term queries.

In theory, the keyword search of the note fields could result in the retrieval of significant data. Integrated library systems enable the user to use a keyword search to query among all of the words unless the term appears on a system-specific stop list. However, unless the cataloger transcribes all of the remaining data on the information package into the MARC note fields, the keyword search returns limited unique results. Keyword searching in the OPAC is dependent upon the use of data that appear in general notes (field 500), formatted contents (field 505) and summaries (field 520). Transcribing these data elements into the machine-readable record enables each key word to function as an access point.

Other searches

Advanced searches in OPACs enable users to enter call number and standard number identifier searches. Each of these searches queries the data elements in a specific MARC field.

Call number searches enable the user to determine which information packages the library owns about a specific subject. This type of search is set to query and display the call numbers in the library classification scheme (e.g. subfield *a* of field 050 and 090, Library of Congress classification or subfield *a* of field 092, Dewey Decimal Classification). These data elements function as access points for call number searches.

Standard number searches enable the user to determine which information packages the library owns. This type of search is set to query and display the international standard book number (field 020) or the international standard serial number (field 022). These data elements function as access points for standard number searches.

International Standard Bibliographic Description (ISBD) punctuation

Learning to select and use correct punctuation is essential to the mastery of copy and original cataloging. The student should remember that the use of punctuation marks is designed to facilitate machine readability of data elements within the MARC structure for each of the eight formats.

Standardized punctuation is used to distinguish and separate data elements in the eight MARC formats. The order in which the data elements appear and the punctuation used in order to separate them was formalized through the work of the International Federation of Library Associations and Institutions (IFLA).²⁹

The punctuation conventions differ significantly from those used in the writing of languages such as English and Spanish. These differences contribute to the difficulties and confusion experienced by cataloging students and paraprofessionals.

The definitions and explanations given below bring all of the punctuation marks together and provide an overview of specific use. Format specific rules for the use of punctuation is provided in *Anglo-American Cataloguing Rules*, 2nd ed., rev. with 2003, 2004 and 2005 updates. A quick reference to assist the student in locating rules for the use of punctuation is listed after the definitions and explanations.

Brackets—See Parenthesis; Square brackets.

Colon (:)—A colon and a space separate introductory wording from the main content of a note. A colon precedes (1) each unit of other title information; (2) the name of a publisher, distributor, printer, manufacturer, etc.; (3) other physical details (e.g. illustrations); and (4) terms of availability.

Comma (,)—A comma (1) separates units within a statement (e.g. phrases within a title, names of authors within a statement of responsibility); (2) precedes each subsequent edition statement; (3) precedes the date of publication, distribution, printing, manufacture, etc.; and (4) precedes the ISSN of a series or sub-series in the series area.

Dash (—)—A full stop, space, dash, space precedes each area in the description unless the area begins a new paragraph.

Diagonal slash (/)—A diagonal slash precedes the first statement of responsibility.

Ellipses—See mark of omission.

Equals sign (=)—An equals sign precedes (1) a parallel title; (2) a parallel edition statement; (3) an alternative numbering in the numeric or chronological designation area of a serial publication; and (4) a key title in the standard number and terms of availability.

Forward slash—See diagonal slash.

Full stop (.)—A full stop precedes (1) each area or repetition of an area, but is omitted if the area begins a new paragraph; (2) the title of a supplement or section; and, (3) the title of a sub-series. A full stop ends the last area in a paragraph and is used as an abbreviation mark (e.g. 2d ed.; 24 cm.). When the abbreviation mark occurs at the end of an area, the full stop that is part of the prescribed punctuation is omitted (i.e. 2d ed.).

Hyphen (—)—A hyphen follows the numeric or alphabetic designation, or both, and the date of the first issue of a serial publication.

Mark of omission (...)—A mark of omissions is used (1) to indicate an abridged title proper and other title information; (2) to indicate an omission from the statement of responsibility; and (3) to replace the date or numbering that varies from issue to issue in the title proper of a serial publication.

Minus sign (—)—A minus sign is used to indicate the Southern Hemisphere when giving the declination of the center of a celestial chart.

Parentheses [()]—A set of parentheses are used to enclose (1) the details of printing or manufacture (place: name, date); (2) the full address of a publisher, distributor, etc. (if given) after the name of the place; (3) the physical details of accompanying material; (4) each series statement; (5) a qualification to the standard number or terms of availability; (6) the continuous pagination of a multivolume monograph after the number of volumes; (7) the statement of tactile data for material for the visually impaired; (8) the statement of coordinate(s) and equinox in the mathematical data area for cartographic materials; (9) the number of records, statements, etc. after the designation for a computer file; the number of statements and/or bytes after the designation for a program file; the number of records and/or bytes in each file after the designation for a multipart file; (10) the number of frames of a microfiche or a filmstrip and the playing time of a film or recording; and (11) a date following a designation that is numeric, alphabetic, or both, for a serial publication.

Period (.)—See full stop.

Plus sign (+)—A plus sign precedes a statement of accompanying material and is used to indicate the Northern Hemisphere when giving the declination of the center of a celestial chart.

Question mark (?)—A question mark is used to indicate a conjectural interpolation.

Semicolon (;)—A semicolon precedes (1) each subsequent statement of responsibility; (2) a second or subsequent named place of publication, distribution, etc.; (3) dimensions (e.g. size) in the physical description; (4) subsequent statements of responsibility relating to a series or sub-series; (5) the numbering within a series or sub-series; (6) the projection statement for cartographic materials; and (7) a new sequence of numbering, etc., in the numeric, alphabetic, chronologic, or other designation area for a serial publication.

Slash—See diagonal slash.

Space ()—A space precedes and follows each mark of prescribed punctuation, except the comma, full stop, hyphen, and opening and closing parentheses and square brackets. The comma, full stop, hyphen, closing parenthesis, and square brackets are not preceded by a space; the hyphen, opening parenthesis, and left square bracket are not followed by a space.

Square brackets []—Square brackets are used to enclose (1) information taken from outside the prescribed source or sources; (2) the general material designation; and, (3) a supplied statement of function of a publisher, distributor, etc. When adjacent elements within one area are to be enclosed in square brackets, they are enclosed in one set of square brackets unless one of the elements is a general material designation, which is always enclosed in its own set of brackets. When adjacent elements are in different areas, each element is enclosed in a separate set of square brackets.

Summary

MARC formats facilitate the sharing of catalog records, contribute to bibliographic control, and support integrated library systems. The MARC formats can be characterized by the following: MARC and the cataloging codes have different purposes; MARC was developed to facilitate online access to the catalog; each MARC record contains four components or levels; MARC developers did not write the cataloging rules; and, the MARC bibliographic format provides content designation for data applicable to all copies of the information package and provides specifications for coded data elements.

The MARC format provides a framework for the transcription and exchange of encoded data among libraries and across integrated library systems. The *MARC 21 Format for Bibliographic Data* serves as a framework for universal bibliographic information and accommodates books, computer files, cartographic materials, music, continuing resources, visual materials, and mixed materials. The *MARC 21 Format for Authority Data* serves as a framework for information about and the authorized forms of names and subjects to be used as access points in MARC bibliographic records. The *MARC 21 Format for Holdings Data* serves as a framework for holdings information associated with single-part items, multi-part items, and serials items that are identified in leader position 06 (type of record). The *MARC 21 Format for Classification Data* serves as a framework for information about classification numbers from a specified authoritative classification scheme and the captions (summary of the data in subfields a and b) associated with them that are identified in leader position 06 (type of record). The *MARC 21 Format for Community Information* serves as a framework for descriptions of non-bibliographic resources that fulfill the information needs of a local community that are identified by code q in leader position 06 (type of record).

Online public access catalogs contain the surrogate records that patrons use to retrieve data about the information packages in the library. The purpose of the online public access catalog is to empower library staff members and patrons searching, identifying, and retrieving specific data about the print, online, and electronic resources in the institution's collection. Users may use author, title, subject, keyword, and other searches to query the OPAC. The level of completeness that the cataloger includes in the transcription of data elements into the machine-readable record determines the results for OPAC queries.

Standardized punctuation is used to distinguish and separate data elements in the eight MARC formats. Learning to select and use correct punctuation is essential to the mastery of copy and original cataloging. The standardized use of punctuation marks is designed to facilitate human readability of data elements within the MARC structure for each of the eight formats.

Review exercises

Identify the main purpose of the MARC formats.

- Name the three major functional requirements of bibliographic data and the MARC tags that support each of these functions.
- For the following MARC bibliographic record, please identify the tag and explain the importance of the data elements for searching and retrieval.

See Jane Win

010 98-55295
020 0517706660
090 HQ799.15 #b .R56 1999
092 155-533
100 1 Rimm, Sylvia B., #d 1935-
245 10 See Jane win :#b the Rimm report on how 1,000 girls became successful women
/ #c Sylvia Rimm with Sara Rimm-Kaufman and Ilonna Rimm.
250 1st ed.
260 New York : #b Crown, #c c1999.
300 361 p. : #b ill. ; #c 24 cm.
504 Includes bibliographical references (p. 345-347) and index.
650 o Parent and teenager.
650 o Teenage girls #x Psychology.
650 o Self-perception in adolescence.
650 o Self-esteem in adolescence.
650 o Success #x Psychological aspects.
650 o Achievement motivation in women.
700 1 Rimm-Kaufmann, Sara.
700 1 Rimm, Ilonna Jane.
○ What MARC tag is essential in **every** bibliographic record? Why is this the case?

- Cite the AACR2r rule that is used to transcribe each of the data elements in the following bibliographic record.

AACR2rev Rule #	MARC Data
	010 __ \$a 923642
	020 __ \$a 0802782469
	020 __ \$a 0802782477 (rein.)
	100 1_ \$a Aaseng, Nathan.
	245 10 \$a True Champions : \$b great athletes and their off-the-field heroics / \$c Nathan Aaseng.
	260 __ \$a New York : \$b Walker and Co., \$c 1993.
	300 __ \$a x, 125 p. : \$b ill. ; \$c 24 cm.
	504 __ \$a Includes bibliography (p. 123-125) and index.
	505 0# \$a Babe Ruth - Guy Lafleur - Joe Jacoby - Greg Norman - Evander Holyfield - Magic Johnson - Pee Wee Reese - Jackie Robinson - Jack Twyman - Maurice Stokes - John Madden - Darryl Stingley - Bart Star - Martina Navaratiлова - Chris Evert - Jesse Owens - Luz Long - Ted Williams - Landon Turner - Dave Dravecky - Linda Down - Walter Johnson - Nolan Ryan - Madeline Manning Mims - Bobby Jones - Chucky Mullins - Theresa Andrews - Danny Andrews - Gayle Sayers - Brian Piccolo - Ron Davis - Mike Bossy - Jim Wacker - Cheeky Watson - Roosevelt Grier - Joe Delaney.
	520 __ \$a Recounts the stories of athletes who have exhibited remarkable bravery, generosity, and caring on and off the playing field.
	650 _0 \$a Athletes \$z United States \$v Biography \$v Juvenile literature.
	650 _0 \$a Athletes \$x Charitable contributions \$z United States \$v Juvenile literature.
	650 _0 \$a Caring \$v Case studies \$v Juvenile literature.

- Identify the MARC tag with its indicators for each of data elements in the following bibliographic record.

Tag	Indicators	Subfield	Data elements
		\$a	84-12551
		\$a	0070440123 (pbk.) : \$c \$11.50
		\$a	The short prose reader / \$c [compiled by] Gilbert H. Muller, Harvey S. Wiener.
		\$a	3rd ed.
		\$a	New York : \$b Mc-Graw-Hill, \$c c1985.
		\$a	xxi, 382 p. ; \$c 21 cm.
		\$a	Bibliography: p. 379-382.
		\$a	College readers.
		\$a	English language \$x Rhetoric \$v Problems, exercises, etc.
		\$a	Report writing \$v Problems, exercises, etc.
		\$a	Muller, Gilbert H., \$d 1941-
		\$a	Wiener, Harvey S.
		\$3	Table of contents \$u http://www.loc.gov/catdir/toc/mh023/2002069587.html
		\$3	Publisher description \$u http://www.loc.gov/catdir/description/mh024/2002069587.html

- Explain the purpose of the notes fields (5XX) in an online public access catalog. How is the access and retrieval to bibliographic records affected when only minimal notes are included in a MARC record.
- If you were cataloging the following information package, which MARC tags would you add to enhance the bibliographic record? Give a reason for each of the tags what you would add.

Killer Pancake

100 1 Davidson, Diane Mott.
 245 10 Killer pancake / \$c Diane Mott Davidson.
 260 New York : \$b Bantam Books, \$c 1995.

300 301 p. ; #c 24 cm.

440 0 Goldy Bear mysteries ; #v 5

- When indicators are not completed correctly in a MARC bibliographic record, what is the impact on the online public access catalog?
- Why should the catalog librarian work with public service librarians in the design of bibliographic records for the library's online public access catalog? Which MARC tags can be used to increase searching and retrieval potentials for information packages?

Additional resources

Additional resources for cataloging and classification

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- ¹⁴ *MARC 21 Concise Format for Bibliographic Data, 2004 concise edition*, <http://www.loc.gov/marc/bibliographic/> (5 May 2008).
- ¹⁵ *MARC 21 Concise Format for Authority Data, 2004 concise edition*, <http://www.loc.gov/marc/authority/ecadhome.html> (5 May 2008).
- ¹⁶ *MARC 21 Concise Format for Holdings Data, 2004 concise edition*, <http://www.loc.gov/marc/holdings/echdhome.html> (5 May 2008).
- ¹⁷ *MARC 21 Concise Format for Classification Data, 2004 concise edition*, <http://www.loc.gov/marc/classification/eccdhome.html> (5 May 2008).
- ¹⁸ *MARC 21 Concise Format for Community Information, 2004 concise edition*, <http://www.loc.gov/marc/community/eccihome.html> (5 May 2008).
- ¹⁹ Library of Congress. *Network Development and MARC Standards Office*, <http://www.loc.gov/marc/ndmsso.html> (5 May 2008).
- ²⁰ Library and Archives Canada, Standards, Intellectual Management Office. *MARC Standards Site*, <http://www.collectionscanada.ca/marc/index-e.html> (5 May 2008).
- ²¹ Library of Congress, Network Development and MARC Standards Office. *MARC Forum*, <http://www.loc.gov/marc/marcforum.html> (5 May 2008).
- ²² Adobe Systems, Inc. *Dreamweaver 8*, <http://www.macromedia.com/devnet/dreamweaver/?promoid=CABE> (5 May 2008).

- ²³ Adobe Systems, Inc. *ColdFusion 8*, <http://www.macromedia.com/software/coldfusion/> (5 May 2008).
- ²⁴ Microsoft Corporation. *Microsoft Windows Server System: Microsoft SQL Server*, <http://www.microsoft.com/sql/default.mspxr> (5 May 2008).
- ²⁵ Oracle. *Oracle Home Page*, <http://www.oracle.com/index.html> (5 May 2008).
- ²⁶ *Maine Infonet Statewide Library Catalog*, <http://maine.gov/infonet/> (5 May 2008).
- ²⁷ California Digital Library. *Melvyl: The Catalog of the University of California Libraries*, http://melvyl.cdlib.org/F/?func=file&file_name=find-b&local_base=cdl90 (5 May 2008).
- ²⁸ *New Hampshire Union Public Access Catalog*, <http://www.nhu-pac.library.state.nh.us/#focus> (5 May 2008).
- ²⁹ International Federation of Library Associations and Institutions, *IFLANET*, <http://www.ifla.org/> (5 May 2008).

Cataloging monographs

Organizing monographs (i.e. books) in the subjects representing comprehensive world knowledge in multiple physical formats and languages is the task of catalog librarians. Learning to catalog requires the acquisition of technical skills and competencies unique to library education. Students will learn and master technical competencies through the incorporation of computer-dependent technologies into the teaching and learning environment. Consequently, basic and advanced cataloging courses include metadata and classification schemes, bibliographic utilities, electronic resources, Internet tools, integrated library systems, interoperability technologies, human-computer interactions, networking, and telecommunications.

Library faculty members who teach beginning cataloging courses face the challenge of answering the multitude of *why* questions from students who are easily confused by the preponderance of unfamiliar terms, bibliographic control jargon, rules, interpretations, practices, formats, and technical requirements for appropriate data element behavior within the local institution's online environment.

The library school student learns three processes that make up the tasks referred to collectively as cataloging. Students learn to describe the information package (descriptive cataloging), determine where it fits into a given hierarchy (classifying), and discern the concepts addressed through subject analysis (subject cataloging or indexing). Each of these tasks requires the use of specialized cataloging tools and documentation that are used for the transcription of data into the MARC bibliographic format.

Given that books make up a significant portion of library collections, learning to catalog typically begins with them. This chapter includes a review of the descriptive cataloging and the machine-readable cataloging (MARC) bibliographic format for monographs, distinctions between copy cataloging and original cataloging processes, cataloging tools, documentation, MARC fixed and variable fields as they correlate to cataloging tools, and steps in the bibliographic description process.

Copy cataloging versus original cataloging the differences

The process of cataloging is unique among libraries and information centers. Since the establishment of library vocational training and formal courses of study in library economy in the late nineteenth century, librarians learned to catalog and classify materials. Librarians hand-wrote catalog cards in a round, generic script called the librarian hand. Although the librarians prepared catalog cards on white stock, red colored headings indicated subject entries. Other colors of card stock were used for analytical entries (also called analytics) or special collections.

Librarians performed original cataloging for each new acquisition. Recognizing that libraries acquired the same titles for which cataloging was necessary, the Library of Congress started to print and sell catalog card sets to libraries in 1901. The card sets were a companion product to the Library of Congress book catalogs, *Library of Congress Printed Cards (LCPC)*, *The National Union Catalog (NUC)*, which large libraries purchased to adapt and use. The H.W. Wilson Company offered card sets to its customers in the 1930s. From the 1950s until the early 1970s several companies printed and sold catalog card sets to libraries.

The typewriter (first manual, then electric and finally self-correcting) improved the level of catalog card productivity that library personnel could achieve. When photocopy machines became standard equipment in libraries and could be used to copy catalog cards onto card stock, librarians could purchase a single main entry card from the Library of Congress (called a proof slip), use a print or microform (microfiche or computer output microfiche (COM)) version of book catalogs, or construct an original catalog record.

The development of the MARC format in the late 1960s compelled librarians to consider strategies to use computerized bibliographic records. Initially, groups of libraries purchased tapes of MARC records from the Library of Congress and loaded them into a mainframe or mini-computer so that they could be shared. Cooperative cataloging accelerated in popularity and productivity.

A group of college and university presidents in Ohio founded the Ohio College Library Center (now the OCLC Online Computer Library Center, Inc. known as OCLC, Inc.) in 1967 to develop a computerized system to share cataloging records and decrease unit costs. The establishment of bibliographic utilities based on the effective use of MARC changed the availability of cards and associated products while spear-heading a collaborative effort to produce and share quality cataloging data. By 2008, OCLC served more than 60,000 libraries in 112 countries and territories around the world.¹

When the personal computer became available and affordable, empowered librarians used them to share and purchase cataloging data in card sets or machine-readable formats. The concurrent development of sophisticated, modular integrated library systems provided an environment into which MARC data could be used for multiple purposes. Librarians no longer had to create a catalog record locally for each new item. Catalogers and paraprofessionals adapted cataloging records prepared at other institutions for their local online catalogs. This process is called copy cataloging.

Increasingly, technical services managers elected to have their staff members adapt and download MARC records into the local online catalogs. Librarians also contracted out their cataloging activities or purchased machine-readable records from jobbers and vendors.

The amount of original cataloging for which no machine-readable record can be identified depends upon the type and size of library. More unique library collections have a higher proportion of materials that will require original cataloging. Because of the popularity of copy cataloging using a bibliographic utility or records from

another commercial source, the examples in this chapter outline the copy cataloging process.

Cataloging tools and documentation

Adapting, enhancing or constructing a bibliographic record requires the use of several tools. Each of these tools is designed for a specific task. Developed independently by colleagues charged with specific responsibilities, each tool is designed with an implicit understanding it will be used in tandem with companion resources. Unfortunately for the library school student and novice cataloger, the introductions and instructions in these tools do not include guidelines or suggestions for their use as part of the cataloging process. Learning when and how to use each of the cataloging tools and documentation during the cataloging process is an important aspect of becoming a proficient cataloger.

The cataloging process for monographs includes the use of specific tools. Descriptive cataloging includes several types of separately printed and published information packages. Tools that the cataloger uses in the cataloging process for monographs include *Anglo-American Cataloging Rules*, 2nd rev. ed.,² (*AACR2r*; chapters 1, 2 and appendices), *Library of Congress Rule Interpretations*³ (*LCRI*), *MARC 21 Concise Format for Bibliographic Data*,⁴ a subject headings list, and the classification scheme used in the library. Additional tools may be used depending on the collection in which the information package is housed (reading level, special collection and the like) and the content (specialized taxonomy, controlled vocabulary, etc.).

When the intellectual content (i.e. work) of a monograph is available in another physical format (i.e. manifestation), then it is described according to the *AACR2r* rules and conventions for the appropriate format. For example, microforms of printed texts are detailed in chapter 11; serials and loose-leaves are described in chapters 9 (“Electronic resources”) and 12 (“Continuing resources”). Rules for cataloging early printed books, pamphlets, and broadsides appear at the end of chapter 2. Recorded books (books on compact disc or tape) are cataloged according to the rules in chapter 6 (“Sound recordings”) and rules for the electronic versions (e-books) appear in chapter 9 (“Electronic resources”).

Using *AACR2r* and MARC together

Constructing, enhancing or adapting the description in bibliographic records for an online catalog requires the cataloger to use *AACR2r* and MARC documentation concurrently. *AACR2r* contains the rules for the cataloger to follow for transcribing bibliographic data elements and MARC explains the structure into which these data appear in machine-readable records.

Rules in *AACR2r* follow an outline for description and access points for names and titles. The MARC bibliographic format enumerates the possible fields, subfields and indicators for data required to describe the information package of the work. MARC formats contain fields or subfields for all possible access points and information codes that are not included in *AACR2r*. While the rules for description and access in *AACR2r* correspond to MARC fields and subfields, the order of each tool is unique and does not parallel the other.

Learning to catalog requires an understanding, interpretation and application of rules. Novice catalogers and library school students expect the rules in *AACR2r* to provide an exact answer to any cataloging problem or question. However, the rules are deliberately framed to show principles and make them generally applicable. The examples in *AACR2r* are more illustrative than prescriptive. These examples can be considered authoritative and provide guidance for the cataloger who will encounter instances that require judgment to apply a rule.

Anglo-American Cataloging Rules, 2nd rev. (AACR2r)

The cataloging rules provide guidance for the identification of bibliographic data and the mechanics of transcription (spacing, punctuation, capitalization, abbreviations, numerals, and initial articles). The *AACR2r* rules consider and depend on the distinction of two main processes: description and access points.

The rules recognize that libraries vary in the level of detail found in their online catalogs. *AACR2r* recommends three levels of description as shown in Figure 4.1. Catalogers, reference librarians, technical services managers, systems support teams, and library administrators should work together to determine the purposes and display options for the online catalog. After these decisions have been reached, the librarians can prepare a bibliographic input standards document that reflects the level of detail in the description and local cataloging practices.

Level one: include at least the following elements: title proper, first statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, standard number.

Level two: include at least the following elements: title proper, general material designator, parallel title, each statement of responsibility, edition statement, first statement of responsibility for the edition, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, other physical details, dimensions, title proper of series, statement of responsibility relating to series, ISSN of series, numbering within series, notes, standard number.

Level three: include all data elements set out in *AACR2r* rules that are applicable to the item.

Figure 4.1. Levels of detail in the description recommended in *AACR2r*.

Part one of *AACR2r* covers bibliographic description. Chapter 1 contains general rules that can be applied for any work regardless of the physical format. Because individual types of library materials have unique features and characteristics, chapters 2-10 contain rules for them. Chapters 11-13 contain rules for partial generality. Each of the chapters is laid out in the same order using a mnemonic numbering scheme. In order to minimize repetition, chapters 2-13 refer back to chapter 1 for general rules (see Figure 4.2).

Chapter 1—General rules for description
 Chapter 2—Books, pamphlets, and printed sheets
 Chapter 3—Cartographic materials
 Chapter 4—Manuscripts (including manuscript collections)
 Chapter 5—Music
 Chapter 6—Sound recordings
 Chapter 7—Motion pictures and videorecordings
 Chapter 8—Graphic materials
 Chapter 9—Electronic resources
 Chapter 10—Three-dimensional artefacts and realia
 Chapter 11—Microforms
 Chapter 12—Continuing resources
 Chapter 13—Analysis

Figure 4.2. Chapters in *AACR2r*, part one, description.

Part two of *AACR2r* covers the choice of access points for the main and added entries. The instructions in these chapters are provided so that they can be used in conjunction with chapter 1 and the specific rules for the format of the information package being cataloged. Chapters 21-25 provide guidance for the cataloger to determine the choice and format of access points.

Chapter 21 contains general rules to determine access points (main headings and added entries) that can be used for searching online catalogs. Headings for persons, corporate body, geographic place names, and uniform titles appear in chapters 22-25. Rules that govern the construction of explanatory *see* and *see also* references appear in chapter 26. Each of the chapters is laid out in the same order using a mnemonic numbering scheme. In order to minimize repetition, chapters 21-26 refer back to chapter 1 for general rules (see Figure 4.3).

Chapter 21—Choice of access points
 Chapter 22—Headings for persons
 Chapter 23—Geographic names
 Chapter 24—Headings for corporate bodies
 Chapter 25—Uniform titles
 Chapter 26—References

 Appendix A—Capitalization
 Appendix B—Abbreviations
 Appendix C—Numerals
 Appendix D—Glossary
 Appendix E—Initial articles

Figure 4.3. Chapters in *AACR2r*, part two, headings, uniform titles, and references and appendices.

The appendices contain general rules for capitalization (“Appendix A”), abbreviations (“Appendix B”), numerals (“Appendix C”), a glossary (“Appendix D”), and initial articles (“Appendix E”). Catalogers apply the rules and terms in the appendices to all formats that they encounter.

MARC documentation

The *MARC 21 Concise Format for Bibliographic Data* includes detailed field descriptions, guidelines and examples for applying the defined content, and conventions to be used for input consistency. Available in print and electronic versions, the *documentation* provides a reference guide to the content designators defined in each MARC format. The description includes each field (or tag), character position of the fixed-length data element fields, and defined indicators in the variable data fields and subfields. The documentation considers and depends on the cataloger’s judgment to determine the type of work, its physical format and to use applicable sections.

Designed to be a framework or carrier for the exchange and sharing of bibliographic information, the *MARC 21 Format for Bibliographic Data* contains guidelines for printed and manuscript textual materials, computer files maps, music, continuing resources, visual materials, and mixed materials. These data include the following: main and variant forms of titles; personal, corporate and geographic place names; subjects and genre headings; notes;

publication, distribution, and manufacturing data; and the physical description or extent of the item to be cataloged.

The inclusion of instructions for the transcription of bibliographic data representing each of the eight formats in a single volume is convenient for experienced catalogers. Library school students and technical services paraprofessionals who are learning to catalog and increasing their technical skills and competencies find that combining all of the MARC documentation in a single, comprehensive volume is challenging. The inclusion of detailed instructions for each bibliographic format may be difficult and confusing to use. Therefore, for the purposes of this text, the documentation for the monographs format is extracted from the larger document for ease of instruction and use (see “Appendix A”). The appendix includes sample bibliographic records for monographs (adult fiction and non-fiction, special formats, and children’s titles), an explanation of the correlations between the fields and subfields in the MARC bibliographic format and *AACR2r*, and a worksheet for cataloging monographs.

Using subject analysis and classification tools

Providing subject and classification access in bibliographic records for an online catalog requires the cataloger to use specialized tools in conjunction with *AACR2r* and MARC documentation. Each library adopts one or more tools for these tasks. Bibliographic records may contain one or more types of subject headings. The types of subject headings include personal name, corporate names, uniform titles, topical subjects, geographic place names, genre headings, and local subject headings. The *Library of Congress Subject Headings*⁵ (*LCSH*) contains topical terms and the *Guidelines on Subject Access to Individual Works of Fiction, Drama, etc.*⁶ (*GSAFD*) lists genre headings from which the cataloger selects points of access. In addition to these tools, the cataloger may choose to use a specialized taxonomy, thesaurus or subject headings list. Each subject heading is transcribed into the MARC bibliographic format.

Each bibliographic record contains at least one classification notation. The classification notation denotes the location for the item in the library. Additional notations may be included in the bibliographic record for the convenience and use of other catalogers working in libraries that adopt another classification scheme. A significant number of academic, special and very large public libraries adopt *Library of Congress Classification*⁷ (*LCC*) while a majority of public libraries and school library media centers choose the *Dewey Decimal Classification*⁸ (*DDC*). In addition to these tools, the cataloger may choose to use a specialized classification scheme developed to reflect the breadth and depth of the library’s collections. Each classification notation is transcribed into the MARC bibliographic format.

Each subject headings and classification tool includes instructions and guidelines. The MARC bibliographic format enumerates the possible fields, subfields, and indicators for data required for subject headings and classification notations. The array of possibilities in MARC exceeds the individual fields and subfields that an individual record requires. The rules in *AACR2r* do not contain guidance for the assignment of subject headings or classification notations.

Subject headings

An individual subject heading provides an access point within the bibliographic record and consists of a word or phrase to designate topics and aspects contained in the work. Catalogers use the *Library of Congress Subject Headings* (*LCSH*) and the *Guidelines on Subject Access to Individual Works of Fiction, Drama* (*GSAFD*), etc. These alphabetical lists of subject headings provide standard published lists of terms that provide useful access points to assist online catalog users identify and retrieve bibliographic records for specific works. The subject headings enable searchers to identify items in a variety of physical packaging for a given subject.

The number and specificity of subject headings in *LCSH* reflect the nature and scope of the Library of Congress collections. Subject specialists construct new headings as needed to provide access to information packages during the cataloging process and establish links among existing headings. Available in print, microform and electronic versions, *LCSH* includes subject headings contributed by libraries participating in cooperative activities with the Library of Congress that reflect the needs of their local collections.

Genre and specialized subject headings in *GSAFD* reflect the nature and scope of individual works of fiction. Subject headings provide access to individual works of fiction, drama, poetry, humor and folklore in all formats. Available in print only, *GSAFD* includes access to genre and form that describe the work rather than the story, characters or groups of characters that appear in additional works, setting through the location and time period, and topics.

Additions, modifications and deletions to subject headings list occur to maintain currency and viability. These changes impact new and existing bibliographic records. Catalogers and technical services managers must evaluate and determine an appropriate balance between the need for change and the need for consistency among subject headings. Therefore, during the cataloging process, the cataloger consults the subject headings list or authority file to verify the form of the headings selected for access to ensure that they are valid and correctly formatted.

Classification

The purpose of classification is to group information packages on similar and related topics together and to lead the user to them. Catalogers use *Library of Congress Classification (LCC)* and the *Dewey Decimal Classification (DDC)* to determine the arrangement of information packages within the library collection, making adjustments due to the physical packaging and formats of individual information packages.

Independent of the library collection, these classification schemes provide enumerative arrangements for topics. The hierarchical arrangement enables the classification scheme to employ a process of subdivision and collocation that reflects a natural order. Arrangements in the *LCC* and *DDC* classification schemes proceed from general to specific aspects of topics through the subdivision of classes, subclasses and arrays of numbers. The cataloger follows the instructions in a classification scheme to identify a notation that reflects the topics contained within an item. A Cutter mark or number is added to the notation so that each item has a unique locator identification to identify its physical location within the library.

The *LCC* is an enumerative scheme that uses a capital letter for main class, two or three capital letters for subclasses, Arabic numerals for further subdivisions, and Cutter author-marks to achieve alphabetic subarrangements. Developed for the Library of Congress at the turn of the twentieth century, *LCC* schedules have a similar arrangement and sequencing pattern. The schedules are prepared by subject specialists at the Library of Congress and reflect the nature and scope of its collections. Within each sequence of class numbers, as a rule the subjects proceed from general to specific, chronologically or geographically.

Available in print, PDF and online versions, *LCC* schedules contain common features of external and internal format. The external format is reflected in the organization of the schedule. Components for each schedule customarily include the following sections: a preface, brief synopses to show the basic subdivisions within the class, an outline that includes the alphabetic subclasses and significant alphanumeric arrays, the schedule proper, auxiliary tables for use with more than one subclass or array within the schedule, and an index. Changes and additions are incorporated into the electronic versions of *LCC*, available from the Cataloging Policy and Support Office website and in print from the Cataloging Distribution Service at the Library of Congress.

The *DDC* is a decimal classification scheme that uses broad three-digit Arabic numbers followed by a decimal point and varying quantities of additional digits to achieve arrangements. Originally developed by Melvyl Dewey and published anonymously in 1876, within each class sequence the subjects proceed from general to specific, chronologically or geographically. During the classification task in the cataloging process, any class number may be expanded indefinitely in order to achieve specificity for topics. The specificity of the classification number requires more digits after the decimal point.

Available in print and electronic versions, the *DDC* schedule is compact and includes mnemonic devices that can be transferred among selected classes. The external format is reflected in the organization of the schedule and includes the following sections: an introduction, the schedule proper, seven tables of standard subdivisions, an index, and a manual. Changes and additions are incorporated into the electronic version of *DDC*, distributed through a listserv, and available in print from OCLC.

Additions, modifications and deletions to classification schemes must be made to maintain currency and viability. These changes impact new and existing bibliographic records. Catalogers and technical services managers must evaluate and determine an appropriate balance between the demands to change and the need for consistency and collocation of similar topics. Therefore, during the cataloging process the cataloger consults the classification schemes to verify or construct the notation selected for access.

Cataloging monographs—examples and analysis

The cataloging process consists of the following related tasks: descriptive cataloging, subject analysis (also called indexing), authority control, and classification. The cataloging process requires sequential progression through these tasks. The successful completion of each task results in the construction or enhancement of a bibliographic record that represents the item.

In order to complete these tasks, the library school student or novice cataloger needs to be familiar with each of the required tools (*AACR2r*, MARC documentation, *LCSH*, *LCC* or *DDC*, and an authority file). The steps in the cataloging process include examples of an adult fiction monograph, *The Cat Who Could Read Backwards*, (see Figures 4.4, 4.5 and 4.6) and non-fiction, *See Jane Win*, (see Figures 4.7, 4.8 and 4.9) in order to contextualize the instructions. Additional examples appear in “Appendix B”.

Example 1: *The Cat Who Could Read Backwards*

Step 1—Examine the information package. The cataloger determines that the information package is the paperback of a previously published hardcover monograph. The entire item is present and does not include inserts, CDs in book pocket, or accompanying items. According to *AACR2r*, the information package is a single-part bibliographic resource (Rules 1.0A2 and 2.0A).⁹ (Tools needed for this step: paperback edition of *The Cat Who Could Read Backwards* and *AACR2r*.)

Step 2—Identify the correct MARC format to use. The cataloger determines that the MARC bibliographic format for monographs is required.¹⁰ (Tools needed for this step: *The Cat Who Could Read Backwards* and MARC documentation.)

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information on the item (see Figure 4.4; Rules 1.0A3a and 2.0B). These data are the most credible elements that the cataloger transcribes into the bibliographic record. Using the guidelines for punctuation (Rules 1.0C and 2.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 2.0D). In order to consider each of the required data elements, the cataloger uses sections of chapter 1 and chapter 2. (Tools needed for this step: *The Cat Who Could Read Backwards* and *AACR2r*.)

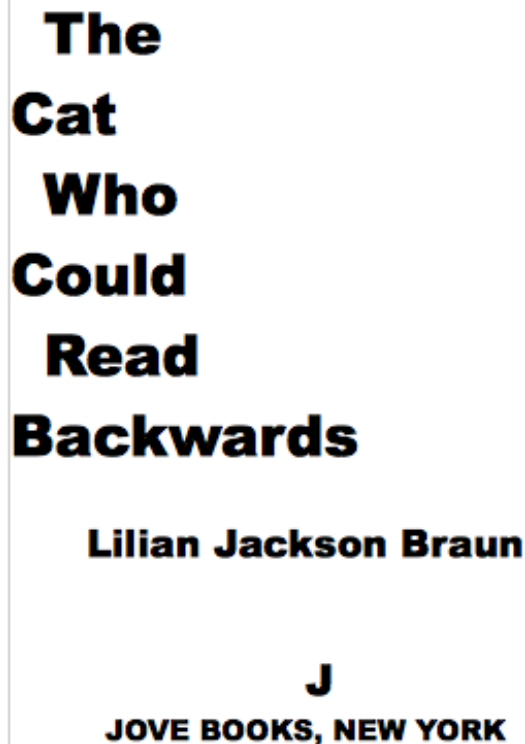


Figure 4.4. Title page for *The Cat Who Could Read Backwards*.

Step 4—Find standard numbers. The publisher, Jove Books, included the International Standard Book Number (ISBN) on the verso of the title page and the outside back cover. According to *AACR2r* (see Figure 4.5; Rules 1.8B and 2.8B), the bibliographic record requires the inclusion of standard numbers. The ISBN can be used to search the local OPAC, the databases of bibliographic utilities and commercial vendors. No other standard numbers appear on the item. (Tools needed for this step: *The Cat Who Could Read Backwards*, *AACR2r* and MARC documentation.)

This Jove Book contains the complete
text of the original hardcover edition.

THE CAT WHO COULD READ BACKWARDS

A Jove Book / published by arrangement with
the author.

PRINTING HISTORY

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Figure 4.5. Verso of the title page for *The Cat Who Could Read Backwards*.

Step 5—Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is OCLC.¹¹ The cataloger gains access to WorldCat® through the institutional subscription and the student has permission through a formal agreement between the library school and OCLC.¹² The OCLC database requires a unique authorization and password.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home page, the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*. The page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, and WorldCat® tools.¹³ When the searcher chooses Connexion in the logon links section, the WorldCat® Services login page appears.¹⁴ Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password).

Step 6—Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the item. The cataloger may search by title or author. Searches by standard numbers are the most efficient.

The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible. At the top of the screen the searcher will find a command line search capability. To use this type of search, the scan or an alphanumeric command is required.

The searcher should use the scan command in order to find a work by derived, keyword or phrase searches. Keyword searches enable the user to search by word, number, phrase or whole phrases with appropriate punctuation. The equal sign (=) indicates that a phrase or whole phrase index will be searched; a colon (:) indicates

that a word index will be queried. Boolean operators (and, or, not) may be used to combine searches. In this example, a correct search protocol is as follows: scan ti=cat who could read backwards.

Twenty entries, each of which represents a different title, appear on the search results screen. The title that matches the search protocol is shown in bold type with the number of associated bibliographic records displayed in the column at the right-hand edge of the screen. Double-clicking on the title in bold type results in a display of the individual bibliographic records and gives data for the title (245 #a), author (100 #a), publisher (260 #b), date (260 #c), and designation of the national library creating the record if this is the case. If a national library did not submit or create the bibliographic record, the column is blank.

If the searcher chooses to use a derived search, the correct protocol for a title query is as follows: cat,wh,co,r/bks. The search protocol is comprised of the first three letters of first word, the first two letters of the second word, the first two letters of the third word, and the first letter of the fourth word in the title followed by a forward slash (/) and the code for monographs (bks). Additional types of derived searches are described in OCLC documentation.¹⁵

Twenty-nine entries for the title appear on the search results screen. Data for the title, author, publisher, date, and designation of the national library creating the record appear in the far right-hand column if this is the case. If a national library did not submit or create the bibliographic record, the column is blank. Double-clicking on number in the left-hand column results in a display of the individual bibliographic record.

In this example, records 7 (OCLC #33058873), 9 (OCLC #20947991), and 11 (OCLC #56562676) are potential matches. The cataloger proceeds to review each record using the process outlined above for a scan search. Regardless of which search method is selected, the record selected is the same (OCLC #33058873).

If the searcher chooses to use a numeric search, the correct protocol for a standard number (ISBN) query is as follows: 0515090174. The search protocol is comprised of the ISBN digits entered without punctuation. Make certain that the pull down box on the right-hand side of the screen indicates ISBN (bn=).

Two entries for the title appear on the search results screen. Data for the author (100 #a), title (245 #a), edition (250 #a), imprint (260), extent of the item (300), OCLC record number, and the number of holdings appear. Double-clicking on number in the left-hand column results in a display of the individual bibliographic record.

In this example, records OCLC #33058873 and OCLC #20947991 are potential matches. The cataloger proceeds to review each record using the process outlined above for a scan search. Regardless of which search method is selected, the OCLC record #33058873 is selected. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 7—Examine the search results. The cataloger must determine whether the bibliographic record and its title match the intellectual content and physical format of the information package. These searches result in three records (OCLC #33058873, OCLC #20947991, and OCLC #56562676) that are potential matches. Double-clicking on the record number in the left-hand column results in a display of the individual bibliographic record. The cataloger needs to review the record in order to determine whether or not it matches the item. In order to choose the next record number, the cataloger clicks on the search results button. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 8—Determine if a bibliographic record matches the information package. In order to determine whether or not the bibliographic record matches the information package exactly, the cataloger will check and verify the following data elements: ISBN, LCCN, author's name, title and subtitle (if any), publisher, date (publication and copyright), and number of pages.

Local librarians determine which data elements must be exactly the same in order to constitute a match between the information package and the bibliographic record. These data elements customarily include the title (Rules 1.1B, 1.1C, 1.1D, and 1.1E), author (Rule 1.1F), publisher (Rule 1.4D), date (Rule 1.4F), standard number (Rule 1.8B), and pagination (Rule 1.5B) with specified limits (no more than 10 pages difference). When a bibliographic record is identified as a match, then the cataloger must review each field, subfield and indicators to ensure that the data have been transcribed and tagged according to MARC requirements.

Among the three records examined from the search results, the match for the title in this example is the first record (OCLC #33058873). The bibliographic record contains data elements that match the information package exactly. In addition, the online record contains eight subject headings (650 #a) and a genre designation (655 #a). Therefore, this is an appropriate record to use.

In this example, data for the author (Lilian Braun Jackson, 100 #a), title (*The Cat Who Could Read Backwards*, 245 #a), edition (Jove ed., 250 #a), imprint (New York : #b Jove Books, #c 1986, c1966, 260), extent of the item (250 p. ; #c 18 cm., 300), records in OCLC # 33058873 and OCLC # 20947991 are potential matches. The cataloger proceeds to review each record using the process outlined above for a scan search. The ISBN (0515090174, 020 #a)

matches OCLC record #33058873. Regardless of which search method is selected, the bibliographic data in OCLC record #33058873 matches the item and is selected. (Tools needed for this step: *The Cat Who Could Read Backwards*, *AACR2r*, and MARC documentation.)

Step 9—Verify the access points. The cataloger needs to determine if the bibliographic record contains all of the access points that users may need for searching and retrieving the information package. If the bibliographic record includes the access points specified in the library's bibliographic input standard document, no additional fields are required. However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #33058873 contains data access points denoting the author (Rules 1.1F, 2.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 2.1B, and 2.1E), subject headings, (no rule *per se*), and a genre heading (no rule *per se*). It is incumbent upon the cataloger to review each access point and make certain that the data are transcribed correctly into the MARC fields and subfields with the correct indicators.

The following access points appear in the selected online record: author (Lilian Braun Jackson), title (*The Cat Who Could Read Backwards*), subject headings (Qwilleran, Jim (Fictitious character); Koko (Fictitious character); City and town life; Siamese cat; Art critics; Journalists; Cat owners; and Cats) with the form subdivision for adult fiction (=v Fiction), and a genre heading (Mystery fiction).

The cataloger needs to verify that each of these access points is transcribed correctly. After the cataloger determines that the content of the variable fields in the bibliographic record matches the item, then the fixed fields must be reviewed to verify that they correlate accurately with these data. (Tools needed for this step: *The Cat Who Could Read Backwards*, *AACR2r*, and MARC documentation.)

Step 10—Verify the classification. The cataloger needs to determine if the classification notation (commonly called the call number) in the bibliographic record is part of the scheme that the library has adopted. If the bibliographic record includes a classification notation in the local scheme that is formatted correctly, the cataloger does not need to make modifications. However, if the classification notation does not correspond to the local scheme, then the cataloger needs to add an appropriate call number. In either instance, the cataloger is responsible for ensuring that a correct Cutter designation is added.

In this example, OCLC record #33058873 contains an *LCC* (050 #a) but no *DDC* (082 #a) classification notation. It is incumbent upon the cataloger to review the classification notation for the scheme used in the library and make certain that it and the Cutter are transcribed correctly into the MARC field and subfields with the correct indicators.

The following notation appears for in *LCC* (050 #a) as PS3552.R354 with a Cutter (050 #b .C335) and date (1986). Librarians at the library that contributed the bibliographic record (the Public Library of Charlotte and Mecklenburg, NC) prepared the *LCC* notation.

If the library uses the *DDC* scheme, then the cataloger must determine the classification notation. Although American (United States) fiction can be classified in 813.54 (082 #a) with a Cutter representing the main entry (082 #b BRAUN), public libraries and school media centers often choose to locate works of fiction separately rather than classify them within the non-fiction portion of the library collection.

In these situations, the cataloger elects to use a locally assigned classification notation to denote the mystery section of the adult fiction collection (099 #f M #a FICTION #b BRAUN). Regardless of which classification scheme is used locally, an accurate call number must be present in the bibliographic record. (Tools needed for this step: *The Cat Who Could Read Backwards*, *AACR2r*, MARC documentation, and classification scheme.)

Step 11—Determine other tags to include. If the bibliographic record includes all of the fields required by the local bibliographic input standards document, no others are added. However, if the cataloger determines fields to add for increased access and retrieval, they must be transcribed according to the rules in *AACR2r* and placed correctly into fields and subfields as required by MARC documentation.

In this example, OCLC record #33058873 does not contain a summary. The cataloger may add a summary note (Rules 1.7 and 2.7B17) similar to the following: "Former award winning news reporter Jim Qwilleran is assigned to the art world as his new news beat. When a murderer sticks a knife in the neck of a local gallery owner and goes berserk among the works on show, Qwilleran gets help from his Siamese cat solving the mystery" (tools needed for this step: *The Cat Who Could Read Backwards*, *AACR2r*, and MARC documentation.)

Step 12—Review each point of access in the authority file. The cataloger needs to verify points of access in the bibliographic record against authority records. If the bibliographic record carries an indication that it was created at a Program for Cooperative Cataloging (PCC)¹⁶ library (042 #a) or the Library of Congress (040 #a), then no further authority work is necessary.

In order to take advantage of authority records produced in other institutions, the cataloger or library school student needs to have online access to them. The largest databases of authority records are available from the Library of Congress¹⁷ and OCLC.¹⁸ The cataloger has free access to the Library of Congress website. Access to WorldCat® is available to library staff members through the institutional subscription, and LIS students frequently

have permission through a formal agreement between their library school and OCLC. The OCLC database requires a unique authorization and password.

If the cataloger uses OCLC to search for authority records, the login process is the same until the welcome screen for the OCLC Connexion® Services appears. The authorities tab in the upper left-hand section (to the right of the cataloging tab) on the page needs to be highlighted in blue in order to search the authorities file. At the top of the screen, the searcher will find a command line search capability. To use this type of search, scan is used with a designation for the personal name (pn), corporate body (co), title (ti) or subject (su). In this example, a correct search protocol for the author is as follows: scan pn=braun, lilian jackson.

Twenty entries each of which represents an individual appear on the search results screen. The name that matches the search protocol is shown in bold type with the number (designated by R) of associated bibliographic records displayed in the column at the right-hand edge of the screen. Double-clicking on the number adjacent to the name in bold type results in a display of the individual authority records (designated by E) and gives data about the individual and associated titles. Additional types of derived searches are described in OCLC documentation.¹⁹

In this example, a single authority record exists for the author (OCLC #ARN 2197533) with Library of Congress Control Number 88069577 (010 #a) contains the form of the name for the author with the correct field (100), indicators (1X), and subfield (a). The cataloger reviews the authority record and compares it with the field in the bibliographic record to ensure that the data are transcribed and tagged correctly.

Searches for the subject headings require the following protocol: scan su=koko. A listing of authority records appears as a result of the search. The number of authority records for the subject and its correct form appear in horizontal rows across the page. Double-clicking on the number adjacent to the name in bold type results in a display of the individual authority records (designated by R) and gives data about the subject.

In this example, a single authority record exists for the subject heading Koko (Fictitious character) (OCLC #ARN 3173908) with Library of Congress Control Number 92001613 (010 #a) contains the form of the name for the subject with the correct field (150) and subfield (a). The cataloger reviews the authority record and compares it with the fields in the bibliographic record to ensure that the data are transcribed and tagged correctly. This process is repeated for each subject heading and the genre heading. Regardless of which search method is selected, the authority record for each access point is the same.

In the fixed field, the record status, date that the record was entered, date replaced, record type, the record status, bibliographic level, the description, record status, and the encoding level should not require modification. The fixed field data elements (008) that must match the data that have been transcribed in the variable fields (1XX-8XX) include the literary form (fiction = 1), date type (two dates = t), language (English = eng), country of publication (New York, USA = nyu), and dates (publication date = 1986 and copyright date = 1966). In this example, other fixed field data elements should be blank (form, contents, illustration, government publication, audience, biography, control, and modified record) or contain a designation of not applicable (conference proceeding, festschrift, and index). The cataloger reviews the fixed field and compares the characters in the bibliographic record to ensure that the data are transcribed and tagged correctly (tools needed for this step: Internet, documentation for the bibliographic utility, username, and password).

After all of the data have been entered and verified in the authority file, the cataloger should review the bibliographic record, check for transcription errors, fix punctuation marks and correct spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, and standard number). The bibliographic record for *The Cat Who Could Read Backwards* appears in Figure 4.6.

008	960918t19861966nyu	000 1 eng
010	96043965	
020	039914286X	
040	DLC #c DLC #d DSG	
043	n-us---	
050 00	PS3552.R354 #b C335 1986	
082 00	813/.54 #2 20	
099 9	#f M #a FICTION #b BRAUN	
100 1	Braun, Lilian Jackson.	
245 14	The cat who could read backwards / #c by Lilian Jackson Braun.	
260	New York : #b Jove Books, #c 1986, c1966.	
300	196 p. ; #c 18 cm.	
440 0	Cat who... ; \$v 14	
500	Originally published: E. P. Dutton, 1966.	
520	Jim Qwilleran, crime reporter turned editor, first meets Kao K'o-Kung, a pure-bred Siamese cat whom he calls Koko, and they become an unstoppable pair of investigators.	
650 0	Koko (Fictitious character) #v Fiction.	
650 0	Journalists #z United States #v Fiction.	
650 0	Cats #v Fiction.	
650 0	Siamese cat #v Fiction.	
650 0	Qwilleran, Jim (Fictitious character) #v Fiction.	
650 0	Publishers and publishing #v Fiction.	
655 7	Mystery fiction. #2 gsafd	

Figure 4.6. Bibliographic record for *The Cat Who Could Read Backwards*.

Example 2: *See Jane Win*

Step 1—Examine the information package. The cataloger determines that the information package is a hardcover monograph. The entire information package is present and does not include inserts, CDs in a book pocket, or accompanying items. According to *AACR2r*, the item is a single-part bibliographic resource (Rules 1.0A2 and 2.0A). (Tools needed for this step: *See Jane Win* and *AACR2r*).

Step 2—Identify the correct MARC format to use. The cataloger determines that the MARC bibliographic format for monographs is required. (Tools needed for this step: *See Jane Win*, and MARC documentation.)

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information in the information package (see Figure 4.7; Rules 1.0A3a and 2.0B). These data are the most credible elements that the cataloger transcribes into the bibliographic record. Using the guidelines for punctuation (Rules 1.0C and 2.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 2.0D). In order to consider each of the required data elements, the cataloger uses sections of Chapter 1 and Chapter 2. (Tools needed for this step: *See Jane Win* and *AACR2r*.)

SEE JANE WIN

*The Rimm Report on
How 1,000 Girls Became
Successful Women*

SYLVIA RIMM, PH.D.

With Sara Rimm-Kaufmann, Ph.D.,
And Ilonna Rimm, M.D., Ph.D.

Crown Publishers

NEW YORK

Figure 4.7. Title page for *See Jane Win*.

**OUR BOOK IS DEDICATED TO OUR FAMILIES,
WHO HAVE ALWAYS BEEN SO SUPPORTIVE,
AND ESPECIALLY TO
OUR MOTHERS, DAUGHTERS, SISTERS-IN-LAW,
AND GRANDDAUGHTERS.**

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10022. Member of the Crown Publishing Group.

Random House, Inc. New York, Toronto, London, Sydney, Auckland
www.randomhouse.com

CROWN is a trademark and the Crown colophon is a registered trademark of
Random House, Inc.

Design by Susan Hood
Printed in the United States of America

Library of Congress Cataloging-in-Publication Data

Rimm, Sylvia D., 1935-

See Jane Win : the Rimm report on how 1,000 girls became
Successful women / Sylvia Rimm with Sara Rimm Kaufman and
Ilonna Rimm.

1. Parent and teenager. 2. Teenage girls – Psychology. 3. Self-perception
in adolescence. 4. Self-esteem in adolescence. 5. Success – Psychological aspects.
6. Achievement motivation in women. I. Rimm-Kaufman, Sara. II. Rimm, Ilonna Jane.
III. Title.

HQ799.15.R56 1999
155.5'33 – dc21

98-55295
CIP

ISBN 0-517-70666-0

10 9 8 7 6 5 4

Figure 4.8. Verso of the title page for *See Jane Win*.

Step 4—Find standard numbers. The publisher, Crown Publishers, included the ISBN and the LCCN on the verso of the title page (see Figure 4.8). According to *AACR2r* (Rules 1.8B and 2.8B), the bibliographic record requires the inclusion of standard numbers. The ISBN and the LCCN can be used to search the local OPAC, the databases of bibliographic utilities and commercial vendors. (Tools needed for this step: *See Jane Win*, *AACR2r* and MARC documentation.)

Step 5—Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is OCLC. The cataloger gains access to WorldCat® through the institutional subscription and the student frequently has permission through a formal agreement between the library school and OCLC. The OCLC database requires a unique authorization and password.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand side of the home page, the searcher chooses Products and Services and clicks on Librarian's Toolbox. The page includes links for several

categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, and WorldCat® tools. When the searcher chooses Connexion in the log-on links section, the WorldCat® Services login page appears. Several tutorials and documentation are linked to this site. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 6—Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the work and information package. The cataloger may search by title or author. Searches by standard numbers are the most efficient.

The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible. At the top of the screen the searcher will find a command line search capability. To use this type of search, the scan or an alphanumeric command is required.

The searcher should use the scan command in order to find a work by derived, keyword or phrase searches. Keyword searches enable the user to search by word, number, phrase or whole phrases with appropriate punctuation. The equal sign (=) indicates that a phrase or whole phrase index will be searched; a colon (:) indicates that a word index will be queried. Boolean operators (and, or, not) may be used to combine searches. In this example, a correct search protocol is as follows: scan ti=see jane win.

Five entries each of which represents a different title with the words *see Jane win* appear on the search results screen. The title that matches the search protocol is shown in bold type with the number of associated bibliographic records displayed in the column at the right-hand edge of the screen. Double-clicking on the title in bold type results in a display of three individual bibliographic records for monographs with data for the title (245 #a), author (100 #a), publisher (260 #b), date (260 #c), and designation of the national library (UKM) or federal initiative (PCC) that created the record.

If the searcher chooses to use a derived search, the correct protocol for a title query could be *see,ja,w,/bks or ti see ti jane ti win*. The first search protocol is comprised of the first three letters of first word, the first two letters of the second word, the first two letters of the third word, and a comma to indicate that there is not a fourth word in the title. The second search protocol includes the Boolean combination of the three words in the main title treated as words. Regardless of which search method is selected, the record selected is the same. In this example, the second record (OCLC #40545435) is a potential match for the information package.

If the searcher chooses to use a numeric search, the correct protocol for the ISBN query is 0517706660 or for the LCCN 98-55295. The search protocol is comprised of the ISBN digits entered without punctuation or a hyphen between the date and the number for the LCCN. Make certain that the pull down box on the right-hand side of the screen shows ISBN (bn=) or LCCN (ln:). (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 7—Examine the search results. In this example, using a standard number search results in the retrieval of a single record, OCLC #40545435. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 8—Determine if a bibliographic record matches the information package. In order to determine if the bibliographic record matches the information package, the cataloger checks and verifies the following data elements: ISBN, LCCN, author's name, title and subtitle (if any), publisher, date (publication and copyright), and number of pages.

Local librarians determine which data elements must be exactly the same in order to constitute a match between the information package and the online bibliographic record. These data elements customarily include the title (Rules 1.1B, 1.1C, 1.1D, and 1.1E), author (Rule 1.1F), publisher (Rule 1.4D), date (Rule 1.4F), standard number (Rule 1.8B), and pagination (Rule 1.5B) with specified limits (no more than ten pages difference). Because the bibliographic record is identified as an exact match, the cataloger reviews each field, subfield and indicators to ensure that the data have been transcribed and tagged according to MARC requirements. In addition, the online record contains a bibliography note (504 #a), a contents note (505 #a), six subject headings (650 #a), two added entries (700 #), and three Internet sites (856 #3). (Tools needed for this step: *See Jane Win*, *AACR2r*, and MARC documentation).

Step 9—Verify the access points. The cataloger needs to determine if the bibliographic record contains all of the access points that users may need for searching and retrieving the item. If the bibliographic record includes the access points specified in the library's bibliographic input standard document, no additional fields are required.

However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #40545435 contains data access points denoting the author (Rules 1.1F, 2.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 2.1B, and 2.1E), subject headings, (no rule *per se*), and added entries for co-authors (Rule 21.0, 21.6, 22.1, 22.4, 22.5, and 21.30), and web pages (no rule *per se*). It is incumbent upon the cataloger to review each access point and make certain that the data are transcribed correctly into the MARC fields and subfields with the correct indicators.

The following access points appear in the selected online record: author (Sylvia Rimm), title (*See Jane Win*), subject headings (Parent and teenager; Teenage girls – Psychology; Self-perception in adolescence; Self-esteem in adolescence; Success – Psychological aspects; and, Achievement motivation in women), and joint authors (Sara Rimm-Kaufmann and Ilonna Jane Rimm).

The cataloger needs to verify that each of these access points is transcribed correctly. After the cataloger determines that the content of the variable fields in the bibliographic record match the information package, then he or she must review the fixed fields to verify that they correlate accurately with these data. (Tools needed for this step: *See Jane Win*, AACR2r, and MARC documentation.)

Step 10—Verify the classification. The cataloger needs to determine if the classification notation is part of the scheme that the library has adopted. If the bibliographic record includes a classification notation in the local scheme and if formatted correctly, the cataloger does not need to make modifications. However, if the classification notation does not correspond to the local scheme, then the cataloger needs to add a call number with a correct Cutter designation.

In this example, OCLC record #40545435 contains an *LCC* (050 #a) and a *DDC* (082 #a) classification notation. The following notation appears for *LCC* (050 #a) as HQ799.15 with a Cutter (050 #b .R56) and date (1999). The *DDC* notation (082 #a) is 155.5/33 without a Cutter (082 #b) but a designation of the edition of the classification scheme that was used (#2). A librarian at the Library of Congress prepared the bibliographic record. If the library uses the *DDC* scheme, then the cataloger must determine a Cutter representing the main entry (082 #b RIMM). (Tools needed for this step: *See Jane Win*, AACR2r, MARC documentation, and classification scheme.)

Step 11—Determine other tags to include. If the bibliographic record includes all of the fields required by the local bibliographic input standards document, no others are added. However, if the cataloger determines fields to add for increased access and retrieval, they need to be transcribed according to the rules in AACR2r and placed correctly into fields and subfields as required by MARC documentation.

In this example, OCLC record #40545435 contains a subtitle (Rules 1.1A, 1.1E, 2.1A, and 2.1E), an edition statement (Rules 1.2 and 2.2B), a bibliography note (Rule 1.7A5), a contents note (Rule 2.7B18), and web pages for biographical information about the contributors, a sample of the content, and a publisher's description (Rules 1.7 and 2.7). The cataloger determines that other fields do not need to be added. (Tools needed for this step: *See Jane Win*, AACR2r, and MARC documentation.)

Step 12—Review each point of access in the authority file. The cataloger determines if the fields in the bibliographic record need to be verified against authority records. OCLC #40545435 carries an indication that it was created at the Library of Congress (040 #a). Therefore, no further authority work is required or necessary.

In the fixed field, the record status, date the record was entered, date replaced, record type, the record status, bibliographic level, the description, record status, and the encoding level should not require modification. The record source needs to be changed (from 4 to *blank*) to indicate that the cataloger examined the information package. The fixed field data elements (008) have been transcribed in the variable fields (1XX-8XX) include the contents (bibliography present = b), illustration (present = a), index (present = 1), date type (single date = s), language (English = eng), country of publication (New York, USA = nyu), and dates (publication date = 1999). In this example, other fixed field data elements are blank (form, source, government publication, audience, biography, control, and modified record) or contain a designation of not applicable (conference proceeding, festschrift, and literary form). The cataloger reviews the fixed field to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.) The bibliographic record for *See Jane Win* appears in Figure 4.9.

008	990723s1999 nyua b 001 o eng d
010	98055295
020	0517706660
042	pcc
050 00	HQ799.15 #b .R56 1999
082 00	155.5/33 #221
092 o	155.533 #b RIMM
100 1	Rimm, Sylvia B., #d 1935-
245 10	See Jane win : #b the Rimm report on how 1,000 girls became successful women / #c Sylvia Rimm with Sara Rimm-Kaufman and Ilonna Rimm.
260	New York : #b Crown, #c c1999.
300	361 p. : #b ill. ; #c 24 cm.
504	Includes bibliographical references (p. 345-347) and index.
505 00	#g Chpt. 1. One thousand successful women: twenty guidelines for raising your daughters. #t Turning roadblocks and reversals into opportunities / #r Dr. Janice Douglas – A #t Renewed identity-mountains to climb / #r Suzanne Daniels – #g Chpt. 2. The American dream for your daughters: be a coach, not a judge – #t She learned that women are strong / #r Margaret Karnes
–	#t No one ever told her what she couldn't do / #r Dr. Ana Casa – #g Chpt. 3. Good little girls aren't so bad. #t How "good little girls" shatter glass ceilings / #r Susan Widham – #t She broke with tradition / #r Nancy Collier – #g Chpt. 4. See Jane learn: that invaluable education. #t
When	a woman is an "uncommon man" / #r Dr. Diane Butler – #t Finding a career that combines people and science / #r Angela Sands – #g Chpt. 5. Active girls, active women. #t A family surrounded by music #r Louise Andrews – #t Capturing the "pulse of young women" / #r Helen Gurley Brown – #g Chpt. 6 See Jane win, and other formative experiences. #t An independent "fire-eater" / #r Catherine Burns, Ph.D. – #t Spiritual passion permeated her childhood / #r
Rabbi	Miriam Kane – # Chpt. 7. Sociability, shyness, and insecurity: peer relationships. #t Making her mark / #r Donna Draves – #g Chpt. 8. Parents do make a difference: family relationships. #t Searching for balance and the right path / #r Diana Doyle – #t Hardworking and creative, but
her	family is her center / #r Dr. Alyssa Gaines – #g Chpt. 9. See Jane go: young adult resilience. #t Resilient and optimistic, she just wouldn't quit / #r Sandra Sheets – #t Madame Curie was her
role	model / #r Dr. Anne Caroles – #g Chpt. 10. See Jane stop: glass ceilings, sticky floors, and circuitous stairways.
650 o	Parent and teenager.
650 o	Teenage girls #x Psychology.
650 o	Self-perception in adolescence.
650 o	Self-esteem in adolescence.
650 o	Success #x Psychological aspects.
650 o	Achievement motivation in women.
700 1	Rimm-Kaufman, Sara.
700 1	Rimm, Ilonna Jane.

Figure 4.9. Bibliographic record for *See Jane Win*.

Summary

This chapter includes information and explanations about cataloging books, the MARC bibliographic format for monographs, distinctions between copy cataloging and original cataloging processes, cataloging tools and documentation, fixed and variable fields as they correlate to cataloging tools, and steps in the bibliographic description process. Sophisticated, modular integrated library systems provide an environment into which MARC data can be used for multiple purposes. Catalogers and paraprofessionals adapt cataloging records for local online catalogs. Librarians may also contract out their cataloging activities or purchase machine-readable records from jobbers and vendors.

Adapting, enhancing or constructing a bibliographic record requires the use of several specialized tools. Developed independently by colleagues charged with specific responsibilities, each tool is designed with an implicit understanding that it will be used in tandem with companion resources. Learning when and how to use each of the cataloging tools and documentation during the cataloging process is an important aspect of becoming a proficient cataloger.

Constructing, enhancing or adapting the description in bibliographic records for an online catalog requires the cataloger to use *AACR2r* and MARC together. *AACR2r* contains the rules for transcribing bibliographic data, and MARC explains the structure into which the data that comprise records are placed. Rules in *AACR2r* follow an outline for description and access points for names and titles. The MARC bibliographic format for monographs enumerates the possible fields, subfields, and indicators for data required to describe the information package.

Providing subject and classification access in bibliographic records for an online catalog requires the cataloger to use specialized tools in conjunction with MARC documentation and *AACR2r*. The *LCSH* contains topical terms and the *GSAFD* lists genre headings from which the cataloger selects points of access. In addition to these tools, the cataloger may choose to use a specialized taxonomy, thesaurus, or subject headings list. The purpose of classification is to group information packages on similar and related topics together from general to specific and to lead the user to them. Catalogers use *Library of Congress Classification* and *Dewey Decimal Classification* to determine the arrangement of information packages within the library collection.

The cataloging process consists of three related tasks: descriptive cataloging, subject analysis (also called indexing), authority control, and classification. Learning the cataloging process requires sequential progression through these tasks. The successful completion of each task results in the construction or enhancement of a bibliographic record that accurately represents the information package.

Review exercises

Please prepare a bibliographic record using the MARC format for the following titles.

- ***The Buried Mirror*** (ISBN 03959249950)
- ***The American Sign Language Handshape Dictionary*** (ISBN 1563680432)
- ***Twenty Names in Pop Music*** (ISBN 0863079628)
- ***Sleep Baby, Sleep*** (ISBN 0688108776)
- ***Thunderhead*** (ISBN 0060809035)
- ***Murder in Havana*** (ISBN 0449006689)

Additional resources

Additional resources about cataloging monographs

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<http://www.library.upenn.edu/exhibits/pennhistory/library/cards/cards.samples.html> (7 May 2008).

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Bibliographic Formats and Standards. 3rd ed. Dublin, Ohio: OCLC, 2003. <http://www.oclc.org/bibformats/> (7 May 2008).

Implementation of Change in Indicator Value for Multiple Surnames in MARC 21,

<http://lcweb.loc.gov/catdir/cpso/multsur.html> (7 May 2008).

MARC 21 Code List for Countries, http://www.loc.gov/marc/countries/cou_home.html (7 May 2008).

MARC 21 Code List for Geographic Areas, <http://www.loc.gov/marc/geoareas/gacshome.html> (7 May 2008).

MARC 21 Code List for Languages (listed either by language or its code), <http://www.loc.gov/marc/languages/langhome.html> (7 May 2008).

MARC 21 Code List for Organizations, <http://www.loc.gov/marc/organizations/orgshome.html> (7 May 2008).

MARC 21 Code List for Relators (listed either by function or its code), <http://www.loc.gov/marc/relators/relators.html> (7 May 2008).

MARC 21 Standards, <http://lcweb.loc.gov/marc/marcginf.html> (7 May 2008).

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Understanding MARC, <http://www.loc.gov/marc/umb/> (7 May 2008).

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Chan, Lois Mai. *A Guide to the Library of Congress Classification*. 5th ed. Englewood, Colo.: 1999.

Dewey Cutter Program, <http://www.oclc.org/dewey/support/program/> (7 May 2008).

Library of Congress Cutter Table, <http://www.nlc.state.ne.us/cataloging/cutter.html> (7 May 2008).

Library of Congress Classification Web Tutorial, www.nlc.state.ne.us/cataloging/cutter.html (7 May 2008).

Scott, Mona L. *Dewey Decimal Classification*. 22nd ed. Westport, Conn.: Libraries Unlimited, 2005.

Using OCLC WebDewey: An OCLC Tutorial, <http://www.oclc.org/dewey/about/tutorials.htm> (7 May 2008).

Additional resources for indexing monographs

American Library Association. Subcommittee on the Revision of the Guidelines on Subject Access to Individual Works of Fiction. *Guidelines on Subject Access to Individual Works of Fiction, Drama, Etc.* 2nd ed. Chicago: American Library Association, 2000.

Chan, Lois Mai. *Library of Congress Subject Headings: Principles and Application*. 4th ed. Westport, Conn.: Libraries Unlimited, 2005.

Controlled Vocabulary: One Thing Leads to Another, <http://www.controlledvocabulary.com/examples.html> (7 May 2008).

FAST: Faceted Application of Subject Terminology, <http://www.oclc.org/research/projects/fast/> (7 May 2008).

Getty Museum Vocabulary Project's Art & Architecture Thesaurus, <http://www.getty.edu/research/tools/vocabulary/aat/index.html> (7 May 2008).

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Library of Congress The Moving Image Genre/Form Guide, <http://lcweb.loc.gov/rr/mopic/migintro.html> (7 May 2008).

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- ⁴ *MARC 21 Concise Format for Bibliographic Data, 2004 concise edition*, <http://www.loc.gov/marc/bibliographic/> (7 May 2008).
- ⁵ *Library of Congress Subject Headings*, 30th ed. 5 vol. Washington, DC: Library of Congress, Cataloging Distribution Service, 2007. <http://www.loc.gov/cds/lcsh.html> (7 May 2008).
- ⁶ American Library Association Subcommittee on the Revision of Guidelines on Subject Access to Individual Works of Fiction. *Guidelines on Subject Access to Individual Works of Fiction, Drama, Etc., 2nd ed.* Chicago, Ill.: American Library Association, 2000.
- ⁷ *LC Classification Schedules and Manuals from CDS*, <http://www.loc.gov/cds/classif.html> (7 May 2008); *Library of Congress Classification Weekly Lists*, <http://www.loc.gov/catdir/cpsd/class.htm#class> (7 May 2008).
- ⁸ *WebDewey*, <http://www.oclc.org/dewey/about/default.htm> (7 May 2008).
- ⁹ *Anglo-American Cataloguing Rules*, 1-3.
- ¹⁰ *Bibliographic Formats and Standards, 3rd ed.*, <http://www.oclc.org/bibformats/default.htm> (7 May 2008).
- ¹¹ *WorldCat: Window to the World's Libraries*, <http://www.oclc.org/worldcat/default.htm> (7 May 2008).
- ¹² *OCLC Library and Information Science Education Program*, <http://www.oclc.org/education/lis/> (7 May 2008).
¹³ OCLC, Inc. *Librarian's Toolbox*, <http://www.oclc.org/toolbox/default.htm> (7 May 2008).
- ¹⁴ *WorldCat® Services*, <http://connexion.oclc.org/> (7 May 2008).
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- ¹⁶ *Program for Cooperative Cataloging*, <http://www.loc.gov/catdir/pcc/> (7 May 2008).
- ¹⁷ *Library of Congress Authorities*, <http://authorities.loc.gov> (7 May 2008).
- ¹⁸ *WorldCat: Window to the World's Libraries*, <http://www.oclc.org/worldcat/default.htm> (7 May 2008).
- ¹⁹ *Search WorldCat® Quick Tip*, <http://connexion.oclc.org/WebZ/corc/corcframe.html> (7 May 2008).

Cataloging projected media

The integration of bibliographic records for projected media materials requiring the use of light and auxiliary equipment in order to see images is essential in order to serve the information needs of library users. Throughout the twentieth century, interest in motion pictures, video recordings (videotape and videocassettes), digital videodiscs (laser discs and DVDs) and interactive multimedia became integral parts of America's memory and cultural history. The development of complex audio and visual technologies offers formats for the expressions of information, in addition to innovative delivery systems to support distance education and entertainment.

Popular library media collections provide examples of feature films, high-quality television programming, classic documentary and dramatic television series, music, dance, theater performances, examples of self-help and instructional programs. Particular strengths in media collections vary among libraries but may include political, social, and cultural documentaries, experimental films and animation.

The creation of a bibliographic record for library materials in the media collection should and can provide access and retrieval that parallel those available for print resources. The application of internationally accepted cataloging standards to media resources ensures that the physical format, projection, sound and other unique characteristics are readily evident to users through the data contained in bibliographic records.

Standardized bibliographic description at level two or level three in *Anglo-American Cataloging Rules*, 2nd rev. edition (*AACR2r*)¹ for visual media resources facilitates a heightened awareness, identification, and retrieval of information resources in the library collection; consistency of access and retrieval; and international efforts supporting cooperative cataloging by sharing bibliographic records in local, regional, national and global databases.

Film collections in libraries

Visual resources have existed for many centuries (e.g. works of art, photographs, maps, and the like). The beginning of modern filmmaking is credited to Frenchmen Auguste Marie Louis and Louis Jean Lumière who made their first film, *Sortie de l'usine Lumière à Lyon (Workers Leaving the Lumière Factory)*, in 1894 using Léon Bouly's Cinématographe, a portable motion-picture camera, film-processing unit and projector. On December 28, 1895, the Lumière brothers presented a public showing of ten short projected, moving, photographic pictures to a paying audience in the basement of the Salon Indien du Grand Café in Paris.²

Thomas Edison's interest in motion pictures began in 1888 after a visit from San Francisco photographer Eadweard Muybridge.³ Although Muybridge proposed a partnership with Edison, each continued to work independently on a motion picture camera. Edison's work resulted in the Kinetoscope but his filmmaking proceeded slowly due to the lack of quality of film stock. When Eastman Kodak began to produce a steady supply of quality film stock, Edison accelerated the production of motion pictures in his New Jersey studio, known as the "Black Maria", that he operated until 1901. By November 1896, the Edison Company manufactured the first Projectoscope or Projecting Kinetoscope and used it to show motion pictures to audiences.⁴

The Library of Congress began collecting motion pictures in 1893 when Thomas Edison and his assistant William K L Dickson deposited the Edison Kinetoscopic Records for copyright. The difficulty of safely storing the flammable nitrate film used at the time forced the Library of Congress to retain only the descriptive material relating to these earliest motion pictures.⁵ In 1942, recognizing the importance of motion pictures and the need to preserve them as a historical record, the Library of Congress began to collect the films themselves. Because of the popularity and importance of television programs, the Library of Congress began to collect films made for the medium in 1949. The Motion Picture, Broadcasting and Recorded Sound Division (MPRS) is responsible for the acquisition, cataloging, and preservation of the motion picture and television collections and operates the Motion Picture and Television Reading Room to provide access and information services to an international community of film and television professionals, archivists, scholars and researchers.

Collection development and media resources

The recognition of media materials as essential information and educational resources is the cornerstone for the development of the collection. Therefore, the library's collection development policy contains guidelines for the evaluation of materials in motion pictures, videocassettes and DVDs. Librarians use standard bibliographies, reviews from commercial, trade, and professional journals, syllabi, award winning films or albums and other recommended media lists, accreditation guidelines, and patron suggestions to select media materials.

Criteria that govern the selection of media include timeliness, usefulness, popular demand, literary or artistic merit, permanent value, the need for and availability of information or materials in the subject area,

authoritativeness, and cost. Collection building and maintenance requires that selections contribute to a balanced collection including a variety of viewpoints and opinions to meet community needs.

In keeping with the American Library Association's *Freedom To View* statement (see Figure 5.1), libraries provide free and equal access to the entire range of library resources and formats, including media. These rights extend to all users of the library including minors.

The FREEDOM TO VIEW, along with the freedom to speak, to hear, and to read, is protected by the First Amendment to the Constitution of the United States. In a free society, there is no place for censorship of any medium of expression. Therefore these principles are affirmed:

To provide the broadest access to film, video, and other audiovisual materials because they are a means for the communication of ideas. Liberty of circulation is essential to insure the constitutional guarantees of freedom of expression.

1. To protect the confidentiality of all individuals and institutions using film, video, and other audiovisual materials.
2. To provide film, video, and other audiovisual materials which represent a diversity of views and expression. Selection of a work does not constitute or imply agreement with or approval of the content.
3. To provide a diversity of viewpoints without the constraint of labeling or prejudging film, video, or other audiovisual materials on the basis of the moral, religious, or political beliefs of the producer or filmmaker or on the basis of controversial content.
4. To contest vigorously, by all lawful means, every encroachment upon the public's freedom to view.

This statement was originally drafted by the Freedom to View Committee of the American Film and Video Association (formerly the Educational Film Library Association) and was adopted by the AFVA Board of Directors in February 1979. This statement was updated and approved by the AFVA Board of Directors in 1989.

Endorsed by the ALA Council January 10, 1990.

Figure 5.1. *Freedom To View* statement.

Primer of projected media

Visual media includes several physical formats and sizes of film stock. The standardization of film stock sizes provides a reasonable distinction among the types and names of resources found in library media collections. The types of projected media include (but are not limited to) motion pictures (35mm and 16mm), videotapes (1/2 inches and 3/4 inches), and digital videodiscs (4 3/4 inches and 12 inches).⁶

Library faculty who teach beginning cataloging courses face the challenge of answering the multitude of “why are there so many sizes?” and “how do I tell them apart?” questions from students who are easily confused by the preponderance of unfamiliar terms, bibliographic control jargon, rules, interpretations, practices, formats and technical requirements for appropriate data element behavior within the local institution’s online environment.

Building on the process used to catalog monographs, the library school student adds MARC fields that reflect the unique physical characteristics and content of projected media. Students learn to distinguish and describe the physical format of the information package (descriptive cataloging), determine where the work fits into a given hierarchy (classifying), and discern the concepts addressed in a work through subject analysis (subject cataloging or indexing). Each of these tasks requires the use of specialized cataloging tools and documentation that are used for the transcription of data for projected media into the MARC bibliographic format.

Videocassettes (VHS) and DVDs make up a significant portion of public library and school resource center collections. In addition to these formats, academic library collections include slides and other physical formats that support instruction and learning. This chapter includes a review of the descriptive cataloging described in the bibliographic format for projected media, specialized cataloging tools and documentation, and MARC fixed and variable fields as they correlate to these physical formats.

Unique characteristics in bibliographic records for projected media

Motion pictures, videocassettes and DVDs have unique characteristics that need to be reflected in the online catalog. Patrons and library staff members depend on the bibliographic record as it is displayed to indicate key information about media, including (but not limited to) the physical format, length, rating and performers. A significant proportion of media materials circulate as a result of patron browsing in the library. Unless these data elements appear correctly in the public catalog display, the larger the collection size, the greater the probability that the patron will be unable to distinguish among physical formats. When patrons and library staff members place reserves on these materials, the user relies on the data in the catalog record to ensure that the correct title in the desired physical format is selected. Picking up a requested media resource in a physical format other than the one

that can be played on the equipment available to the patron causes frustration and anger. Careful attention to detail during the cataloging process makes clear the descriptive data for each item.

The format contains eight unique characteristics. These characteristics include the following: several locations for chief sources of information; lack of an International Standard Book Number (ISBN) but presence of a manufacturer's number; use of a general material designation (GMD); repetition of physical format, use of title main entries with extended statements of responsibility; presence of note fields for performers, narrators, and credits for technical production with added entries including relator codes; inconsistency in the transcription of data for series and multi-part sets; and local cataloging policies regarding notes (i.e. restricted use, intended audience with MPAA ratings, added entries, and the like). Each of these characteristics is described briefly.

Several locations for chief sources of information

The cataloger must review the information package and packaging in order to catalog the motion picture, videocassette or DVD (Rule 7.0B). This process differs significantly from examinations of the title page and its verso when cataloging a monograph (Rule 2.0B). In order to see the chief sources for motion pictures, videocassettes and DVDs, the cataloger needs to view the title frames. The chief sources of information will provide the title proper (245 #a), subtitles or parallel titles (245 #b). Additional descriptive data may be taken from container labels, accompanying textual materials and auxiliary sources, including (but not limited to) printed reference works and websites.

Lack of an ISBN but presence of a manufacturer's number

When searching for a standard number on the packaging for the videocassette or DVD, the cataloger is more likely to find a manufacturer's number than an ISBN. This standard number is customarily found on the back on packaging (upper right-hand corner) or the spine. Transcribed as required in *AACR2r* (Rules 7.8B and 7.7B19), the manufacturer's standard number can be used to search online catalogs and bibliographic utilities. If a standard number is not located on the item or packaging but can be identified with certainty from an auxiliary source, the cataloger should transcribe it (028 #a).

Use of general material designation

The cataloger must determine and transcribe the correct general material designation term (Rules 1.1C and 7.1C; 245 #h) within square brackets. The term for motion pictures is generally understood to designate information package on 16mm film. However, a single term, video recording, is used to designate videocassettes (primarily VHS in circulating collections) and digital videodiscs (DVDs). Although the use of this term is correct and represents both physical formats, patrons and library staff members can confuse VHS and DVD resources due to the use of an older, non-specific term. Therefore, some libraries have adopted policies to eliminate this confusion.

The adoption of local cataloging conventions requires the use of distinct terms in the 245 #h to distinguish among videocassettes and DVDs. Rather than transcribe the *AACR2r* term, the cataloger may indicate a videocassette by adding a designation to the GMD term video recording, e.g. 245 #h [video recording – VHS], and a digital videodisc following a similar pattern, e.g. 245 #h [video recording – DVD]. Other library policies dictate that the *AACR2r* term is not used but is replaced by the abbreviation for the physical format, e.g. 245 #h [VHS] or 245 #h [DVD]. Regardless of the format of data for the GMD (245 #h), the cataloger must apply local policies consistently.

Repetition of physical format

In addition to the general material designation subfield (245 #h), *AACR2r* rules require the cataloger to record the physical format in the extent of the item field (Rule 7.5B) and the system field (Rule 7.7B10). The extent of the item field (300 #a, #b, #c) includes a description of the number of physical units (i.e. videodiscs, videocassettes, film reels), other physical aspects (sound, color, projection speed and aspect ratio for motion pictures), dimensions, and accompanying material (leaflets, guides and texts). Examples of the description of physical units in extent of item field appear in *AACR2* "Appendix C".

The system characteristics field (538 #a) includes a description of the physical unit (i.e. videodiscs, videocassettes, film reels) and required specifications for the equipment on which the information package can be viewed (Rule 7.7B10). The level of detail of the physical aspects depends on local library cataloging policy. *AACR2r* suggests that the cataloger include descriptive data about the sound, length, color, form of the print, film base, video recording system, generation of the copy, special projection requirements, duration and number of frames in a videodisc, and other pertinent details. Additional examples appear in "Appendix C".

Dominant use of title main entries

When determining the main entry, the cataloger may not be able to identify an individual or corporate body to which the work can be ascribed. Therefore, the cataloger may determine that a title main entry is more appropriate (Rule 7.1B) with statements of responsibility for persons and corporate bodies credited with a major role in the

chief source of information (Rule 7.1F). In cases when the main entry is a title (245 #a), the cataloger can make added entries for each of the responsible individuals (700 #a, #d) and firms named in the statement of responsibility (710 #a). Relator codes (#4) may be included as part of these added entries to designate the role and responsibility.

When the title proper (245 #a) appears on the projected opening screen, the cataloger needs to check its presence in other forms on the physical item and packaging. Alternative forms of the title that are present on the package spine, exterior covers and item may be transcribed so that they can be acknowledged for user recall and browsing (Rules 7.1E, 7.7B4, and 7.7B5). The cataloger is responsible for identifying and transcribing variant forms of the title proper (246 #a).

Presence of note fields for performers, narrators, and credits for technical production

AACR2r rules permit the construction of an added entry for each individual and corporate body listed in the statement of responsibility (245 #c), performer note (511 #a) and credits note (508 #a). The cataloger is responsible for selecting, constructing and verifying the forms of each added entry transcribed into the bibliographic record according to local library cataloging policies.

Inconsistent transcription of data for series and multi-part sets

Guidance for the transcription of series statements is brief and predicated on the idea that each item has a distinct title and is part of a single series (Rules 1.6 and 7.6). The series title (440 #a) is generally understood to be a sequence of items. However, when the title of a series part can also be interpreted to be part of the series title, patrons and library staff members can be confused. Therefore, some libraries have adopted policies to eliminate this confusion.

The adoption of local cataloging conventions requires the use of distinct terms in the series title and numbering sequence (440 #a, #v), content notes (505 #a) and part or episode titles (740 #a). The cataloger may indicate the title of a part or episode through the use of a title added entry (740 #a) when the title proper (245 #a) and the series title (440 #a) are both different. This practice enables the searcher to locate the part or episode within a series directly through a title search for the segment or the larger work in the online catalog.

Local cataloging policies regarding notes

Local cataloging policies may require the addition of fields and subfields. Therefore, the cataloger is responsible for transcribing these data. *AACR2r* rules permit the inclusion of notes (Rule 7.7B). Because note fields contain words and phrases critical for keyword searching, their presence enhances content and retrievability.

These notes may include contents (Rule 7.7B18; 505 #a), a summary (Rule 7.7B17; 520 #a), restricted use notes (Rule 7.7B20; 540 #a), intended audience with MPAA ratings (Rule 7.7B14; 521 #a), and other physical formats (Rule 7.7B16; 533 #a). The cataloger is responsible for identifying and constructing the additional note fields according to local library cataloging policies.

Cataloging tools and documentation for projected media

Adapting, enhancing or constructing a bibliographic record to include descriptive data and points of access unique to projected media requires the use of specialized tools. Developed independently by colleagues charged with specific responsibilities, each tool is designed with an implicit understanding it will be used in tandem with companion resources. Unfortunately for the library school student and novice cataloger, the introductions and instructions in these tools do not include guidelines or suggestions for their use as part of the cataloging process. Learning when and how to use each of the cataloging tools and documentation during the cataloging process is an important aspect of becoming a proficient cataloger.

The descriptive cataloging of projected media requires the use of specialized tools. During the cataloging process, the cataloger uses *AACR2r* (chapters 1, 7 and appendices), *Library of Congress Rule Interpretations*⁷ (*LCRI*; as needed), MARC documentation for projected media,⁸ a subject heading list such as *Library of Congress Subject Headings*⁹ (*LCSH*) or the *Guidelines on Subject Access to Individual Works of Fiction, Drama, Etc.*,¹⁰ (*GSAFD*), a specialized thesaurus, and the classification scheme used in the library, such as the *Library of Congress*¹¹ (*LCC*) or *Dewey Decimal Classification*¹² (*DDC*).

Using AACR2r and MARC together

Constructing, enhancing or adapting the bibliographic description of projected media in machine-readable records for an online catalog requires the cataloger to use *AACR2r* and MARC documentation concurrently. *AACR2r* contains the rules for the cataloger to follow for transcribing bibliographic data elements, and MARC explains the structure into which these data appear in machine-readable records.

Rules in *AACR2r* follow an outline for description and access points for names and titles. The MARC bibliographic format enumerates the possible fields, subfields and indicators for data required to describe the items. While the rules for description and access in *AACR2r* correspond to MARC fields and subfields, the order of each tool is unique and does not parallel the other. MARC formats contain fields or subfields for all possible access points and information codes that are not included in *AACR2r*.

Learning to catalog requires an understanding, interpretation and application of rules. Novice catalogers and library school students expect the rules in *AACR2r* to provide an exact answer to any cataloging problem or question. However, the rules are deliberately framed to show principles and make them generally applicable. Examples in *AACR2r* are more illustrative than prescriptive. These examples can be considered authoritative and provide guidance for the cataloger who will encounter instances that require judgment to apply a rule.

Anglo-American Cataloging Rules, 2nd rev. (AACR2r)

The cataloguing rules for the identification of bibliographic data and the mechanics of transcription (spacing, punctuation, capitalization, abbreviations, numerals and initial articles). The *AACR2r* volume considers and depends on the distinction of two main processes: description and access points.

The rules for describing projected media (video recordings, digital videodiscs and films) can be completed in a level of description recommended in *AACR2r*. From a practical point of view, the level of completeness in description and display in the online catalog for media should parallel other resources in the library's collection. After these decisions have been reached, the librarians can prepare a bibliographic input standards document that reflects the level of detail in the description and local cataloging practices specific to the media collection.

Cataloging media requires the use of two chapters in part one of *AACR2r*. The cataloger will use the general rules in chapter 1 and apply them to media. Chapter 7 contains the rules applicable to the unique features and characteristics of projected media and refers to chapter 1 for general rules. Part two of *AACR2r* covers the choice of access points for the main and added entries. The instructions in chapters 21-25 provide guidance for the cataloger to determine access points.

Chapter 21 contains general rules to determine access points (main headings and added entries) that can be used for searching online catalogs. Headings for persons, corporate body, geographic place names and uniform titles appear in chapters 22-25. Rules that govern the construction of explanatory *see* and *see also* references appear in chapter 26. Each chapter is laid out in the same order using a mnemonic numbering scheme.

The appendices in *AACR2r* contain general rules for capitalization ("Appendix A"), abbreviations ("Appendix B"), numerals ("Appendix C"), a glossary ("Appendix D"), and initial articles ("Appendix E"). Catalogers apply the rules and terms in the appendices to all formats that they encounter.

MARC documentation

The *MARC 21 Concise Format for Bibliographic Data* includes detailed field descriptions, guidelines and examples for applying the defined content, and conventions to be used for input consistency. Available in print and electronic versions, the *documentation* provides a reference guide to the content designators defined in each MARC format. The description includes each field (or tag), character position of the fixed-length data element fields, and defined indicators in the variable data fields and subfields. The documentation considers and depends on the cataloger's judgment to determine the type of work, its physical format, and to use applicable sections.

Designed to be a framework or carrier for the exchange and sharing of bibliographic information, the *MARC 21 Format for Bibliographic Data* contains guidelines that the cataloger can use for projected materials. These data include the following: main and variant forms of titles; personal, corporate body, and geographic place names; subject and genre headings; notes; publication, distribution, and manufacturing data; and the physical description or extent of the item to be cataloged.

Library school students and technical services paraprofessionals who are learning to catalog and increasing their technical skills and competencies find that combining all of the MARC documentation in a single, comprehensive volume is challenging. The inclusion of detailed instructions for each bibliographic format may be difficult and confusing to use. Therefore, for the purposes of this text, the documentation for the projected media format is extracted from the larger document for ease of instruction and use (see Appendix C). The Appendix includes sample bibliographic records for projected media (compact discs, videocassettes and children's titles), an explanation of the correlations between the fields and subfields in the MARC bibliographic format and *AACR2r*, and a worksheet for cataloging projected media.

Using subject analysis and classification tools for projected media

Providing subject and classification access in bibliographic records for an online catalog requires the cataloger to use specialized tools in conjunction with MARC documentation and *AACR2r*. Each library adopts one or more tools for these tasks. Bibliographic records may contain one or more types of subject headings. The types of subject headings include personal name, corporate names, uniform titles, topical subjects, geographic place names, genre

headings and local subject headings. The *Library of Congress Subject Headings (LCSH)* contains topical terms and the *Guidelines on Subject Access to Individual Works of Fiction, Drama, etc. (GSAFD)* lists genre headings from which the cataloger selects points of access. In addition to these tools, the cataloger may choose to use specialized authority tools for projected media,¹³ taxonomy, thesaurus or subject headings list. Each subject heading is transcribed into the MARC bibliographic format.

The physical format of an item may contain a classification notation in the bibliographic record. Libraries may choose to arrange their projected media by title or subject for ease of browsing rather than to classify them. If the library does not classify projected media items, a classification notation may be included in the bibliographic record for the convenience and use of other catalogers.

Each subject headings and classification tool includes instructions and guidelines. The MARC bibliographic format enumerates the possible fields, subfields and indicators for data required for subject headings and classification notations. The array of possibilities in the MARC framework exceeds the individual fields and subfields that an individual record requires. The rules in *AACR2r* do not contain guidance for the assignment of subject headings or classification notations.

Because these tools are developed and updated independently, the cataloger needs to understand the purposes, instructions and strategies for using them together in the cataloging process. An overview of *LCSH*, *GSAFD* and specialized thesauri for projected media provides insights into their use together with *AACR2r* and MARC documentation in the cataloging process.

Subject headings

An individual subject heading provides an access point within the bibliographic record and consists of a word or phrase to designate topics and aspects contained in the work. Catalogers use the *Library of Congress Subject Headings*, the *Guidelines On Subject Access to Individual Works of Fiction, Drama, etc.*, and a specialized list, *The Moving Image Genre-form Guide*¹⁴ (*MIGFG*). These alphabetical lists of subject headings provide standard terms that serve as useful access points for online catalog users in identifying and retrieving bibliographic records. The subject headings enable searchers to identify items in a variety of physical packaging for a given subject.

The number and specificity of subject headings in *LCSH* reflect the nature and scope of the Library of Congress collections. Subject specialists construct new headings as needed to provide access to information packages during the cataloging process and establish links among existing headings. Available in print, microform and electronic versions, *LCSH* includes subject headings contributed by libraries participating in cooperative activities with the Library of Congress that reflect the needs of their local collections.

Genre and specialized subject headings in *GSAFD* reflect the nature and scope of individual works of fiction. Subject headings provide access to individual works of fiction, drama, poetry, humor and folklore in all formats. Available in print only, *GSAFD* includes access to genre and form that describe the work rather than the story, characters or groups of recurring characters, setting through the location and time period, and topics.

The Moving Image Genre-Form Guide (MIGFG) provides a list of genres that serve as a shorthand for archivists, scholars and filmmakers. A committee of subject specialists in the Motion Picture, Broadcasting & Recorded Sound Division at the Library of Congress has compiled a comprehensive, practical guide to moving image genre and form terminology (approximately 150 terms that are defined and exemplified). These terms follow the traditional methods of film and television scholarship as closely as possible. Designed for use in a MARC-based cataloging environment or an in-house system, the *MIGFG* includes an overall list of terms, genres, forms, and formats, examples of how the system would be applied to a variety of sample titles. Genres are the single most readily recognized, appropriate way to categorize film and television works into universally understood classifications.¹⁵

Additions, modifications and deletions to subject headings lists occur to maintain currency and viability. These changes impact new and existing bibliographic records. Catalogers and technical services managers must evaluate and determine an appropriate balance between the need for change and the need for consistency among subject headings. Therefore, during the cataloging process the cataloger consults the subject headings list or authority file to verify the form of the headings selected for access.

Classification

The purpose of classification is to group information packages on similar and related topics together from general to specific and to lead the user to them. Catalogers may use *Library of Congress Classification (LCC)* and the *Dewey Decimal Classification (DCC)* to determine the arrangement of information packages within the library collection, making adjustments due to the physical packaging and formats.

Independent of the library collection, these classification schemes provide enumerative arrangements for topics. The hierarchical order enables the classification scheme to employ a process of subdivision and collocation that reflects a natural order. Arrangements in the *LCC* and *DDC* classification schemes proceed from general to specific aspects of topics through the subdivision of classes, subclasses and arrays of numbers. The cataloger follows the instructions in a classification scheme to identify a notation that reflects the topics contained within a work. A Cutter mark or number is added to the notation so that each work has a unique locator to identify its physical location within the library.

The *LCC* is an enumerative scheme that uses a capital letter for the main class, two or three capital letters for subclasses, Arabic numerals for further subdivisions and Cutter author-marks to achieve alphabetic subarrangements. Developed for the Library of Congress at the turn of the twentieth century, all *LCC* schedules have a similar arrangement and sequencing pattern. The schedules are prepared by subject specialists at the Library of Congress and reflect the nature and scope of its collections. Within each sequence of class numbers, the subjects proceed from general to specific, chronologically or geographically.

Available in print and electronic versions, *LCC* schedules contain common features of external and internal format. The external format is reflected in the organization of the schedule. Components for each schedule customarily include the following sections: a preface, brief synopsis to show the basic subdivisions within the class, an outline that includes the alphabetic subclasses and significant alphanumeric arrays, the schedule proper, auxiliary tables for use with more than one subclass or array within the schedule, and an index. Changes and additions are incorporated into the electronic version of *LCC*, available from the Cataloging Policy and Support Office Web site and in print from the Cataloging Distribution Service at the Library of Congress.

The *DDC* is a decimal classification scheme that uses broad three-digit Arabic numbers followed by a decimal point and varying quantities of additional digits to achieve arrangements. Originally developed by Melvyl Dewey and published anonymously in 1876, within each class sequence the subjects proceed from general to specific, chronologically or geographically. During the classification task in the cataloging process, any class number may be expanded indefinitely in order to achieve specificity for topics in the work. The specificity of the classification number requires additional digits after the decimal point.

Available in print and electronic versions, the *DDC* schedule is compact and includes mnemonic devices that can be transferred among selected classes. The external format is reflected in the organization of the schedule and includes the following sections: an introduction, the schedule proper, seven tables of standard subdivisions, an index and a manual. Changes and additions are incorporated into the electronic version of *DDC*, distributed through a listserv, and available in print from OCLC.

Additions, modifications and deletions to classification schemes must be made to maintain currency and viability. These changes impact new and existing bibliographic records. Catalogers and technical services managers must evaluate and determine an appropriate balance between the demands to change and the need for consistency and collocation of similar topics. Therefore, during the cataloging process the cataloger consults the classification schemes to verify or construct the notation selected for access.

Cataloging projected media—examples and analysis

The cataloging process for projected media consists of the following related tasks: identification of the type of media (composition, physical format and required projecting equipment), descriptive cataloging, subject analysis (also called indexing), authority control, and classification. Learning the unique aspects of the cataloging process for projected media requires familiarity with relevant national and international standards, technical aspects of the media itself and an understanding of the equipment necessary to see images. The successful completion of each task results in the construction or enhancement of a bibliographic record that represents the physical format and the equipment required to see the projected images.

In order to complete these tasks, the library school student or novice cataloger needs to be familiar with each of the required tools (*AACR2r*, MARC documentation, *LCSH*, *LCC* or *DDC*, and an authority file). Catalogers who devote their professional careers to the construction and enhancement of bibliographic descriptions for projected media works and different physical formats rely on specialized tools. The cataloging process includes examples of a DVD of a feature-length motion picture, *Frida*, (see Figures 5.2, 5.3, and 5.4) and a video recording for children, *Berlioz the Bear*, (see Figures 5.5, 5.6, and 5.7) in order to contextualize the instructions. Additional examples of projected media appear in “Appendix C”.

Example one: *Frida*

Step 1—Examine the information package. The cataloger determines that the information package is a digital videodisc of a previously released motion picture. The entire information package is present and does not include inserts or accompanying items. According to *AACR2r*, the information package is a single-part bibliographic resource (Rules 1.0A2 and 7.0A).¹⁶ (Tools needed for this step: DVD of *Frida* with packaging and *AACR2r*.)

Step 2—Identify the correct MARC format to use. The cataloger determines that the MARC bibliographic format for projected media is required.¹⁷ (Tools needed for this step: DVD of *Frida* with packaging and MARC documentation.)

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information (Rules 1.0A3a, 7.0B1, and 7.0B2). These data are the most credible elements that the cataloger transcribes into the bibliographic record (see Figure 5.2). Using the guidelines for punctuation (Rules 1.0C and 7.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D, and 7.0D). In order to consider each of the required data elements, the cataloger uses sections of chapter 1 and chapter 7. (Tools needed for this step: DVD of *Frida* with packaging and AACR2r.)

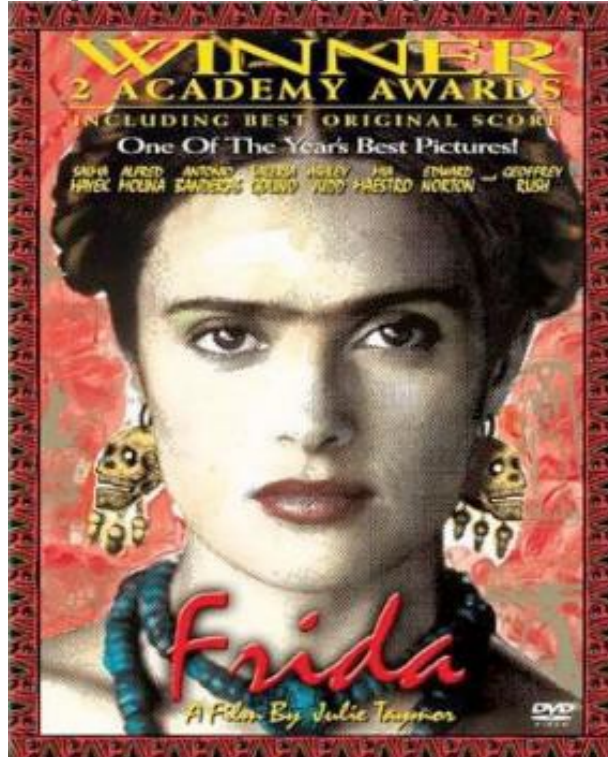


Figure 5.2. DVD Cover for *Frida*.

Step 4—Find standard numbers. The manufacturer, Miramax Home Entertainment, included the ISBN on the verso of the DVD container (see Figure 5.3). According to AACR2r (Rules 1.8B and 7.8B), the bibliographic record requires the inclusion of standard numbers. The ISBN can be used to search the local OPAC, the databases of bibliographic utilities and commercial vendors. No other standard numbers appear on the packaging for the DVD. (Tools needed for this step: DVD of *Frida* with packaging, AACR2r and MARC documentation.)

Step 5—Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is OCLC.¹⁸ The cataloger gains access to WorldCat® through the institutional subscription and the student frequently has permission through a formal agreement between the library school and OCLC.¹⁹ The OCLC database requires a unique authorization and password.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home page, the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*. The *Librarian's Toolbox* page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools and WorldCat® tools.²⁰ When the searcher chooses Connexion in the logon links section, the WorldCat® Services login page appears.²¹ Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging,

the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Actors: Salma Hayek, Mía Maestro, Amelia Zapata, Alejandro Usigli, Diego Luna

Directors: Julie Taymor

Format: Anamorphic, Closed-captioned, Color, Dolby, Widescreen, NTSC

Language: English

Region: Region 1 (U.S. and Canada only)

Aspect Ratio: 1.85:1

Number of discs: 2

Rating: R

Studio: Miramax Home Entertainment

DVD Release Date: June 10, 2003

Run Time: 123 minutes

DVD Features:

Available Subtitles: English, Spanish

Available Audio Tracks: English (Dolby Digital 5.1), French (Unknown Format)

Disc 1: Feature film with commentary by director Julie Taymor

Selected scenes commentary with composer Elliot Goldenthal

A conversation with Salma Hayek

Disc 2: American Film Institute Q&A with director Julie Taymor

Bill Moyers interview with Julie Taymor

Chavela Vargas interview

The voice of Lila Downs

The vision of Frida: with Rodrigo Prieto and Julie Taymor

The design of Frida: with Felipe Fernandez

The music of Frida: with Elliot Goldenthal and Salma Hayek

Salma Hayek's recording session

Bringing Frida Kahlo's life and art to film: a walk through real locations

Portrait of an artist

"Amoeba Proteus" visual FX

"The Brothers Quay" visual FX

Frida Kahlo facts

Full Cast List

Mía Maestro as Cristina Kahlo	Amelia Zapata as Maid
Alejandro Usigli as Professor	Lucia Bravo as Auditorium Model
Valeria Golino as Lupe Marín	Patricia Reyes Spíndola as Matilde Kahlo
Loló Navarro as Nanny	Fermín Martínez as Painter on Bus
Roberto Medina as Dr. Farril	Ashley Judd as Tina Modotti
Antonio Banderas as David Alfaro Siqueiros	Lila Downs as Tango Singer
Martha Claudia Moreno as Woman at Wedding	Maria Ines Pintado as Woman at Wedding
Aida López as Lupe's Maid	Ivana Sejenovich as Chapingo Chapel Model
Diego Espinoza as Pulquería Singer	Ehécatl Chávez as Drunk Young Man
Elliot Goldenthal as Newsreel Reporter	Edward Norton as Nelson Rockefeller
Saffron Burrows as Gracie	Didi Conn as Waitress
Julian Sedgwick as New York Reporter	William Raymond as New York Doctor
Jorge Guerrero as Priest at Funeral	Mary Luz Palacio as Isolda
Geoffrey Rush as Leon Trotsky	Margarita Sanz as Natalia Trotsky
Omar Rodríguez as André Breton	Anthony Alvarez as Trotsky's Armed Sentry
Enoc Leaño as Trotsky's Armed Sentry	Karine Plantadit-Bageot as Paris Chanteuse
Chavela Vargas as Death 'La Pelona'	Jorge Zepeda as Detective
Benjamín Benítez as Carlos	Claudia Frías as Maid
Felipe Fulop as Jean van Heijenoort	Andrés Montiel as Cachucha
Mauricio Osorio as Corona	Jorge Valdés García as Doctor in Red Cross Hospital
Eszter Zakariás as Patron	Antonio Zavala as Mercader, Trotsky's Assassin

Full Crew List

Julie Taymor – Director	Hayden Herrera – Writer (Book Frida: A Biography of Frida Kahlo)
Clancy Sigal – Writer (Screenplay)	Diane Lake – Writer (Screenplay) Anna
Gregory Nava – Writer (Screenplay)	Thomas – Writer (Screenplay) Lindsay
Mark Amin – Executive producer	Flickinger – Producer (producer) Mark Gill
Brian Gibson – Executive producer	– Producer (executive producer) Nancy
Sarah Green – Producer (producer)	Hardin – Producer (producer)
Salma Hayek – Producer (producer)	Jill Sobel Messick – Producer (executive producer)
Margaret Rose Perenchio – Producer	Jay Polstein – Producer (producer)
Ann Ruark – Producer (co-producer)	Amy Slotnick – Producer (executive producer)
Roberto Sneider – Producer (producer)	Lizz Speed – Producer (producer)
Françoise Bonnot – Editor	Elliot Goldenthal – Composer
Julie Weiss – Costume Designer	Felipe Fernández del Paso – Production Designer
Bernardo Trujillo – Art Director	

Figure 5.5. Additional information for *Frida*.

Step 6–Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the title and physical format. The cataloger may search by title or ISBN. Searches by standard numbers are the most efficient.

The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible. At the top of the screen the searcher will find a command line search capability. To use this type of search, the scan or an alphanumeric command is required.

Keyword searches enable the user to search by word, number, phrase or whole phrases with appropriate punctuation. The equal sign (=) indicates that a phrase or whole phrase index will be searched; a colon (:) indicates that a word index will be queried. Boolean operators (and, or, not) may be used to combine searches. In this example, a correct search protocol is as follows: scan ti=frida. The title that matches the search protocol is shown in bold type with the number of associated bibliographic records displayed in the column at the right-hand edge of the screen.

A total of 146 entries appear in four groups. Each group represents a different format (books, visual materials, sound recordings and music scores). The cataloger chooses the group of visual materials because the physical

format is a DVD. Double-clicking on the visual materials group in bold type results in a display of the 44 individual bibliographic records and gives data for the title (245 #a), name (100 #a), publisher (260 #b), date (260 #c) and designation of the national library creating the record if this is the case. If a national library did not submit or create the bibliographic record, the column is blank.

If the searcher chooses to use a derived search, the correct protocol for a title query is as follows: fri,,,/med. The search protocol is comprised of the first three letters of first word, the first two letters of the second word, the first two letters of the third word and the first letter of the fourth word in the title followed by a forward slash (/) and the code for projected media (med). Because the title is a single word, this search strategy is not recommended. Additional types of derived searches are described in OCLC documentation.²²

Double-clicking on the number in the left-hand column results in a display of the individual bibliographic record. Given the number of potential matches, using the date to identify the most likely matches is a prudent strategy. In this example, six OCLC records are potential matches for the information package. The cataloger proceeds to review each of these records (OCLC #51980830, #51980847, #51980850, #52979673, #53127177, #53479926, #57781688, and #61715757) using the process outlined above for a scan search. Regardless of which search method is selected, the record selected is the same (OCLC #51980847).

If the searcher chooses to use a numeric search, the correct protocol for a standard number query is as follows: 0788844989. The search protocol is comprised of the ISBN digits entered without punctuation. Make certain that the pull down box on the right-hand side of the screen indicates ISBN (bn=). The record for *Frida* appears on the screen. (Tools needed for this step: Internet, documentation for the bibliographic utility, username and password.)

Step 7—Examine the search results. The cataloger must determine whether the bibliographic record and its title match the information package and its physical format. The cataloger needs to review OCLC #51980847 in order to determine whether or not it matches the information package. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 8—Determine if a bibliographic record matches the information package. In order to determine whether or not the bibliographic record matches the information package and its physical format, the cataloger will check and verify the following data elements: ISBN (Rules 1.8B and 7.8B), format (Rule 7.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 7.1B, and 7.1D), subtitle (if any, Rule 7.1E), publisher (Rules 1.4D, 7.4D, and 7.4E), publication and copyright dates (Rules 1.4F and 7.4F), actors and credits (Rule 7.7B), and running time (number of minutes; Rule 7.5B).

Local librarians determine which data elements must be exactly the same in order to constitute a match between the information package and the bibliographic record. These data elements customarily include the title, publisher, date, and standard numbers. When a bibliographic record is identified as a match, then the cataloger must review each field, subfield and indicators to ensure that the data have been transcribed and tagged according to MARC requirements.

The bibliographic record (OCLC #51980847) contains data elements that match the information package and its physical format exactly. In this example, data for the title (*Frida*, 245 #a), edition (widescreen ed., 250 #a), imprint (Burbank, Calif. : #b Miramax Home Entertainment ; distributed by Buena Vista Home Entertainment, #c [2003], c2002, 260 #a, #b, #c), and extent of the item (123 min. : #b sd., col. ; #c 4¾ in., 300 #a, #b, #c) match the information package exactly. In addition, the online record contains four subject headings (650 #a) and three genre designations (655 #a). Therefore, this is an appropriate record to use. (Tools needed for this step: DVD of *Frida* with packaging, AACR2r, and MARC documentation.)

Step 9—Verify the access points. The cataloger needs to determine if the bibliographic record contains all of the access points that users may need for searching and retrieving the information in a particular physical format. If the bibliographic record includes the access points specified in the library's bibliographic input standard document, no additional fields are required. However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #51980847 contains data access points denoting the title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 7.1B, and 7.1E), subject headings, (no rule *per se*), genre headings (no rule *per se*), and added entries for actors and the production team (Rules 1.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5). It is incumbent upon the cataloger to review each access point and make certain that the data are transcribed correctly into the MARC fields and subfields with the correct indicators.

The following access points appear in the selected online record: title (*Frida*), two personal subject headings (Kahlo, Frida; Rivera, Diego, 1886-1957, 600 #a, #d), a topical subject (Painters – Mexico, 650 #a, #z) with the form subdivision for a DVD (#v Drama), three genre headings (Feature films; Biographical films; Video recordings for the hearing impaired, 655 #a), eight added entries for actors (Alfred Molina, Valeria Golino, Mía Maestro, Roger Rees, Diego Luna, Geoffrey Rush, Ashley Judd, Antonio Banderas; 700 #a), seven added entries for the production team (Sarah Green, Selma Hayek, Jay Polstein, Clancy Sigal, Julie Taymor, Rodrigo Prieto, Elliott Goldenthal; 700

#a), an author/title added entry for the original work (Hayden Herrera; 700 #a, #t), and four corporate body added entries (Miramax Films, Ventanarosa Productions, Lion's Gate Films, Buena Vista Home Entertainment; 710 #a).

The cataloger needs to verify that each of these access points is transcribed correctly. After the cataloger determines that the content of the variable fields in the bibliographic record match the information package, the fixed fields must be reviewed to verify that they correlate accurately with these data. (Tools needed for this step: DVD of *Frida* with packaging, AACR2r and MARC documentation.)

Step 10–Verify the classification. The cataloger needs to determine if the classification notation in the bibliographic record is part of the scheme that the library has adopted. If the bibliographic record includes a classification notation in the local scheme and is formatted correctly, the cataloger does not need to make modifications. However, if the classification number does not correspond to the local scheme, then the cataloger needs to add an appropriate call number. In either instance the cataloger is responsible for adding a correct Cutter designation.

In this example, OCLC record #51980847 contains both *LCC* (o50 #a) and *DDC* (o82 #a) classification notations. The cataloger reviews the classification notation for the scheme used in the library and makes certain that it and the Cutter are transcribed correctly into the MARC field and subfields with the correct indicators. The *LCC* notation (o50 #a) is PN1997.2 with a Cutter (o50 #b .F74) and date (2003). The *DDC* notation is 791.43/72 for feature films without a Cutter representing the main entry. Librarians at Midwest Tapes contributed the bibliographic record and prepared both notations.

In libraries that do not use either *LCC* or *DDC*, the cataloger will use a locally assigned classification notation to denote a feature film on DVD in the adult collection (o99 #f DVD #a FRIDA #b 2003). Regardless of which classification scheme is used locally, an accurate call number must be transcribed into the correct field. (Tools needed for this step: DVD of *Frida* with packaging, AACR2r, MARC documentation, and classification scheme.)

Step 11–Determine other tags to include. If the bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they should be transcribed according to the rules in AACR2r and placed correctly into fields and subfields as required by MARC documentation.

In this example, OCLC record #51980847 contains several other tags containing data required to describe the physical format. These tags include a note with the author and title of the original work (Rule 7.7B, 500 #a), contents of the two discs (Rule 7.7B18, 505 #a), a summary (Rule 7.7B17, 520 #a), audience rating (Rule 7.7B14, 521 #a), physical description (Rule 7.7B10, 538 #a), restricted use (Rule 7.7B1, 540 #a), languages (Rule 7.7B2, 546 #a), and awards (Rule 7.7B1, 586 #a). (Tools needed for this step: DVD of *Frida* with packaging, AACR2r and MARC documentation.)

Step 12–Review each point of access in the authority file. The cataloger needs to verify points of access in the bibliographic record against authority records. The bibliographic record does not carry an indication that it was created at a Program for Cooperative Cataloging²³ (PCC) library (o42 #a) or the Library of Congress (o40 #a). Therefore, the cataloger is responsible for the verification of the forms of entries in an authority file for each point of access.

In order to take advantage of authority records produced in other institutions, the cataloger or library school student needs to have online access to them. The largest databases of authority records are available from the Library of Congress²⁴ and OCLC.²⁵ The cataloger has free access to the Library of Congress website. Access to WorldCat® is available to library staff members through the institutional subscription, and LIS students frequently have permission through a formal agreement between their library school and OCLC.²⁶ The OCLC database requires a unique authorization and password.

When the cataloger uses OCLC to search for authority records, the login process is the same until the welcome screen for the OCLC Connexion® Services appears. The authorities tab in the upper left-hand section (to the right of the cataloging tab) on the page needs to be highlighted in blue in order to search the authorities file. At the top of the screen the searcher will find a command line search capability. To use this type of search, scan is used with a designation for the personal name (pn), corporate body (co), title (ti) or subject (su). In this example, a correct search protocol is as follows: scan pn=hayek, salma.

Twenty entries, each of which represents an individual, appear on the search results screen. The name that matches the search protocol is shown in bold type with the number (designated by R) of associated bibliographic records displayed in the column at the right-hand edge of the screen. Double-clicking on the number adjacent to the name in bold type results in a display of the individual authority records (designated by E) and gives data about the individual and associated titles. Additional types of derived searches are described in OCLC documentation.²⁷

In this example, a single authority record exists for the author (OCLC #ARN 4705061) with Library of Congress Control Number no 98078281 (010 #a) contains the form of the name for the author with the correct field (100), indicators (1X), and subfield (#a). The cataloger reviews the authority record and compares it with the field in the bibliographic record to ensure that the data are transcribed and tagged correctly.

Searches for the subject headings require search protocol as follows: scan su=women painters. A listing of authority records appears as a result of the search. The number of authority records for the subject and its correct form appear in horizontal rows across the page. Double-clicking on the number adjacent to the name in bold type results in a display of the individual authority records (designated by R) and gives data about the subject.

In this example, an authority record exists for the subject heading women painters (OCLC #ARN 2107575) with Library of Congress Control Number # sh 85147670 (010 #a) and contains the form of the subject with the correct field (150) and subfield (#a). The cataloger reviews the authority record and compares it with the fields in the bibliographic record to ensure that the data are transcribed and tagged correctly. This process is repeated for each subject heading and the genre heading. Regardless of which search method is selected, the authority record for each access point is the same.

In the fixed field, the record status, date the record was entered, date replaced, record type, the record status, bibliographic level, the description, record status, and the encoding level should not require modification. The fixed field data elements (008) that must match the data that have been transcribed in the variable fields (1XX-8XX) include the type of material form (video recording = v), technique (live action = l), audience (adult = e), running time in minutes (122), date type (publication / distribution date = p), language (English = eng), country of publication (California, USA = cau), and dates (production date = 2003 and copyright date = 2002). In this example other fixed field data elements should be blank (form, government publication, control, and modified record). The cataloger reviews the fixed field and compares the characters in the bibliographic record to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

After all of the data have been entered and verified in the authority file, the cataloger should review the bibliographic record, check for transcription errors, fix punctuation marks, and correct spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, and standard number).

Example: *Berlioz the Bear*

Step 1—Examine the information package. The cataloger determines that the information package is the videocassette of a previously released television program. The entire item is present and does not include inserts or accompanying items. According to AACR2r, the information package is a single-part bibliographic resource (Rules 1.0A2 and 7.0A). (Tools needed for this step: *Berlioz the Bear* with packaging and AACR2r.)

Step 2—Identify the correct MARC format to use. The cataloger determines that the MARC bibliographic format for projected media is required. (Tools needed for this step: *Berlioz the Bear* with packaging and MARC documentation.)

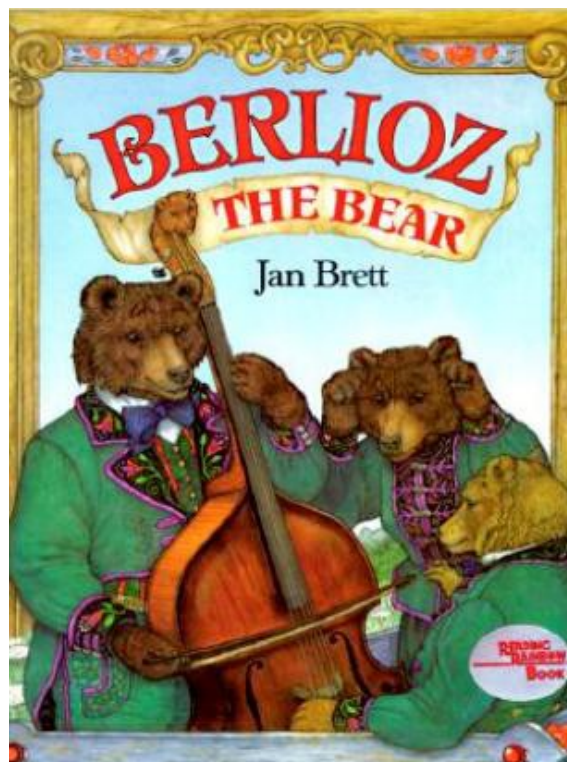


Figure 5.7. Cover packaging for *Berlioz the Bear*.

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information (Rules 1.0A3a, 7.0B1, and 7.0B2). These data are the most credible elements that the cataloger transcribes into the bibliographic record. Using the guidelines for punctuation (Rules 1.0C and 7.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 7.0D). In order to consider each of the required data elements, the cataloger uses sections of chapter 1 and chapter 7. (Tools needed for this step: *Berlioz the Bear* with packaging and *AACR2r*.)

Step 4—Find standard numbers. The manufacturer, Great Plains National Instructional Television Library, did not include the International Standard Book Number (ISBN) on the verso of the videocassette container. According to *AACR2r* (Rules 1.8B and 7.8B), the bibliographic record requires the inclusion of standard numbers if they are present on the information package. (Tools needed for this step: *Berlioz the Bear* with packaging, *AACR2r*, and MARC documentation.)

Step 5—Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is OCLC. The cataloger gains access to WorldCat® through the institutional subscription and the student frequently has permission through a formal agreement between the library school and OCLC. The OCLC database requires a unique authorization and password.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home

page, the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*. The *Librarian's Toolbox* page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, and WorldCat® tools. When the searcher chooses Connexion in the logon links section, the WorldCat® Services login page appears. Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Directed by

Larry Lancit
Mark Manucci
Ed Wiseman

Writing credits (in alphabetical order)

Rob Stork multiple episodes

Produced by

Andy Ames	....	producer	David Michaels	....	consulting producer
Sudie Anning	....	producer	Stacey Raider	....	producer
			Nicole Silver	....	coordinating producer
Larry Lancit	....	producer	Rob Stork	....	producer
Twila Liggett	....	producer	Cecily Turner	....	producer
Guy Merrill	....	associate producer	Orly Wiseman	....	producer

Original music by

Stephen Horelick

Film editing by

Tony Bruer	Joe Comperati
Michael Chornet	Richard A. Fernandes
Matt Hensel	Kenneth Hatlee
Sarah Kaylor	Juazto Royo
	Laura Young

Casting by

Stacey Raider

Makeup Department

Stephanie Cozart.... makeup artist
Burton

Production Management

Erica Levin post-production supervisor
Elizabeth O'Mara production manager

Sound Department

Paul Cote	....	production sound mixer
Bill Gardner	....	sound re-recording mixer
Billy Gardner	....	sound re-recording mixer
Bill Ivie	....	sound re-recording mixer
Brian Miksis	....	sound mixer
Gary Silver	....	production sound mixer

Other crew

	....	post-production coordinator
Sara Enright	....	production coordinator
Peter Hagen	....	production assistant
Bari Harellick	....	intern (1994)
Kenneth Hatlee	....	production assistant
Ben Hoskins	....	key background production assistant
Patrick Huber	....	production assistant
Phil Kubel	....	production assistant (1992)
Kelly J. Richardson	....	dolly grip
Amy Spielholtz	....	production secretary
B.J. Steiner	....	production assistant
Jacob Steingroot	....	assistant editor (2001-2002)
Anne Marie Ugarte	....	production intern

Figure 5.8. Additional information for *Berlioz the Bear*.

Step 6–Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the information package. The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible. At the top of the screen the searcher will find a command line search capability. To use this type of search, the scan or an alphanumeric command is required.

The searcher should use the scan command in order to find a work by derived, keyword or phrase searches. Keyword searches enable the user to search by word, number, phrase or whole phrases with appropriate punctuation. The equal sign (=) indicates that a phrase or whole phrase index will be searched; a colon (:) indicates that a word index will be queried. Boolean operators (and, or, not) may be used to combine searches. In this example, a correct search protocol is as follows: scan ti=berlioz the bear. The title that matches the search protocol is shown in bold type with the number of associated bibliographic records displayed in the column at the right-hand edge of the screen.

A total of 21 individual bibliographic records appears and represents print, projected media, sound recording, and mixed media in English, Spanish, and French. The entries include the title (245 #a), name (100 #a), publisher (260 #b), date (260 #c), and designation of the national library creating the record. If a national library did not submit or create the bibliographic record, the column is blank.

If the searcher chooses to use a derived search, the correct protocol for a title query is as follows: ber,th,be,/med. The search protocol is comprised of the first three letters of first word, the first two letters of the second word, the first two letters of the third word, and the first letter of the fourth word in the title followed by a forward slash (/) and the code for projected media (med). Additional types of derived searches are described in OCLC documentation.

Double-clicking on the number in the left-hand column results in a display of the individual bibliographic record. Given the number of potential matches, using the date to identify the most likely matches is a prudent strategy. In this example, two OCLC records are potential matches. The cataloger proceeds to review these records (OCLC #27025457 and #42487058). Regardless of which search method is selected, the record selected is the same (OCLC #42487058). (Tools needed for this step: Internet, documentation for the bibliographic utility, username and password.)

Step 7–Examine the search results. The cataloger must determine whether the bibliographic record and its title match the information package. The cataloger needs to review OCLC #42487058 in order to determine whether or not it matches the information package. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 8–Determine if a bibliographic record matches the information package. In order to determine whether or not the bibliographic record matches the videocassette exactly, the cataloger will check and verify the following data elements: format (Rule 7.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 7.1B, and 7.1D), subtitle (if any, Rule 7.1E), publisher (Rules 1.4D, 7.4D, and 7.4E), publication and copyright dates (Rules 1.4F and 7.4F), actors and credits (Rule 7.7B), and running time (number of minutes; Rule 7.5B).

Local librarians determine which data elements must be exactly the same in order to constitute a match between the information package and the online bibliographic record. These data elements customarily include the title, publisher, date, and standard numbers. When a bibliographic record is identified as a match, then the cataloger

must review each field, subfield and indicators to ensure that the data have been transcribed and tagged according to MARC requirements.

The bibliographic record (OCLC #42487058) contains data elements that match the information package in a particular physical format exactly. In this example, data for the title (*Berlioz the Bear*, 245 #a), imprint (Lincoln, Neb. : #b Great Plains National Instructional Television Library, #c 1992, c1991, 260 #a, #b, #c), and extent of the item (30 min. : #b sd., col. ; #c ½ in., 300 #a, #b, #c) match the information package exactly. In addition, the online record contains six subject headings (650 #a) and six added entries (700/710 #a). Therefore, this is an appropriate record to use. (Tools needed for this step: *Berlioz the Bear* with packaging, *AACR2r* and MARC documentation.)

Step 9—Verify the access points. The cataloger needs to determine if the bibliographic record contains all of the access points that users may need for searching and retrieving the information package. If the bibliographic record includes the access points specified in the library's bibliographic input standard document, no additional fields are required. However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #42487058 contains data access points denoting the title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 7.1B, and 7.1E), subject headings, (no rule *per se*), and added entries for actors and the production team (Rules 1.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5). It is incumbent upon the cataloger to review each access point and make certain that the data are transcribed correctly into the MARC fields and subfields with the correct indicators.

The following access points appear in the selected online record: title (*Berlioz the Bear*), four topical subjects (Bears, Musicians, Street musicians—New York (State)—New York, and Street music—New York (State)—New York; 650 #a, #z) with the form subdivision for a videocassette (#v Juvenile films), two genre headings (Children's films; Video recordings for the hearing impaired; 655 #a), an added entry for the host (LeVar Burton; 700 #a), an added entry for the director (Mark Mannucci; 700 #a), an author/title added entry for the original work (Jan Brett; 700 #a, #d, #t), and three corporate body added entries (Lancit Media Productions, Great Plains National Instructional Television Library, WNED-TV; 710 #a.)

The cataloger needs to verify that each of these access points is transcribed correctly. After the cataloger determines that the content of the variable fields in the bibliographic record match the information package, the fixed fields must be reviewed to verify that they correlate accurately with these data. (Tools needed for this step: *Berlioz the Bear* with packaging, *AACR2r* and MARC documentation.)

Step 10—Verify the classification. The cataloger needs to determine if the classification notation in the bibliographic record is part of the scheme that the library has adopted. If the bibliographic record includes a classification notation in the local scheme and is formatted correctly, the cataloger does not need to make modifications. However, if the classification notation does not correspond to the local scheme, then the cataloger adds an appropriate call number. In either instance, the cataloger is responsible for ensuring that a correct Cutter designation is present. In this example, OCLC record #42487058 contains a *DDC* (o82 #a) classification notation. The *DDC* notation is 780.23 without a Cutter representing the main entry.

The cataloger may choose to add an *LCC* notation (o50 #a) with a Cutter (o50 #b) and date. The cataloger adds an *LCC* notation (PZ7.B7559) with a Cutter representing the main entry (.B4) and a date (1991). Librarians at the Seattle Public Library upgraded the bibliographic record and prepared the *DDC* notation.

In libraries that do not use either *LCC* or *DDC*, the cataloger will use a locally assigned classification notation to denote a children's videocassette (o99 #f VHS #a BERLIOZ #b 1991). Regardless of which classification scheme is used locally, the bibliographic record must contain an accurate call number. (Tools needed for this step: *Berlioz the Bear* with packaging, *AACR2r*, MARC documentation and classification scheme.)

Step 11—Determine other tags to include. If the bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they should be transcribed according to the rules in *AACR2r* and placed correctly into fields and subfields as required by MARC documentation.

In this example, OCLC record #42487058 contains several other tags containing data required to describe the information package. These tags include a summary (Rule 7.7B17, 520 #a), series statement (Rule 7.6B, 440 #a), physical description (Rule 7.7B10, 500 #a that must be updated to the new tag, 538 #a) and language (Rule 7.7B2, 546 #a).

The cataloger may choose to add tags that bring the bibliographic record up to the requirements of the library's bibliographic input standard for projected media. Tags that need to be added include (but are not limited to) the following: a geographic designation for the story (o43 #a), a note indicating the original book from which the videocassette is made (500 #a), the original broadcast date (518 #a), audience rating (Rule 7.7B14, 521 #a), physical

description (Rule 7.7B10, 538 #a), restricted use (Rule 7.7B1, 540 #a) and a uniform title for the television program (Rules 1.6 and 7.6). The cataloger changes the close caption data from a general note field to a language tag and the two genre headings from 650 to 655 tags. (Tools needed for this step: *Berlioz the Bear* with packaging, *AACR2r* and MARC documentation).

Step 12–Review each point of access in the authority file. The cataloger needs to verify points of access in the bibliographic record against authority records. The bibliographic record does not carry an indication that it was created at a Program for Cooperative Cataloging (PCC) library (042 #a) or the Library of Congress (040 #a). Therefore, the cataloger is responsible for the verification of the forms of entries in an authority file for each point of access.

In order to take advantage of authority records produced in other institutions, the cataloger or library school student needs to have online access to them. The largest databases of authority records are available from the Library of Congress and OCLC. The cataloger has free access to the Library of Congress website.

To log into the Library of Congress authorities database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to its website. In the middle of the authorities page, the searcher chooses *Search Authorities*. The *Authorities Headings Search* page offers four types of searches: subject authority headings, name authority headings, title authority headings and name/title authority headings. Search tips for each type of heading are linked to this site.

Using an efficient search strategy saves time and enables the cataloger to find each authority record that matches access points. In this example, the cataloger must search for the individuals and corporate bodies in the added entries, two personal subject headings, a topical subject heading, and six genre headings. To search for an individual the name authority headings is highlighted and the correct search protocol is entered: Burton, LeVar. A listing of authority records appears. The number of bibliographic records in which the name appears, the form of the name and the type of heading appear in horizontal rows across the page. Headings with a red box in the left-hand column reading authorized heading can be viewed by double-clicking on the icon. The correct form of the name and its source (the Library of Congress Online Catalog) appear on the next screen.

In order to see the MARC version of the authority record, the searcher double-clicks on the name. Authority record # n 78064054 contains the form of the name for the author with the correct field (100), indicators (1X) and subfield (#a). The cataloger reviews the authority record and compares it with the field in the bibliographic record to ensure that the data are transcribed and tagged correctly.

Searches for subject headings require that the authority headings are highlighted and the correct search protocol is entered. A listing of authority records appears as a result of the search. The number of bibliographic records in which the subject appears, its correct form and the type of heading appear in horizontal rows across the page. Headings with a red box in the left-hand column reading authorized heading can be viewed by double-clicking on the icon. The correct form of the name and its source (the Library of Congress Online Catalog) appear on the next screen.

In order to see the MARC version of the authority record, the searcher double-clicks on the subject. Authority record #sh 85012691 contains the form of the subject for bears with the correct field (150) and subfield (#a). The cataloger reviews the authority record and compares it with the field in the bibliographic record to ensure that the data are transcribed and tagged correctly. This process is repeated for each subject heading and the genre heading.

In the fixed field, the record status, date the record was entered, date replaced, record type, the record status, bibliographic level, the description, record status, and the encoding level should not require modification. The fixed field data elements (008) that must match the data that have been transcribed in the variable fields (1XX-8XX) include the type of material form (videorecording = v), technique (live action = l), audience (children = c), running time in minutes (030), date type (publication/distribution date = p), language (English = eng), country of publication (Nebraska, USA = nbu), and dates (production date = 1992 and copyright date = 1991). In this example other fixed field data elements should be blank (form, government publication, control and modified record). The cataloger reviews the fixed field and compares the characters in the bibliographic record to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.) The bibliographic record for *Berlioz the Bear* appears in Figure 5.9.

After all of the data have been entered and verified in the authority file, the cataloger should review the bibliographic record, check for transcription errors, fix punctuation marks and correct spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, standard number). See below.

```

007 __ v #b f #d c #e b #f a #g h #h o #i u
008 030603p19921991nbu030          vceng d
043 __ n-us-ny
050 __ PZ7.B7559 #b B4 1991
090 __ 028.534 #b BERLIOZ
245 00 Berlioz the bear #h [videorecording] / #c Great Plains National Instructional Television Library
and WNED-TV ; produced by Ed Wiseman ; written by Jill Gluckson ; directed by Mark
Mannucci.
260 __ Lincoln, Neb. : #b Great Plains National Instructional Television Library, #c 1992, c1991.
300 __ 1 videocassette (30 min.) : #b sd., col. ; #c 1/2 in.
440 _0 Reading Rainbow ; #v 90
500 __ Adapted from the book of the same title by Jan Brett.
508 __ Producer, Cecily Truett, Larry Lancit ; director, Mitchell Geller ; writer, Ellen Schecler ; music
director, Steve Horelick ; music, Patchwork ; director of photography, Dean Parisot ; video, Howie
Rosenzweig ; editor, James C. Wright.
511 0_ Host, Levar Burton ; reader, James Avery.
518 Original air date: October 16, 1992 (Season 9, Episode 5)
520 __ The amusing tale of the mishaps encountered by a band of bears who take their show on the road.
521 2_ K-5.
538 __ VHS format.
540 Restricted for private home use only.
546 Closed captioned for the hearing impaired.
650 _0 Bears #v Juvenile films.
650 _0 Musicians #v Juvenile films.
650 _0 Street musicians #z New York (State) #z New York #v Juvenile films.
650 _0 Street music #z New York (State) #z New York #v Juvenile films.
655 _7 Children's films.
655 _7 Video recordings for the hearing impaired.
700 1_ Burton, Levar. #4 hst
700 11 Brett, Jan, #d 1949- #t Berlioz the bear.
710 2_ WNED-TV (Television station : Buffalo, N.Y.)
710 2_ Great Plains National Instructional Television Library.
730 0_ Reading rainbow (Television program)

```

Figure 5.9. Bibliographic record for *Berlioz the Bear*.

Summary

This chapter includes information and explanations about cataloging motion pictures, videocassettes, and DVDs using the MARC bibliographic format, cataloging tools and documentation, MARC fixed and variable fields, and steps in the bibliographic description.

Adapting, enhancing or constructing a bibliographic record for media resources facilitates a heightened awareness, identification and retrieval to all information resources in the library collection; consistency of access and retrieval for users; and, international efforts in cooperative cataloging. Developed independently by colleagues charged with specific responsibilities, specialized cataloging tools are used with companion resources. Learning when and how to use each of the cataloging tools and documentation during the cataloging process is an important aspect of becoming a proficient cataloger.

Contributing bibliographic records to an online catalog requires the cataloger to use *AACR2r* and MARC together. *AACR2r* contains the rules for transcribing bibliographic data and MARC explains the structure into which the data that comprise records are placed. Rules in *AACR2r* follow an outline for description and access points for names and titles. The MARC bibliographic format enumerates the possible fields, subfields, and indicators for data required to describe the information package.

Providing subject and classification access in bibliographic records for an online catalog requires the cataloger to use specialized tools in conjunction with MARC documentation and *AACR2r*. Because of the unique characteristics of motion pictures, videocassettes, and DVDs, the cataloger uses the *Library of Congress Subject Headings (LCSH)* for the assignment of topical terms, *Guidelines on Subject Access to Individual Works of Fiction, Drama, etc. (GSAFD)* for genre headings, and a specialized list, *The Moving Image Genre-form Guide (MIGFG)*.

The purpose of classification is to group information packages on similar and related topics together from general to specific and to lead the user to them. Catalogers use *Library of Congress Classification*, the *Dewey Decimal Classification* scheme or a local designation to determine the arrangement of motion pictures, videocassettes, and DVDs for children, teens and adults.

The cataloging process for these materials consists of five related tasks: identification of the type of media (composition, physical format and required projecting equipment), descriptive cataloging, subject analysis (subject cataloging or indexing), authority control and classification. Learning the unique aspects of the cataloging process for projected media requires familiarity with relevant national and international standards, technical aspects of the media itself, and an understanding of the equipment necessary to see images. The successful completion of each task results in the construction or enhancement of a bibliographic record that represents the information package and the equipment required to see the projected images.

Review exercises

Please prepare a bibliographic record using the MARC format for the following titles.

A River Runs Through It (DVD; ISBN 0800126254)

- ***Vanilla Sky*** (DVD; ISBN 792180100)
- ***Stuart Little*** (DVD; ISBN 0767893654)
- ***To Catch a Thief*** (VHS; ISBN 0792104323)
- ***George and Martha*** (VHS; ISBN 0738921505)

Additional resources

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Byers, Fred R. *Care and Handling of CDs and DVDs: A Guide for Librarians and Archivists*, <http://www.clir.org/pubs/reports/pub121/pub121.pdf> (9 May 2008).

Cataloger's Reference Shelf, <http://www.itsmarc.com/crs/crs0000.htm> (9 May 2008).

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Cataloging sound recordings

The integration of bibliographic records for sound recordings using analog and digital technologies is essential in order to serve the information needs of library users. Since the invention of sound recordings in the late nineteenth century, interest in music and spoken audio have remained integral parts of the America's memory and cultural history. The development of complex audio and digital technologies offers formats unique for the artistic expressions of vocalists, musicians, symphonies, opera companies, musical theatre ensembles and artists.

The popular library collection provides examples of classical music, operas, popular songs, folk and ethnic tunes, musical and stage productions, jazz, country and western, choral, religious, holiday, and national anthems. The availability of audio books in abridged and unabridged editions is popular with library users who listen to their favorite authors while commuting to and from work, traveling on vacation, sitting at home, or walking through the countryside. Particular strengths of sound music recording and audio book collections vary among libraries but may include fiction and non-fiction works for children, teens and adults.

The creation of a bibliographic record for sound recordings and audio books must provide access and retrieval that parallel those available for print resources. The application of internationally accepted cataloging standards to music and non-music sound recordings ensures that the physical format, sound playback and other characteristics unique to them are readily evident to users through the data contained in bibliographic records.

Standardized bibliographic description at level two or level three in *Anglo-American Cataloging Rules*, 2nd rev. edition (AACR2r)¹ for sound recordings facilitates a heightened awareness, identification and retrieval to all information resources in the library collection, consistency of access and retrieval for users, and international efforts in cooperative cataloging by sharing bibliographic records in local, regional, national and global databases.

Sound recordings in libraries

Sound recordings have existed since the invention of Thomas Edison's phonograph. The harsh sound from the metal stylus on the cylinder was not popular and prompted others to continue refining sound playback, including Alexander Graham Bell and Charles Tainter, until the wax-based phonogram appeared in 1895. Edison, Bell and Tainter, Oberlin Smith, and Valdemar Poulsen attempted to develop magnetic recordings. Emile Berliner promoted the idea of using discs rather than cylinders so that recordings could be mass-produced. By the beginning of the twentieth century, sound discs were widely produced and accepted.

Technical improvements to microphones and speakers in the 1920s resulted in higher sound recording and playback quality. By 1925, Western Electric Company introduced the electrical recording and playback systems. Long-playing records manufactured by US company Brunswick Records appeared in 1925 and by US company RCA Victor in the early 1930s. German scientist Fritz Pfleumer perfected the use of iron oxide coatings to paper so that magnetic recordings could be produced.

During the early days of sound recordings, the 78-rpm with its three to five minute playing time dominated the market. The popularity of sound recordings and juke boxes suffered in the 1940s from material shortages due to the war effort and disputes about royalties between musicians' unions and record producers.

After World War II, the 12-inch, 33-1/3 rpm vinyl disc revitalized the sound recording industry. Developed at US company Columbia Records in 1948, this format played for more than 20 minutes on each side and was more durable than the plastic 78-rpm discs. The following year RCA Victor introduced the 7-inch, 45 rpm disc. Although these two disc sizes differed in playing speed and duration, they competed in the marketplace for a number of years. In order to avoid continuing confusion among the consumer public, the record producing industry decided to use the 12-inch discs for long-playing albums (called LPs) and its 7-inch counterpart for single releases (called 45s).

By 1952, technical standardization in the record industry came when sound engineers from competing companies joined together and established the Recording Industry Association of America (RIAA). Record sales grew rapidly after the introduction of the LP and again after the adoption of a world standard for stereophonic sound in 1958. Sound quality improvements available through stereophonic recording and playback systems quietly forced monaural sound out of the market by the 1960s.²

German chemical company BASF developed magnetic tape in Germany in the 1930s, although the format remained under-utilized for sound recordings in the United States until after World War II. The ability to edit sound recordings and to use multiple tracks rather than solely record a performance on a single track prompted record manufacturers to adopt their use. Although reel-to-reel became a commercial standard, consumers resisted the format's bulky equipment.

Prompted to re-package magnetic tapes, Royal Philips Electronics Inc. (Philips) introduced cassette tapes in 1963. Although Philips promoted cassettes for dictation as an enhancement to office practices, consumers embraced the format for music. Spurred by growing sales, RIAA engineers developed a Dolby B noise reduction process in 1969 to reduce hissing sounds and improve playback quality. The automotive market introduced 8-track

magnetic tapes in 1966, but the format was short-lived. The Sony Walkman usurped the 8-track's popularity and by 1983 their production ceased.

Engineers at Sony Corporation (Sony) and Philips joined forces in 1979 to develop a new digital audio disc. The firms introduced the digital age of sound recordings with the release of the compact disc in late 1982. Digital recording and optical playback technologies combined to produce high quality sound through a series of pits in a reflective surface, compact discs (called CDs) featured at least 74 minutes of playing time. The classical music listening audience embraced CDs as the consumer market grew. Playing from the center of the disc to the outside, two sizes of CDs are prevalent: the 650 MB and the 700 MB that play for 74 and 80 minutes respectively. Within a decade, CDs replaced LPs and cassettes as the format of choice into the early twenty-first century.³

Super audio compact discs (SACDs) provide significantly higher quality sound than compact discs. Introduced by Sony and Philips in 1999, these discs contain a two-channel stereo mix and use direct stream digital to produce multi-channel sound. Three types of SACD are available: hybrid (the most popular that contain a layer that is compatible with CDs), single-layer (contains an HD layer but no CD compatibility) and dual-layer (contains two HD layers but no CD compatibility). Currently of interest to audiophiles and the recording industry, new SACD releases predominantly feature classical music and jazz.

DVD-Audio delivers high quality audio content on a digital video disc (DVD). These discs can contain single-channel mono (1.0) to 5.1-channel surround sound. A higher storage capacity enables the DVD-Audio to include more music and deliver far higher playback quality. Because media players that can handle several formats are reasonably priced, the format war between SACDs and DVD-Audio will likely continue until consumers choose between them.

Collection development and sound recordings

The recognition of sound recordings as essential information and educational resources is the cornerstone for the development of the collection. Therefore, the library's collection development policy contains guidelines for the evaluation of sound discs (compact disc, vinyl and plastic), sound tapes (reel-to-reel, cartridge and cassette), and sound on film. Librarians use standard bibliographies, reviews from commercial, trade, and professional journals, syllabi, award winning albums and other recommended lists, accreditation guidelines, and patron suggestions to select sound recordings.

Criteria that govern the selection of sound recordings include timeliness, usefulness, popular demand, literary or artistic merit, permanent value, the need for and availability of information or materials in the subject area, authoritativeness, and cost. Collection building and maintenance requires that selections contribute to a balanced collection including a variety of viewpoints and opinions to meet community needs. Libraries provide free and equal access to the entire range of library resources and formats, including media. These rights extend to all users of the library including minors.

Primer of sound recording formats

Sound recordings include several physical formats and sizes of discs and tapes. Since the invention of phonograph cylinders in 1877, sound and music recordings have evolved. The standardization of sound recording media provides a reasonable distinction among the types and names of resources found in library collections. The types of sound recordings in contemporary collections include (but are not limited to) tapes (magnetic in reel-to-reel, 8-track cartridge, cassette), discs (vinyl with stereophonic and quadraphonic sound, compact with digital and Dolby sound), digital compact discs (WAVEform, Sony Dynamic Digital Sound, MP3), and super audio CDs (Windows Media Audio, advanced audio coding, HD-DVD, Blu-ray).⁵

Library faculty who teach beginning cataloging courses face the challenge of answering the multitude of "how do I tell them apart?" and "when will they stop changing?" questions from students confused by the preponderance of unfamiliar terms and physical formats, bibliographic control jargon, rules, interpretations, practices and technical requirements.

Building on the processes required to catalog other formats, the library school student adds MARC fields that reflect the unique physical characteristics and content of sound recordings. Students learn to distinguish and describe the information package (descriptive cataloging), determine where it fits into a given hierarchy (classifying), and discern the concepts addressed in a work through subject analysis (subject cataloging or indexing). Each task requires the use of specialized cataloging tools and documentation to transcribe data for sound recordings and audio books into the machine readable cataloging (MARC) bibliographic format.

Music sound recordings make up a significant portion of library collections. In addition to these formats, public and academic library collections include audio books on compact discs or cassettes. This chapter includes a review of the information packages included in the MARC bibliographic format for sound recordings, specialized cataloging tools and documentation, MARC fixed and variable fields as they correlate to this work and steps in the bibliographic description process.

Unique characteristics in bibliographic records for sound recordings

The sound recordings format includes discs (compact and vinyl), tapes (reel-to-reel, cassette and cartridge), piano rolls and sound recordings on film. These information packages have unique characteristics that need to be reflected in the bibliographic description. Library patrons and staff members depend on the bibliographic record as it is displayed to indicate key information about the sound recording, including (but not limited to) the physical format, length and performers.

A significant number of sound recordings circulate as a result of patron browsing in the library. Unless data elements appear correctly in the online public access catalog (OPAC) display, the larger the collection size, the greater the probability that distinguishing among physical formats is problematic. When patrons and library staff members place reserves on these materials, they rely on the data in the catalog record to ensure that the correct information package in the desired physical format is selected. Picking up a requested sound recording or audio book in a physical format other than the one that can be played on the equipment available to the patron causes frustration and anger. Careful attention to detail during the cataloging process makes clear the descriptive data.

The sound recording format can be characterized by eight unique characteristics. These characteristics include the following: several locations for chief sources of information, presence of a manufacturer's number, use of a general material designation (GMD), playing time, repetition of physical format, use of title main entries with extended statements of responsibility, presence of note fields for performers, narrators, and credits for technical production with added entries including relator codes, and, local cataloging policies regarding notes (i.e. restricted use, added entries, and the like). Each of these characteristics is described briefly.

Several locations for chief sources of information

The cataloger must review the information package and its container in order to catalog the CD, cassette or audio book (Rule 6.0B). This process differs significantly from examinations of the title page and its verso when cataloging a monograph (Rule 2.0B). In order to see the chief sources of information for sound recordings and audio books, the cataloger needs to examine the information package (e.g. CD, cassette tape), its label, accompanying textual material, container (e.g. sleeve, box), and other available sources. The chief sources of information will provide the title proper (245 #a), subtitles or parallel titles (245 #b).

Presence of a manufacturer's number

When searching for a standard number on the packaging of a sound recording, the cataloger will find a manufacturer's number, then an International Standard Book Number (ISBN). This standard number is customarily found on the label, the back of packaging (upper right-hand corner), or the spine. Transcribed as required in *AACR2r* (Rules 6.8B and 6.7B19), the manufacturer's standard number can be used to search online catalogs and bibliographic utilities. If a standard number is not located on the information package or its container but can be identified with certainty from an auxiliary source, the cataloger should transcribe it (028 #a).

Use of general material designation

The cataloger must determine and transcribe the correct GMD term (Rules 1.1C and 6.1C; 245 #h) within square brackets. The term for sound recordings is generic and does not differentiate among physical formats. Therefore, patrons and library staff members can confuse physical formats due to the use of an older, non-specific term. Consequently, some libraries have adopted policies to eliminate this confusion and differentiate between the physical formats. The adoption of local cataloging conventions can require the use of distinct terms in the 245 #h to distinguish among compact discs, vinyl and cassettes. Rather than transcribe the *AACR2r* term, the cataloger may indicate a compact disc by adding a designation to the GMD term sound recording, e.g. 245 #h [sound recording – CD] and a cassette tape following a similar pattern, e.g. 245 #h [videorecording – cassette]. Other library policies dictate that the *AACR2r* term is not used but is replaced by the abbreviation for the physical format, e.g. 245 #h [CD] or 245 #h [cassette]. Regardless of the format of data for the GMD (245 #h), the cataloger must apply local policies consistently.

Playing time

The cataloger must determine and transcribe the playing time (i.e. duration) of the sound recording (Rules 1.5B4, 6.5B2, and 6.7B10). If the total playing time is given on the label or packaging, then the cataloger includes the data in the extent of the item (300 #a), non-displaying duration note (506 #a) and a note field (500 #a) that displays in the OPAC. When the durations for individual songs but not the entire work are given, the cataloger must add the times to arrive at the total playing time. If the cataloger cannot determine the playing times from the information package, then accompanying material and external sources (including catalogs and the Internet) can be consulted. Regardless of whether the duration is recorded on the information package, its container or is calculated by the cataloger, the playing time is transcribed.

Repetition of physical format

In addition to the general material designation subfield (245 #h), *AACR2* rules require the cataloger to record

the physical format in the extent of the item field (Rule 6.5B) and the system field (Rule 6.7B10). The extent of the item field (300 #a, #b, #c) includes a description of the number of physical units (i.e. sound discs, sound cassettes, sound tape reels), other physical aspects (type of recording, playing speed, groove characteristics, track configuration, number of tracks, number of sound channels, and recording and reproduction characteristics), dimensions, and accompanying material (leaflets, guides, and texts). Examples of the description of physical units in extent of item field appear in the *AACR2* "Appendix D".

The system characteristics field (538 #a) includes a description of the physical unit (i.e. sound discs, sound cassettes, sound tape reels) and required specifications for the equipment on which the information package can be played (Rule 6.7B10). The level of detail of the physical aspects depends on the local library cataloging policy. *AACR2r* suggests that the cataloger include descriptive data about the type of recording, duration and other pertinent details. Examples appear in the examples at the end of the chapter. Additional examples appear in "Appendix D".

Prevalent use of title main entries

When determining the main entry, the cataloger may not be able to identify a composer or performer to whom the work can be ascribed. Therefore, the cataloger may determine that the a title main entry is more appropriate (Rule 6.1B) with statements of responsibility for persons and corporate bodies credited with a major role in the chief source of information (Rule 6.1F). In cases when the main entry is a title (245 #a), the cataloger can make added entries for each of the responsible individuals (700 #a, #d) and firms named in the statement of responsibility (710 #a). Relator codes (#4) may be included as part of these added entries to designate the role and responsibility.

When the title proper (245 #a) appears on the label, the cataloger needs to check its presence in other forms on the information package and its packaging. Alternative forms of the title that are present on the package spine, exterior covers, and item may be transcribed so that they can be acknowledged for user recall and browsing (Rules 6.1E, 6.7B4, and 6.7B5). The cataloger is responsible for identifying and transcribing variant forms of the title proper (246 #a) according to local library cataloging policies.

Presence of note fields for performers, narrators and credits for technical production

When the cataloger determines that the a title main entry is appropriate (Rule 6.1B), statements of responsibility should include the names of persons and corporate bodies credited with a major role in the chief source of information (Rule 6.1F). In these situations, the cataloger is advised to make added entries for each of the responsible individuals (700 #a, #d) and firms (710 #a) named in the statement of responsibility. Relator codes (#4) may be included as part of these added entries to designate the role and responsibility.

AACR2r rules permit the construction of an added entry for each individual and corporate body listed in the statement of responsibility (245 #c), performer note (511 #a), and credits note (508 #a). The cataloger is responsible for selecting, constructing and verifying the forms of each added entry transcribed into the bibliographic record according to local library cataloging policies.

Local cataloging policies regarding notes

Local cataloging policies may require the addition of fields and subfields. Therefore, the cataloger is responsible for transcribing these data. *AACR2r* rules permit the inclusion of notes (Rule 6.7B). Because note fields contain words and phrases critical for keyword searching, their presence enhances content and retrievability.

These notes may include contents (Rule 6.7B18; 505 #a), a summary (Rule 6.7B17; 520 #a), restricted use notes (Rule 6.7B20; 540 #a), intended audience (521 #a), and other physical formats (Rule 6.7B16; 533 #a). The cataloger is responsible for identifying and constructing the additional note fields according to local library cataloging policies.

Cataloging tools and documentation for sound recordings

Adapting, enhancing or constructing a bibliographic record to include descriptive data and points of access unique to sound recordings requires the use of specialized tools. The sound recordings format is further complicated by its use for music and non-music works. Libraries may decide to use one suite of cataloging tools for music recordings and another for non-music recordings (books on CD, readings, sound effects, and the like).

Selected tools are designed for use when cataloging music on sound recordings and printed formats (i.e. scores; see the chapter "Cataloging notated music"). Unfortunately for the library school student and novice cataloger, the introductions and instructions in these tools do not contain explanations of the differences between music and non-music works. Cataloging music sound recordings relies on an implied knowledge of music, composers, performers, instrumentalists and music history.

Learning to catalog music sound recordings becomes more difficult for the cataloger who does not possess a background in the discipline. Cataloging spoken sound recordings parallels the process for monographs. Therefore, the reader is encouraged to consult the instructions in the *AACR2r* (chapter 4). Tools that the cataloger uses for sound recordings include *AACR2r* (chapters 1, 6, and appendices), *Library of Congress Rule Interpretations*⁶

(LCRI), MARC documentation for sound recordings,⁷ a subject heading list such as the *Library of Congress Subject Headings*,⁸ and the classification scheme used in the library, such as the *Library of Congress* (LCC), *Dewey Decimal Classification*,¹⁰ (DDC) or the *Alpha-Numeric System for Classification of Recordings* (ANSCR).¹¹

Using AACR2r and MARC together

Constructing, enhancing or adapting bibliographic descriptions of sound recordings with music and spoken content requires the cataloger to use *AACR2r* and MARC documentation concurrently. Regardless of the physical format, the machine-readable records in an online catalog describe the information package using the rules in *AACR2r* and MARC documentation.

Rules in *AACR2r* follow an outline for description and access points for names and titles. The MARC documentation for the bibliographic format enumerates possible fields, subfield and indicators for data required to describe the information package. While the rules for description and access in *AACR2r* correspond to MARC fields and subfields, the order of these tools is not parallel. MARC documentation includes fields, subfields and codes not found in *AACR2r*.

Learning to catalog sound recordings requires an understanding, interpretation, and application of rules and basic knowledge of music. Novice catalogers and library school students expect to find exact answers to cataloging problems or questions. However, the rules are deliberately framed to show principles and make them generally applicable. The examples in *AACR2r* are more illustrative than prescriptive and presume a familiarity with composers, types of musical compositions, instrumentalists, classical works and popular music. The examples in *AACR2r* are authoritative and provide guidance for instances that require cataloger's judgment to apply a rule.

Anglo-American Cataloging Rules, 2nd rev. (AACR2r)

The rules necessary to identify bibliographic data and the mechanics of transcription (spacing, punctuation, capitalization, abbreviations, numerals and initial articles) appear in *AACR2*. The cataloging rules consider and depend on the distinction of two main processes: description and access points.

The rules for describing sound recordings (discs, tapes, piano rolls and sound recordings on film) enable the cataloger to complete bibliographic description at the level used by the library. From a practical point of view, the level of completeness in description and display in the online catalog for sound recordings should parallel other resources in the library's collection. After these decisions have been reached, the librarians describe the level of description detail and local cataloging practices in the bibliographic input standards document that are specific to music and spoken sound recordings.

Cataloging sound recordings requires the use of two chapters in part one of *AACR2r*. The cataloger will use the general rules in chapter 1 and apply them to information packages. Chapter 6 contains the rules applicable to the unique features and characteristics of sound recordings and refers to chapter 1 for general rules. Part two of *AACR2r* covers the choice of access points for the main and added entries. The instructions in chapters 21-25 provide guidance for the cataloger to determine access points.

Chapter 21 contains general rules to determine access points (main headings and added entries) that can be used for searching online catalogs. Headings for persons, corporate body, geographic place names and uniform titles appear in chapters 22-25. Rules that govern the construction of explanatory *see* and *see also* references appear in chapter 26. Each chapter is laid out in the same order using a mnemonic numbering scheme.

The appendices contain general rules for capitalization ("Appendix A"), abbreviations ("Appendix B"), numerals ("Appendix C"), a glossary ("Appendix D"), and initial articles ("Appendix E"). Catalogers apply the rules and terms in the appendices to all information packages and physical formats that they encounter.

MARC documentation

The *MARC 21 Concise Format for Bibliographic Data* includes detailed field descriptions, guidelines and examples for applying the defined content, and conventions to be used for input consistency. Available in print and electronic versions, the documentation provides a reference guide to the content designators defined in each MARC format. The description includes each field (or tag), character position of the fixed-length data element fields, and defined indicators in the variable data fields and subfields. The documentation considers and depends on the cataloger's judgment to determine the type of information package, its physical format, and to use applicable sections.

Designed to be a framework or carrier for the exchange and sharing of bibliographic information, the *MARC 21 Format for Bibliographic Data* contains guidelines that the cataloger can use for sound recordings. These data include the following: main and variant forms of titles; personal, corporate and geographic place names; subjects and genre headings; notes; publication, distribution, and manufacturing data; and, the physical description or extent of the work. Library school students and technical services paraprofessionals who are learning to catalog and increasing their technical skills and competencies find that combining all of the MARC documentation in a single, comprehensive volume is challenging. The inclusion of detailed instructions for each bibliographic format may be difficult and confusing to use. Therefore, for the purposes of this text, the documentation for the sound recordings format is extracted from the larger document for ease of instruction and use (see "Appendix D"). The appendix

includes sample bibliographic records for sound recordings (compact discs, cassette tapes, vinyl disc (33-1/3 rpm), 45 rpm disc, 78 rpm disc, special formats and children's titles), an explanation of the correlations between the fields and subfields in the MARC bibliographic format and *AACR2r*, and a worksheet for cataloging sound recordings.

Using subject analysis and classification tools for sound recordings

Providing subject and classification access to bibliographic records in an online catalog requires the cataloger to use specialized tools as well as *AACR2r* and MARC documentation. Bibliographic records customarily contain one or more types of subject headings. The types of subject headings include personal name, corporate names, uniform titles, topical subjects, geographic place names, genre headings and local subject headings. The *Library of Congress Subject Headings (LCSH)* contains topical terms from which the cataloger selects points of access. In addition to these tools, the cataloger may choose to use specialized authority tools for sound recordings,¹² taxonomy, thesaurus, or subject headings list. Each subject heading is transcribed into the MARC bibliographic format.

The bibliographic record contains a classification notation for the information package. Libraries may choose to arrange their spoken sound recordings and music sound recordings separately by title, subject, or classification number for ease of browsing. If the library does not classify individual information packages, a classification notation may be included in the bibliographic record for the convenience and use of other catalogers.

Each subject headings and classification tool includes instructions and guidelines. The MARC bibliographic format enumerates the possible fields, subfields and indicators for data required for subject headings and classification notations. The array of possibilities in MARC exceeds the individual fields and subfields required for any single bibliographic record. The rules in *AACR2r* do not contain guidance for the assignment of subject headings or classification notations.

Because these tools are developed and updated independently, the cataloger needs to understand the purposes, instructions and strategies to combine the content in the cataloging process. An overview of *LCSH* and specialized thesauri for sound recordings with musical or spoken content provides insights into their use with *AACR2r* and MARC.

Subject headings

An individual subject heading provides an access point within the bibliographic record. Standard lists of subject headings consist of words or phrases to designate topics and aspects contained on the information package. However, the use of standard subject heading lists and thesauri does not address non-topical and multi-element access points. Keyword searching provides limited access to these types of access points if the data appear in the bibliographic record. In addition to topical subjects, music librarians, musicians and musicologists want to access sound recordings by instrumentation and musical form.

LCSH provides subject access to works through the use of the topics listed and reflects the nature and scope of the Library of Congress collections. Subject specialists construct new headings when needed to provide access to information packages and establish links among existing headings. Available in print, microform and electronic versions, *LCSH* includes subject headings contributed by libraries participating in cooperative activities with the Library of Congress that reflect the needs of their local collections.

Music librarians and catalogers agree that these general tools do not provide adequate access for sound recordings and scores. Preliminary work of a music thesaurus began in 1991 and resulted in the compilation of 12,000 subject entries. The tentative facets for music cataloging include agents, events, forms, geocultural attributes, sound devices and texts. While music catalogers envision the eventual use of a comprehensive music thesaurus that includes *LCSH* headings, the combined database is under development.

Novice catalogers and LIS students are encouraged to use *LCSH* and to consult larger music collections for guidance when cataloging sound recordings. Additions, modifications and deletions to *LCSH* need to be acknowledged and incorporated into the OPAC to maintain currency and viability. Because these changes impact new and existing bibliographic records, catalogers and technical services managers must evaluate changes and determine appropriate balances between them and the need for consistency.

Classification

The purpose of classification is to group information packages on similar and related topics together from general to specific and to lead the user to them. Catalogers may use *Library of Congress Classification*, the *Dewey Decimal Classification* or the *Alpha-Numeric System for Classification of Recordings (ANSCR)* to determine the arrangement of information packages within the library collection, making adjustments due to the physical packaging and formats of individual items.

Each classification scheme provides an enumerative arrangement in a hierarchical order that employs a process of subdivision and collocation to reflect a natural order. Arrangements in the *LCC* and *DDC* classification schemes proceed from general to specific aspects of topics through the subdivision of classes, subclasses and arrays of numbers. The *ANSCR* scheme uses a grouping approach representing types of music so that they can be co-located within the library collection.

The *LCC* is an enumerative scheme that uses a capital letter for the main class, two or three capital letters for subclasses, Arabic numerals for further subdivisions and Cutter author-marks to achieve alphabetic sub-arrangements. Developed for the Library of Congress at the turn of the twentieth century, subject specialists at the Library of Congress prepare the *LCC* schedules using a similar arrangement and sequencing pattern. Within each sequence of class numbers, the subjects proceed from general to specific, chronologically or geographically.

Available in print and electronic versions, the M schedule of *LCC* contains notations for music (sound recordings and scores) and books on music. The schedule has two subclasses: ML for literature on music and MT for musical instruction and study.¹³

Components of the M schedule include a preface, brief synopses to show the basic subdivisions within the class, an outline that includes the alphabetic subclasses and significant alphanumeric arrays, the schedule proper, auxiliary tables for use with more than one subclass or array within the schedule, and an index. Changes and additions are incorporated into the electronic, PDF and print versions of *LCC*.

The *DDC* is a decimal classification scheme that uses broad three-digit Arabic numbers followed by a decimal point and varying quantities of additional digits to achieve arrangements. Originally developed by Melvyl Dewey and published anonymously in 1876, the treatment of music in *DDC* is prejudiced toward classical, European music. Music from other countries and popular works are treated less comprehensively.

Music is located in the 780-789 range and is arranged by type of music, voice and instrumentation. The class is arranged as follows: music (780), general principles and musical forms (781), vocal music (782), music for single voices and the voice (783), instruments and instrumental; ensembles (784), chamber music (785), keyboard and other instruments (786), stringed instruments (787), wind instruments (788), and not assigned (789). Class numbers may be expanded indefinitely in order to achieve specificity for topics in the work. The more specific the *DDC* classification number, the more digits after the decimal point are required.

Available in print and electronic versions, the *DDC* schedule is compact and includes mnemonic devices that can be transferred among selected classes. The external format is reflected in the organization of the schedule and includes the following sections: an introduction, the schedule proper, seven tables of standard subdivisions, an index and a manual. Changes and additions are incorporated into the electronic version of *DDC*, distributed through a listserv, and available in print from OCLC.

The *ANSCR* classification scheme is composed of 49 broad categories into which sound recordings are arranged (see Figure 6.1). Available online,¹⁴ each *ANSCR* classification notation consists of four lines (called terms). The first term is the *ANSCR* category consisting of one or two capital Alpha characters. Term two is the first four letters of the main entry in the bibliographic record (composer / performer, 100 #a or title, 245 #a). The third term consists of the initial letters of the first three significant words in the title or the first three letters of a single word title (245 #a). The fourth term is a combination of the first letter of the performer's surname and the last two digits of the recording company's production number (see Figure 6.2).

A	Music appreciation: history and commentary
B	Operas: complete and highlights
C	Choral music
D	Vocal music
EA	Orchestral music: general orchestral
EB	Orchestral music: ballet music
EC	Orchestral music: concertos
ES	Orchestral music: symphonies
F	Chamber music
GG	Solo instrumental music: guitar
GO	Solo instrumental music: organ
GP	Solo instrumental music: piano
GS	Solo instrumental music: stringed instruments
GV	Solo instrumental music: violin
GW	Solo instrumental music: wind instruments
GX	Solo instrumental music: percussion instruments
H	Band music
J	Electronic, mechanical music
K	Musical shows and operettas: complete and highlights
L	Soundtrack music: motion pictures and television
MA	Popular music and easy listening
MB	The Blues

MC	Country and Western music
MG	Contemporary Christian and gospel music
MH	History of American music
MJ	Jazz
ML	Latin music
MN	New Age music
MR	Rock, rhythm and blues music
P	Folk and ethnic music (National)
Q	Folk and ethnic music (International)
R	Holiday music
RC	Christmas music
S	Varieties and humor
SR	Varieties and humor: radio transcriptions
ST	Varieties and humor: television transcriptions
T	Plays
U	Poetry
V	Prose (Fiction)
VN	Prose (Non-fiction)
W	Documentary: history and commentary
X	Instructional or informational spoken recordings
Y	Sounds and special effects
ZI	Children's recordings: instructional
ZM	Children's recordings: music
ZR	Children's recordings: holiday music
ZRC	Children's recordings: Christmas music
ZS	Children's recordings: spoken
ZU	Children's recordings: poetry

Figure 6.1. ANSCR classifications.

Example A

Term 1:	Orchestral music: syphonies (ES)	ES
Term 2:	Ludwig von Beethoven (BEET)	BEET
Term 3:	Syphone No. 9 (9)	9
Term 4:	Eugene Ormandy, Columbia MS 7016 (O16)	O16

Example B

Term 1:	Popular music (MA)	MA
Term 2:	Ella Fitzgerald (FITZ)	FITZ
Term 3:	Ella Fitzgerald sings Cole Porter	ESC
Term 4:	Verve 64069 (F49)	F49

Example C

Term 1:	Children's recordings: music (ZM)	ZM
Term 2:	Raffi (RAFF)	RAFF
Term 3:	Let's play! (LP)	LP

Figure 6.2. Examples of *ANSCR* classification notations.

Additions, modifications and deletions to any classification scheme must be made to maintain currency and viability. Changes to the classification scheme impact new and existing bibliographic records. Catalogers and technical services managers must evaluate and determine an appropriate balance between the demands to change and the need for consistency and collocation of similar topics. Therefore, during the cataloging process the cataloger consults the classification schemes to verify or construct the notation selected for access.

Cataloging sound recordings—examples and analysis

The cataloging process for sound recordings consists of five related tasks: identification of the type of recording (music or spoken), descriptive cataloging, subject analysis (subject cataloging or indexing), authority control and classification. Learning the unique aspects of the cataloging process for sound recordings requires familiarity with relevant national and international standards, technical aspects of the media itself and an understanding of the equipment necessary to hear recordings. The successful completion of each task results in the construction or enhancement of a bibliographic record that represents the information package, its physical format, and the equipment.

In order to complete these tasks, the library school student or novice cataloger needs to be familiar with each of the required tools (*AACR2r*, MARC documentation, *LCSH*, *LCC*, *DDC*, *ANSCR*, and an authority file). Catalogers who devote their professional careers to the construction and enhancement of bibliographic descriptions for sound recordings, especially music, and different physical formats rely on specialized tools. The steps in the cataloging process include examples of a music CD, *Your Man*, (see Figures 6.3 and 6.4), a book on CD, *Midnight in the Garden of Good and Evil*, (see Figures 6.5 and 6.6), and a music sound recording from a musical stage production on vinyl, *Cats: Complete Original Broadway Cast Recording*, (see Figures 6.7 and 6.8) in order to contextualize the instructions. Additional examples of sound recordings appear in “Appendix D”.

Example one: *Your Man*

Step 1—Examine the information package. The cataloger determines that the information package is a digital sound recording with music on a compact disc. The entire information package is present and includes a leaflet in the jewel box. According to *AACR2r*, the information package is a single-part bibliographic resource (Rules 1.0A2 and 6.0A).¹⁵ (Tools needed for this step: CD of *Your Man* and *AACR2r*.)

Step 2—Identify the correct MARC format to use. The cataloger determines that the MARC bibliographic format for sound recordings is required.¹⁶ (Tools needed for this step: CD of *Your Man* and MARC documentation.)

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information on the information package (Rules 1.0A3a, 6.0B1, and 6.0B2). These data are the most credible elements that the cataloger transcribes into the bibliographic record (see Figure 6.3). Using the guidelines for punctuation (Rules 1.0C and 6.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 6.0D). In order to consider each of the required data elements, the cataloger uses sections of Chapter 1 and Chapter 6. (Tools needed for this step: CD of *Your Man* and *AACR2r*.)

Step 4—Find standard numbers. The manufacturer, MCA Nashville Records, included a Universal Product Code (UPC) and a publisher’s number on the back of the CD jewel box (see Figure 6.4). According to *AACR2r* (Rules 1.8B and 6.8B), the bibliographic record requires the inclusion of standard numbers. The UPC and the publisher’s number can be used to search the local OPAC, the databases of bibliographic utilities and commercial vendors. (Tools needed for this step: CD of *Your Man*, *AACR2r* and MARC documentation.)



Figure 6.3. CD cover for Your Man.

Step 5—Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is OCLC.¹⁷ The cataloger gains access to WorldCat® through the institutional subscription and the student frequently has permission through a formal agreement between the library school and OCLC.¹⁸ The OCLC database requires a unique authorization and password.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home page, the searcher chooses the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*. The *Librarian's Toolbox* page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, and WorldCat® tools.¹⁹ When the searcher chooses Connexion in the logon links section, the WorldCat® Services login page appears.²⁰ Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username and password.)

Step 6—Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the work. The cataloger may search by UPC, publisher's number or title. Searches by standard numbers are the most efficient.

The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible. In the middle of the screen the searcher will find three pull down boxes. To use this type of search, the cataloger selects publisher's number. Additional types of searches are described in OCLC documentation.²¹

The cataloger enters the publisher's unique number for *Your Man* (B0004744-02) and clicks on the search button. The bibliographic record (OCLC #63108493) appears on the screen. (Tools needed for this step: Internet, documentation for the bibliographic utility, username and password.)

Step 7—Examine the search results. The cataloger must determine whether the bibliographic record matches the information package and its physical format. The cataloger needs to review OCLC #63108493 in order to determine whether or not it matches. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 8—Determine if a bibliographic record matches the information package. In order to determine whether or not the bibliographic record matches the information package exactly, the cataloger will

check and verify the following data elements: main entry (1.1F, 6.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5), publisher's number and UPC (Rules 1.8B and 6.8B), format (Rule 6.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, and 6.1B), subtitle (if any, Rule 6.1E), general material designation (Rule 1.1C and 6.1C1), publisher (Rules 1.4D, 6.4D, and 6.4E), publication and copyright dates (Rules 1.4F and 6.4F), musicians and credits (Rule 6.7B), and running time (number of minutes; Rule 6.5B).

Local librarians determine which data elements must be exactly the same in order to constitute a match between the information package and the bibliographic record. These data elements customarily include the title, publisher, date and standard numbers. When a bibliographic record is identified as a match, then the cataloger must review each field, subfield and indicators to ensure that the data have been transcribed and tagged according to MARC requirements.

The bibliographic record (OCLC #63108493) contains data elements that match the information package and its physical format exactly. In this example, data for the main entry (Turner, Josh, 100 #a), title (*Your Man*, 245 #a), imprint (Nashville, Tenn. : #b MCA Nashville ; #a [Universal City, Calif.] : #b distributed by Universal Music and Video, #c p2006, 260 #a, #b, #c), and extent of the item (1 sound disc : #b digital ; #c 4¾ in., 300 #a, #b, #c) match the information package exactly. In addition, the bibliographic record contains a subject heading (650 #a) and a genre designation (655 #a). Therefore, this is an appropriate record to use. (Tools needed for this step: CD of *Your Man*, AACR2r and MARC documentation.)

Step 9—Verify the access points. The cataloger needs to determine if the bibliographic record contains all of the access points that users may need for searching and retrieving the information package. If the bibliographic record includes the access points specified in the library's bibliographic input standard document, no additional fields are required. However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #63108493 contains data access points denoting the main entry (Rules 1.1F, 6.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 6.1B, and 6.1E), subject headings, (no rule *per se*), genre headings (no rule *per se*), and added entries for musicians and the production team (Rules 1.1F, 6.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5). It is incumbent upon the cataloger to review each access point and make certain that the data are transcribed correctly into the MARC fields and subfields with the correct indicators.

The following access points appear in the selected online record: title (*Your Man*), a topical subject (Country music—2001-1010, 650 #a, #y), a genre heading (Compacts discs, 655 #a), and four added entries for performers (Ralph Stanley, Marty Roe, Dana Williams, and Gene Johnson; 700 #a).

The cataloger needs to verify that each of these access points is transcribed correctly. After the cataloger determines that the content of the variable fields in the bibliographic record match the information package, then the fixed fields must be reviewed to verify that they correlate accurately with these data. (Tools needed for this step: CD of *Your Man*, AACR2r, and MARC documentation.)

Step 10—Verify the classification. The cataloger needs to determine if the classification number present in the bibliographic record is part of the scheme that the library has adopted. If the bibliographic record includes a classification number in the local scheme and is formatted correctly, the cataloger does not need to make modifications. However, if the classification number does not correspond to the local scheme, then the cataloger needs to add an appropriate call number. In either instance, the cataloger is responsible for ensuring that a correct Cutter designation is added.

In this example, OCLC record #63108493 contains both *LCC* (o50 #a) and *DDC* (o82 #a) classification notations. It is incumbent upon the cataloger to review the classification notation for the scheme used in the library and make certain that it and the Cutter are transcribed correctly into the MARC field and subfields with the correct indicators.

The *LCC* notation (o50 #a) is M1630.18.T87 with a Cutter (o50 #b .Y68) and date (2006). The *DDC* notation (o90 #a) is 782.421642 without a Cutter representing the main entry. Librarians at Book Wholesalers contributed the bibliographic record and prepared both notations.

In libraries that do not use either *LCC* or *DDC*, the cataloger will use a locally assigned classification notation for a CD sound recording in the adult collection (o99 #f CD #a TURNER #b 2006). The library may use the *ANSCR* classification scheme for sound recordings. If this is the case, the classification notation will need to be transcribed (o99 #f MC #a TURNER). Regardless of which classification scheme is used locally, an accurate call number must be transcribed into the bibliographic record. (Tools needed for this step: CD of *Your Man*, AACR2r, MARC documentation and classification scheme.)

Step 11—Determine other tags to include. If the bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they should be transcribed according to the rules in AACR2r and placed correctly into fields and subfields as required by MARC documentation.

In this example, OCLC record #63108493 contains several other tags containing data required to describe the information package. These tags include contents of the disc (Rule 7.7B18, 505 #a) and two general notes (Rules

6.7B10 and 6.7B11, 500 #a).

The cataloger is responsible for adding the following data elements to the bibliographic record: playing time (Rule 6.5B2, 300 #a and Rule 6.7B10, 306 #a), indication of stereo in the number of sound channels (Rule 6.5C7) and updating the general note for the information package (Rule 6.7B10, from 500 #a to 538 #a). (Tools needed for this step: CD of *Your Man*, AACR2r, and MARC documentation.)

Step 12—Review each point of access in the authority file. The cataloger needs to verify points of access in the bibliographic record against authority records. The bibliographic record does not carry an indication that it was created at a Program for Cooperative Cataloging (PCC) library (042 #a) or the Library of Congress (040 #a). Therefore, the cataloger is responsible for the verification of the forms of entries in an authority file for each point of access.

In order to take advantage of authority records produced in other institutions, the cataloger or library school student needs to have online access to them. The largest databases of authority records are available from the Library of Congress²² and OCLC.²³ The cataloger has free access to the Library of Congress website. Access to WorldCat® is available to library staff members through the institutional subscription, and LIS frequently students have permission through a formal agreement between their library school and OCLC.²⁴ The OCLC database requires a unique authorization and password.

When the cataloger uses OCLC to search for authority records, the login process is the same until the welcome screen for the OCLC Connexion® Services appears. The authorities tab in the upper left-hand section (to the right of the cataloging tab) on the page needs to be highlighted in blue in order to search the authorities file. At the top of the screen the searcher will find a command line search capability. To use this type of search, scan is used with a designation for the personal name (pn), corporate body (co), title (ti) or subject (su). In this example, a correct search protocol is as follows: scan pn: turner, josh.

Twenty entries each of which represents an individual appear on the search results screen. The name that matches the search protocol is shown in bold type with the number (designated by R) of associated bibliographic records displayed in the column at the right-hand edge of the screen. Double-clicking on the number adjacent to the name in bold type results in a display of the individual authority records (designated by E) and gives data about the individual and associated titles. Additional types of derived searches are described in OCLC documentation.²⁵

In this example, a single authority record exists for the author (OCLC #ARN 6463665) with Library of Congress Control Number nr 2004029626 (010 #a) contains the form of the name for the author with the correct field (100), indicators (1X), and subfield (#a). The cataloger reviews the authority record and compares it with the field in the bibliographic record to ensure that the data are transcribed and tagged correctly.

Searches for the subject headings require search protocol as follows: scan su=country music. A listing of authority records appears as a result of the search. The number of authority records for the subject and its correct form appear in horizontal rows across the page. Double-clicking on the number adjacent to the name in bold type results in a display of the individual authority records (designated by R) and gives data about the subject.

In this example, a single authority record exists for the subject heading country music (OCLC #ARN 2056854) with Library of Congress Control Number # sh 85033470 (010 #a). However, there are authority records for the subject (country music) with chronological designations. An authority record exists for the subject heading country music—2001-2010 (OCLC #ARN 5467052) with Library of Congress Control Number # sh 2001004781 (010 #a) that contains the subject with the correct field (150) and subfields (#a, #y). The cataloger reviews the authority record and compares it with the fields in the bibliographic record to ensure that the data are transcribed and tagged correctly. This process is repeated for the genre heading. Regardless of which search method is selected, the authority record for each access point is the same.

In the fixed field, the record status, date the record was entered, date replaced, record type, the record status, bibliographic level, the description, record status, and the encoding level should not require modification. The fixed field data elements (008) that must match the data that have been transcribed in the variable fields (1XX-8XX) include the type of material form (music sound recording = j), format of music (not applicable, i.e. not music manuscript or printed music = n), form of composition (country music = cy), audience (general = g), accompanying material (libretto or text = d), date type (publication / distribution date = p), language (English = eng), country of publication (Tennessee, USA = tnu), and date (production date = 2006). In this example other fixed field data elements should be blank (form, part, transposition and arrangement, literary text for sound recordings, control, and modified record). The cataloger reviews the fixed field and compares the characters in the bibliographic record to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

After all of the data have been entered and verified in the authority file, the cataloger should review the bibliographic record, check for transcription errors, fix punctuation marks, and correct spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc. date of publication, extent of the item, notes, standard number). The bibliographic record for *Your Man* appears in Figure 6.4.

007	sd fungnnmmneu
008	060119s2006 tncyn g d eng d
024 1	602498821992
028 01	B0004744-02 #b MCA Nashville
050 4	M1630.18.T87 #b Y68 2006
082 04	782.421642 #2 22
092 0	#f CD #a 781.642 #b TURNER
100 1	Turner, Josh.
245 10	Your man #h [sound recording] / #c Josh Turner.
260	Nashville, Tenn. : #b MCA Nashville ; #a [Universal City, Calif.] : #b Distributed by Universal Music & Video, #c p2006.
300	1 sound disc (40 min.) : #b digital, stereo. ; #c 4 ³ / ₄ in. + #e 1 leaflet (12 p. ; 12 cm.).
306	003914
500	Lyrics in container insert.
505 0	Would you go with me – Baby's gone home to mama – No rush – Your man – Loretta Lynn's Lincoln – White noise – Angels fall sometimes – Lord, have mercy on a country boy – Me and God – Gravity – Way down South.
511 0	Josh Turner, vocals; featuring John Anderson, Ralph Stanley, Marty Roe, Dana Williams, and Gene Johnson; with vocal and instrumental accompaniment.
500	Compact disc.
650 0	Country music #y 2001-2010.
700 1	Anderson, John, #d 1954 Dec. 13-
700 1	Stanley, Ralph.
700 1	Roe, Marty, #d 1960-

Example two: *Midnight in the Garden of Good and Evil*

Step 1—Examine the information package. The cataloger determines that the information package is the spoken version of a previously released novel. The entire information package is present and does not include inserts or accompanying items. According to *AACR2r*, the information package is a single-part bibliographic resource (Rules 1.0A2 and 6.0A). (Tools needed for this step: unabridged CDs of *Midnight in the Garden of Good and Evil* and *AACR2r*.)

Step 2—Identify the correct MARC format to use. The cataloger determines that the MARC bibliographic format for sound recordings is required. (Tools needed for this step: unabridged CDs of *Midnight in the Garden of Good and Evil* and MARC documentation.)

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information on the information package (Rules 1.0A3a, 6.0B1, and 6.0B2). These data are the most credible elements that the cataloger transcribes into the bibliographic record (see Figure 6.5). Using the guidelines for punctuation (Rules 1.0C, and 6.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 6.0D). In order to consider each of the required data elements, the cataloger uses sections of chapter 1 and chapter 6. (Tools needed for this step: unabridged CDs of *Midnight in the Garden of Good and Evil* and *AACR2r*.)

Step 4—Find standard numbers. The manufacturer, Recorded Books, included the International Standard Book Number (ISBN) and the publisher's number on the verso of the container. According to *AACR2r* (Rules 1.8B and 6.8B), the bibliographic record requires the inclusion of standard numbers if they are present on the information package. (Tools needed for this step: unabridged CDs of *Midnight in the Garden of Good and Evil*, *AACR2r* and MARC documentation.)

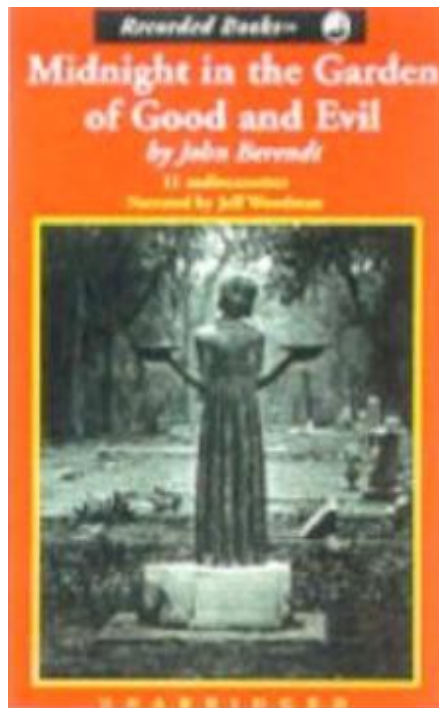


Figure 6.5. Cover packaging for *Midnight in the Garden of Good and Evil*.

Step 5—Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is Online Computer Library Center (OCLC). The cataloger gains access to WorldCat® through the institutional subscription and the student frequently has permission through a formal agreement between the library school and OCLC. The OCLC database requires a unique authorization and password.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home page, the searcher chooses the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*. The *Librarian's Toolbox* page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, resource sharing tools and WorldCat® tools.¹⁹ When the searcher chooses Connexion in the logon links section, the WorldCat® Services login page appears.²⁰ Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username and password.)

Step 6—Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the information package and its physical format. The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible. At the top of the screen the searcher will find a command line search capability. To use this type of search, the scan or an alphanumeric command is required.

The searcher should use the scan command in order to find a work by derived, keyword or phrase searches. Keyword searches enable the user to search by word, number, phrase or whole phrases with appropriate punctuation. The equal sign (=) indicates that a phrase or whole phrase index will be searched; a colon (:) indicates that a word index will be queried. Boolean operators (and, or, not) may be used to combine searches. In this example, a correct search protocol is as follows: scan ti=midnight in the garden of good and evil. The title that matches the search protocol is shown in bold type with the number of associated bibliographic records displayed in the column at the right-hand edge of the screen.

A total of 64 individual bibliographic records appears and represents print, projected media, sound recordings, and mixed media versions in English, Portuguese, Spanish, German, Russian, Chinese, French, Hebrew,

Hungarian, and Braille. The data for the title (245 #a), name (100 #a), publisher (260 #b), date (260 #c), and designation of the national library creating the record if this is the case. If a national library did not submit or create the bibliographic record, the column is blank. A national library submitted eight of the bibliographic records.

Double-clicking on number in the left-hand column results in a display of the individual bibliographic record. Given the number of potential matches, using the date to identify the most likely matches is a prudent strategy. In this example, records 12 OCLC records are potential matches, beginning with those that have a same date (1996). The cataloger proceeds to review these records (OCLC #32304567, #34868367, #37516095, #37919348, #39984330, #42191645, #43153535, #45842269, #45849512, #55097285, #57573553, and #62078826). Regardless of which search method is selected, the record selected is the same (OCLC #45849512). (Tools needed for this step: Internet, documentation for the bibliographic utility, username and password.)

Step 7—Examine the search results. The cataloger must determine whether the bibliographic record matches the information package and its physical format. The cataloger needs to review OCLC #45849512 in order to determine whether or not it matches. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 8—Determine if a bibliographic record matches the information package. In order to determine whether or not the bibliographic record matches the sound recording exactly, the cataloger will check and verify the following data elements: format (Rule 6.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 6.1B, and 6.1D), subtitle (Rule 6.1E), general material designation (Rule 1.1C and 6.1C1), publisher (Rules 1.4D, 6.4D, and 6.4E), publication date (Rules 1.4F and 6.4F), narrators and credits (Rule 6.7B), and running time (number of minutes; Rule 6.5B).

Local librarians determine which data elements must be exactly the same in order to constitute a match between the information package in its physical format and the bibliographic record. These data elements customarily include the title, publisher, date, and standard numbers. When a bibliographic record is identified as a match, then the cataloger must review each field, subfield and indicators to ensure that the data have been transcribed and tagged according to MARC requirements.

The bibliographic record (OCLC #45849512) contains data elements that match the information package and its physical format. In this example, data for the title (*Midnight in the Garden of Good and Evil*, 245 #a), imprint (Prince Frederick, MD : #b Recorded Books, #c 1996, 260 #a, #b, #c), and extent of the item (13 sound discs (ca. 15 hrs.) : #b digital ; #c 4¾ in., 300 #a, #b, #c) match the information package exactly. In addition, the bibliographic record contains a geographic designation for the story (043 #a), four subject headings (650 #a) and an added entry (700/710 #a). Therefore, this is an appropriate record to use. (Tools needed for this step: unabridged CDs of *Midnight in the Garden of Good and Evil*, AACR2r, and MARC documentation.)

Step 9—Verify the access points. The cataloger needs to determine if the bibliographic record contains all of the access points that users may need for searching and retrieving the information package. If the bibliographic record includes the access points specified in the library's bibliographic input standard document, no additional fields are required. However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #45849512 contains data access points denoting the title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 6.1B, and 6.1E), subject headings, (no rule *per se*), and added entries for the narrator and the production team (Rules 1.1F, 6.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5). It is incumbent upon the cataloger to review each access point and make certain that the data are transcribed correctly into the MARC fields and subfields with the correct indicators.

The following access points appear in the selected bibliographic record: title (*Midnight in the Garden of Good and Evil*), two topical subjects (Celebrities—Georgia—Savannah—History and Audiobooks; 650 #a, #z), two geographic subject headings (Savannah (Ga.)—Tours and Savannah (Ga.)—History; 651 #a, #v, #x), and an added entry for the narrator (Woodman, Jeff; 700 #a).

The cataloger needs to verify that each of these access points is transcribed correctly. After the cataloger determines that the content of the variable fields in the bibliographic record match the information package and its physical format, then the fixed fields must be reviewed to verify that they correlate accurately with these data. (Tools needed for this step: unabridged CDs of *Midnight in the Garden of Good and Evil*, AACR2r, and MARC documentation.)

Step 10—Verify the classification. The cataloger needs to determine if the classification notation in the online record is part of the scheme that the library has adopted. If the bibliographic record includes a classification notation in the local scheme and is formatted correctly, the cataloger does not need to make modifications. However, if the classification notation does not correspond to the local scheme, then the cataloger needs to add an

appropriate call number. In either instance, the cataloger is responsible for ensuring that a correct Cutter designation is added.

In this example, OCLC record #45849512 contains an *LCC* (050 #a) classification notation (F294.S2) with a Cutter (B48, 050 #b) and date (1996x). It is incumbent upon the cataloger to review the classification notation for the scheme used in the library and make certain that it and the Cutter are transcribed correctly into the MARC field and subfields with the correct indicators.

The cataloger may choose to add a *DDC* notation (090 #a) with a Cutter (090 #b) and date. The cataloger adds *DDC* notation (364.1523) with a Cutter representing the main entry (BERENDT) and a date (1996).

In libraries that do not use either *LCC* or *DDC*, the cataloger will use a locally assigned classification notation to denote a book on compact disc (099 #f BD #a BERENDT #b 1996). Regardless of which classification scheme is used locally, an accurate call number must be transcribed into the correct field. (Tools needed for this step: unabridged CDs of *Midnight in the Garden of Good and Evil*, *AACR2r*, MARC documentation, and classification scheme.)

Step 11—Determine other tags to include. If the online bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they should be transcribed according to the rules in *AACR2r* and placed correctly into fields and subfields as required by MARC documentation.

In this example, OCLC record #45849512 contains several other tags containing data required to describe the information package and its physical format. These tags include an edition (Rule 6.2B), general notes for the characteristics of the recording (Rule 6.7B10), narrator (Rule 6.7B7, 511 #a), and physical description (Rule 6.7B10, 500 #a that must be updated to the new tag, 538 #a).

The cataloger may choose to add tags that bring the bibliographic record up to the requirements of the library's bibliographic input standard for sound recordings. Tags that need to be added include (but are not limited to) the following: a note indicating the original book (500 #a), summary (Rule 6.7B17, 520 #a), the information package in other physical formats (Rule 6.7B16, 530 #a), two personal name subject entries (600 #a, #d), a topical subject entry (650 #a), a geographical subject entry (651#a), and a local subject heading (690 #a). (Tools needed for this step: unabridged CDs of *Midnight in the Garden of Good and Evil*, *AACR2r*, and MARC documentation.)

Step 12—Review each point of access in the authority file. The cataloger needs to verify points of access in the bibliographic record against authority records. The bibliographic record does not carry an indication that it was created at a PCC library (042 #a) or the Library of Congress (040 #a). Therefore, the cataloger is responsible for the verification of the forms of entries in an authority file for each point of access.

In order to take advantage of authority records produced in other institutions, the cataloger or library school student needs to have online access to them. The largest databases of authority records are available from the Library of Congress and OCLC. The cataloger has free access to the Library of Congress website.

To log into the Library of Congress authorities database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to its website. In the middle of the authorities page, the searcher chooses *Search Authorities*. The *Authorities Headings Search* page offers four types of searches: subject authority headings, name authority headings, title authority headings, and name/title authority headings. Search tips for each type of heading are linked to this site.

Using an efficient search strategy saves time and enables the cataloger to find each authority record that matches access points. Each access point is searched independently. The cataloger selects the type of search among the choices in a drop down box and enters the name (personal or corporate), title or term into the search text box.

In this example, the cataloger must search for the individuals and corporate bodies in the added entries, two personal subject headings, topical subject heading, and six genre headings. To search for an individual, the name authority headings choice is highlighted and the correct search protocol is entered: Berendt, John. A listing of authority records appears as a result of the search. The number of bibliographic records in which the name appears, the form of the name and the type of heading appear in horizontal rows across the page. Headings with a red box in the left-hand column reading authorized heading can be viewed by double-clicking on the icon. The screen for the correct form of the name and its source (the Library of Congress Online Catalog) appear on the next screen.

In order to see the MARC version of the authority record, the searcher double-clicks on the name. Authority record # sh 85021618 contains the form of the name for the author with the correct field (100), indicators (1X) and subfields (#a, #d). The cataloger reviews the authority record and compares it with the field in the bibliographic record to ensure that the data are transcribed and tagged correctly.

Searches for the subject headings require that the *subject authority headings* choice is highlighted and the correct search protocol is entered. A listing of authority records appears as a result of the search. The number of bibliographic records in which the subject appears, its correct form and the type of heading appear in horizontal rows across the page. Headings with a red box in the left-hand column reading *authorized heading* can be viewed

by double-clicking on the icon. The screen for the correct form of the name and its source (the Library of Congress Online Catalog) appear on the next screen.

In order to see the MARC authority record, the searcher double-clicks on the subject. Authority record #sh 85021618 contains the form of the subject for *celebrities* with the correct field (150) and subfield (#a). The cataloger reviews the authority record and compares it with the field in the bibliographic record to ensure that the data are transcribed and tagged correctly. The designation for the geographic location (Savannah, Georgia) is added (#z) a free-floating subdivision (History) in the appropriate subfield (#x). This process is repeated for each subject heading.

In the fixed field, the record status, date the record was entered, date replaced, record type, the record status, bibliographic level, the description, record status, and the encoding level should not require modification. The fixed field data elements (008) that must match the data that have been transcribed in the variable fields (1XX-8XX) include the type of material form (non-musical sound recording = i), format of music (not applicable = n), form of composition (not applicable = nn), literary text for sound recording (historical drama = h), date type (publication/distribution date = s), language (English = eng), country of publication (Maryland, USA = mdu), and date (production date = 1996). In this example, other fixed field data elements should be blank (form, part, transposition and arrangement, audience, accompanying material, control, and modified record). The cataloger reviews the fixed field and compares the characters in the bibliographic record to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.) The bibliographic record for *Midnight in the Garden of Good and Evil* appears in Figure 6.6.

007	s #b d #d f #e s #f n #g g #h n #i n #j m #k p #l n #m e #n d
008	060119s2006 mdunnn n d eng d
020	0788751875
028 02	C1344 #b Recorded Books
043	n-us-ga
050 14	F294.S2 #b B48 1996c
092	BD #a 364.1523 #b BERENDT
100 1	Berendt, John, #d 1939-
245 10	Midnight in the garden of good and evil #h [sound recording] / #c by John Berendt.
246 3	Midnight in the garden of good and evil : #b a Savannah story
260	Prince Frederick, Md. : #b Recorded Books, #c p1996.
300	13 sound discs (15 hr.) : #b digital, stereo ; #c 4 ³ / ₄ in.
500	An unabridged recording of the book by the same title by John Berendt.
500	In container (17 cm.).
500	"Unabridged nonfiction"--container.
500	"With tracks every 3 minutes for easy book marking"--container.
511 0	Narrated by Jeff Woodman.
520	In charming, beautiful, and wealthy old-South Savannah, Georgia, the local bad boy is shot dead inside of the opulent mansion of a gay antiques dealer, and a gripping trial follows.
530	Abridged version also available. Issued in abridged and abridged versions also on cassette.
530	Text version also available in large print and Braille.
600 10	Williams, Jim, #d d. 1990.
600 10	Hansford, Danny.
650 0	Celebrities #z Georgia #z Savannah #x History.
650 0	Trials (Murder) #z Georgia #z Savannah.
651 0	Savannah (Ga.) #x Tours.
651 0	Savannah (Ga.) #x Social life and customs.
651 0	Savannah (Ga.) #x History.
655 7	Audiobooks. #2 lchsh
690	Hansford murder case.
700 1	Woodman, Jeff. #4 nrt

Figure 6.6. Bibliographic record for *Midnight in the Garden of Good and Evil*.

After all of the data have been entered and verified in the authority file, the cataloger should review the bibliographic record, check for transcription errors, fix punctuation marks, and correct spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, and standard number).

Example three: Cats: Complete Original Broadway Cast Recording

Step 1—Examine the information package. The cataloger determines that the information package is a recording of a Broadway cast musical performance. The entire information package is present and does not include inserts or accompanying items. According to *AACR2r*, the information package is a single-part bibliographic resource (Rules 1.0A2 and 6.0A). (Tools needed for this step: sound recording of the *Cats: Complete Original Broadway Cast Recording* musical on vinyl and *AACR2r*).

Step 2—Identify the correct MARC format to use. The cataloger determines that the MARC bibliographic format for sound recordings is required. (Tools needed for this step: sound recording of the *Cats* musical on vinyl and MARC documentation.)

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information on the information package (Rules 1.0A3a, 6.0B1, and 6.0B2). These data are the most credible elements that the cataloger transcribes into the bibliographic record (see Figure 6.7). Using the guidelines for punctuation (Rules 1.0C and 6.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 6.0D). In order to consider each of the required data elements, the cataloger uses sections of chapter 1 and chapter 6. (Tools needed for this step: sound recording of the *Cats: Complete Original Broadway Cast Recording* musical on vinyl and *AACR2r*.)

Step 4—Find standard numbers. The manufacturer, PolyGram Records, included a publisher's number on the verso of the sleeve. According to *AACR2r* (Rules 1.8B and 6.8B), the bibliographic record requires the inclusion of standard numbers if they are present on the information package. (Tools needed for this step: sound recording of the *Cats: Complete Original Broadway Cast Recording* musical on vinyl, *AACR2r*, and MARC documentation).



Figure 6.7. Cover for *Cats: Complete Original Broadway Cast Recording*.

Step 5—Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is OCLC. The cataloger gains access to WorldCat® through the institutional subscription and the student frequently has permission through a formal agreement between the library school and OCLC. The OCLC database requires a unique authorization and password.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home page, the searcher chooses the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*. The *Librarian's Toolbox* page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, and WorldCat® tools.¹⁹ When the searcher chooses Connexion in the logon links section, the WorldCat® Services login page appears.²⁰

Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username and password.)

Step 6–Search the bibliographic database. Using an efficient search strategy to save time money, the cataloger needs to find the bibliographic record that matches the information package and its physical format. The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible: command line and keyword/numeric. Because the title for this sound recording is a single word, the most efficient search is using the publisher's number.

The cataloger enters the publisher's number (3145214642) in the top box in the left-hand column and uses the pull down box to select publisher number (mn:). Two bibliographic records appear for sound recordings in English. The data for the title (245 #a), name (100 #a), publisher (260 #b), and date (260 #c) appear; the column to designate that a national library created the record is blank.

Double-clicking on number in the left-hand column results in a display of the individual bibliographic record. The cataloger reviews both records (OCLC #29897707 and #30806285). (Tools needed for this step: Internet, documentation for the bibliographic utility, username and password.)

Step 7–Examine the search results. The cataloger must determine whether the bibliographic record and matches the information package and its physical format. The cataloger reviews OCLC #29897707 (compact disc) and OCLC #30806285 (compact disc) to determine a match. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 8–Determine if a bibliographic record matches the information package. In order to determine whether or not the bibliographic record matches the sound recording exactly, the cataloger will check and verify the following data elements: format (Rule 6.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 6.1B, and 6.1D), subtitle (Rule 6.1E), general material designation (Rule 1.1C and 6.1C1), publisher (Rules 1.4D, 6.4D, and 6.4E), publication and release dates (Rules 1.4F and 6.4F), composer (Rules 1.1F, 6.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5), and conductor (Rule 6.7B), and running time (number of minutes; Rule 6.5B.)

The more complete bibliographic record (OCLC #29897707) contains data elements that match the information package exactly. In this example, data for the title (*Cats: Complete Original Broadway Cast Recording*, 245 #a, #b), imprint (New York : #b Polygram/Really Useful Records, #c 1994, p1983, 260 #a, #b, #c), and part of the extent of the item (2 sound discs (ca. 15 hrs.) : #b digital ; #c 4¾ in., 300 #a, #b, #c) match the information package. However, the bibliographic record contains a size designation for a compact disc. Therefore, the cataloger will need to modify the bibliographic record to match the physical format so that the correct size is transcribed (300 #c). In addition, the bibliographic record contains a subject heading (650 #a), an added entry (700 #a), and an author/title added entry for the original work (700 #a, #q, #d, #t). Therefore, this is an appropriate record to use. (Tools needed for this step: *Cats: Complete Original Broadway Cast Recording*, AACR2r and MARC documentation.)

Step 9–Verify the access points. The cataloger needs to determine if the bibliographic record contains all of the access points that users may need for searching and retrieving the information package. If the bibliographic record includes the access points specified in the library's bibliographic input standard document, no additional fields are required. However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #29897707 contains data access points denoting the composer (Rules 1.1F, 6.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 6.1B, and 6.1E), subject headings, (no rule *per se*), an added entries for the conductor (Rules 1.1F, 6.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5), and an author/title added for the original work (Rules 1.1F, 6.1F, 6.7B1, 21.0A, 21.1, 22.1, 22.4, and 22.5). It is incumbent upon the cataloger to review each access point and make certain that the data are transcribed correctly into the MARC fields and subfields with the correct indicators.

The following access points appear in the selected online record: title (*Cats*), subtitle (*Complete Original Broadway Cast Recording*), a topical subject (Musicals; 650 #a), an added entry for the conductor (Wiegert, René; 700 #a), and an author/title added entry for the original work (Eliot, T. S. #q (Thomas Stearns), #d 1888-1965. #t *Old Possum's Book of Practical Cats*.)

The cataloger needs to verify that each of these access points is transcribed correctly. After the cataloger determines that the content of the variable fields in the bibliographic record match the information package, then

the fixed fields must be reviewed to verify that they correlate accurately with these data. (Tools needed for this step: *Cats: Complete Original Broadway Cast Recording*, AACR2r, and MARC documentation.)

Step 10–Verify the classification. The cataloger needs to determine if the classification notation is part of the scheme used in the library. If the bibliographic record includes a correctly formatted classification notation, the cataloger does not need to make modifications. However, if the classification notation does not correspond to the local scheme, then the cataloger adds an appropriate call number. In either instance, the cataloger is responsible for ensuring that a correct Cutter designation is added.

In this example, OCLC record #29897707 contains both *LCC* and *DDC* classification notations. The *LCC* (050 #a) notation is M1500.L56 with a Cutter (C38, 050 #b) and date (1994). The *DDC* notation (090 #a) is 782.14 from the 21st edition of the classification scheme. The cataloger updates the *DDC* notation to 782.6 (22nd edition) and adds a Cutter representing the main entry (LLOYD WEBER) and a date (1994). (Tools needed for this step: *Cats: the complete original Broadway cast recording*, AACR2r, MARC documentation, and classification scheme.)

Step 11–Determine other tags to include. If the bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they should be transcribed according to the rules in AACR2r and placed correctly into fields and subfields as required by MARC documentation.

In this example, OCLC record #29897707 contains several other tags containing data required to describe the information package. These tags include general notes about the information package (Rule 6.7B5, 500 #a), the characteristics of the recording (Rule 6.7B10, 500 #a), conductor (Rule 6.7B7, 511 #a), physical description (Rule 6.7B10, 500 #a that must be updated to the new tag, 538 #a), and formatted contents (Rule 6.7B18, 505 #a).

The cataloger may choose to add tags that bring the bibliographic record up to the requirements of the library's bibliographic input standard for sound recordings. The addition of these data elements will significantly enhance searching and increase retrieval probabilities, particularly for performers, the production crew, and topical subjects. Tags that need to be added include (but are not limited to) the following: a note indicating the original book (500 #a), additional performers (Rule 6.7B6, 511 #a), credits (Rule 6.7B6, 508 #a), an author/title subject entry for the original work (600 #a, #q, #d, #t), topical subject entries (650 #a), a genre subject entry (655 #a), and added entries for the performers and production staff (700 #a). (Tools needed for this step: *Cats: the complete original Broadway cast recording*, AACR2r and MARC documentation.)

Step 12–Review each point of access in the authority file. The cataloger needs to verify points of access in the bibliographic record against authority records. The bibliographic record does not carry an indication that it was created at a PCC library (042 #a) or the Library of Congress (040 #a). Therefore, the cataloger is responsible for the verification of the forms of entries in an authority file for each point of access.

If the cataloger uses OCLC to search for authority records, the login process is the same until the welcome screen for the OCLC Connexion® Services appears. The authorities tab in the upper left-hand section (to the right of the cataloging tab) on the page needs to be highlighted in blue in order to search the authorities file. At the top of the screen the searcher will find a command line search capability. To use this type of search, scan is used with a designation for the personal name (pn), corporate body (co), title (ti) or subject (su). In this example, a correct search protocol for the composer is as follows: scan pn=lloyd webber, andrew.

The correct entry appears at the top of the list on the search results screen. The name that matches the search protocol is shown in bold type with the number (designated by R) of associated bibliographic records displayed in the column at the right-hand edge of the screen. Double-clicking on the number adjacent to the name in bold type results in a display of the individual authority records (designated by E) and gives data about the individual and associated titles. Additional types of derived searches are described in OCLC documentation.

In this example, the authority record for the composer is OCLC #ARN 671712 with Library of Congress Control Number # n 81126807. The cataloger reviews the authority record and compares it with the field in the bibliographic record. The authority record contains matching data that are transcribed and tagged correctly (100 1X #a, #d) and notes about the information package and its composer (670, #a).

Searches for the subject headings require search protocol as follows: scan su=musicals. A listing of authority records appears as a result of the search. The number of authority records for the subject and its correct form appear in horizontal rows across the page. Double-clicking on the number adjacent to the name in bold type results in a display of the individual authority records (designated by R) and gives data about the subject.

In this example, a single authority record exists for the subject heading *musicals* (OCLC #ARN 2050535) with Library of Congress Control Number # sh 85089018 (010 #a) contains the form of the name for the subject with the correct field (150) and subfield (#a). The cataloger reviews the authority record and compares it with the fields in the bibliographic record to ensure that the data are transcribed and tagged correctly. This process is repeated for each subject heading and the genre heading. Regardless of which search method is selected, the authority record for each access point is the same.

In the fixed field, the record status, date the record was entered, date replaced, record type, the record status, bibliographic level, the description, record status, and the encoding level should not require modification. The fixed field data elements (008) that must match the data that have been transcribed in the variable fields (1XX-8XX) include the type of material form (musical sound recording = j), format of music (not applicable = n), form of composition (musical revues and comedies = mc), date type (publication/distribution date = r), language (English = eng), country of publication (New York, USA = nyu), and dates (reissue date = 1994 and production date = 1993). In this example, other fixed field data elements should be blank (form, part, transposition and arrangement, literary text for sound recording, audience, accompanying material, control, and modified record). The cataloger reviews the fixed field and compares the characters in the bibliographic record to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.) The bibliographic record for *Cats: Complete Original Broadway Cast Recording* appears in Figure 6.8.

After all of the data have been entered and verified in the authority file, the cataloger should review the bibliographic record, check for transcription errors, fix punctuation marks, and correct spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher etc., date of publication, extent of the item, notes, standard number).

007 s #b d #d b #e s #f m #g e #h n #i n #j m #k p #l l #m n #n e
008 060119s1983 nyumcn n d eng d
010 83752169
028 02 3145214642 #b PolyGram Records
047 mc
048 oa #a ca
090 M1505 #b .C3 1983
092 782.6 #b LLOYD WEBBER
100 1 Lloyd Webber, Andrew, #d 1948- #4 cmp #4 pro
240 10 Cats. #k Selections
245 10 Cats #h [sound recording] : #b complete original Broadway cast recording / #c produced by Andrew Lloyd Webber and Martin Levan.
260 New York : #b Polydor/Really Useful Records, #c p1983.
300 2 sound discs (97 min.) : #b analog, 33 1/3 rpm, stereo ; #c 12 in.
306 013648
500 In container.
500 Text of the songs on inner liners.
500 "Contains most of the music of the Broadway production of the musical which opened at the Winter Garden Theatre on October 7th, 1982"--Inner liner.
500 Words of songs printed on inner liners.
500 Music by Andrew Lloyd Webber, lyrics based on "Old possum's book of practical Cats" by T.S. Eliot ; additional material written by Trevor Nunn and Richard Stilgoe.
505 00 #t Overture – Prologue : Jellicle songs for Jellicle cats – The # Naming of cats – The #t Invitation to the Jellicle Ball – The #t Old gumbie cat – The #t Rum Tum Tugger – Grizabella, the glamour cat – #t Bustopher Jones – #t Mungojerrie and Rumpleteazer – #t Old Deuteronomy – The #t Jellicle Ball – #t Grizabella – The #t Moments of happiness – #t Gus, the theatre cat – #t Growltiger's last stand – #t Skimbleshanks, the railway cat – #t Macavity – #t Mr. Mistoffelees – Memory – The #t Journey to the heaviseide layer – The #t Ad-dressing of cats.
508 0 Andrew Lloyd Webber and Martin Levan, producers; David Firman, musical director; writers, Andrew Lloyd Webber, Trevor Nunn, Richard Stilgoe; liner notes, Trevor Nunn; orchestration, Andrew Lloyd Webber, David Cullen; orchestra conducted by Stanley Lebowsky; contributors, Kenny Ard, Betty Buckley, Rene Clemente, Wendy Edmead, Steven Gelfer, Harry Groener, Janet L. Hubert, Donna King, Anna McNeely, Hector Mercado, Cynthia Onrubia, Ken Page, Carol Richards, Tim Scott, Herman W. Sebek.
511 1 Hector Jaime Mercado (Alonzo), Stephen Hanan (Bustopher Jones/ Asparagus/ Growltiger), Donna King (Bombalurina), Steven Gelfer (Carbucketty), Rene Ceballos (Cassandra), Rene Clemente (Coricopat / Mungojerrie), Wendy Edmead (Demeter) Christine Langner (Etcetera/Rumpleteazer), Betty Buckley (Grizabella), Bonnie Simmons (Jellylorum/Griddlebone), Anna McNeely (Jennanydots), Timothy Scott (Mistoffelees), Harry Groener (Munkustrap), Ken Page (Old Deuteronomy), Kenneth Ard (Plato/Macavity/Rumpus Cat), Herman W. Sebek (Pouncival), Terrence V Mann (Rum Tum Tugger), Whitney Kershaw (Sillabub), Reed Jones (Skimbleshanks), Janet L Hubert (Tantomile) Robert Hoshour (Tumblebrutus), Cynthia Onrubia (Victoria).
511 0 Stanley Lebowsky, conductor; Rene Wiegert, conductor and musical director; Ethan Fein, guitar; Mel Rodnon, Ray Shanfeld, Hank Freeman, Albert Regni, woodwinds; Douglas Purviance, bass trombone; Edith Wint, Jeff Zahn, cello; Trevor Nunn, director; Paul Pizzuti, drums; David Katzenberg, electric bass; Benny Aronov, Electric Piano and Prophet synthesizer; Mark Perchanok, English horn and oboe; Ross Konikoff, flugelhorn and trumpet; Victor Paz, flugelhorn, piccolo and trumpet; Ron Tooley, brass; Dick Berg, Robert Johnson, horn; Jack Jennings, Jim Ogden, percussion; Keith Hermann, piano ; Barry Eastmond, synthesizer; Gerry Chamberlain, trombone.
520 Andrew Lloyd Webber's musical *Cats* takes its characters from T.S. Eliot's book *Old Possum's Book of Practical Cats*. The longest-running musical of its time, the score includes the well-known
"Memory." This is the original Broadway cast album.
538 Vinyl sound recordings.
586 Tony Award (1983) for Best Musical, Best Book, Best Score, Best Director (Trevor Nunn), Best Supporting Musical Actress (Betty Buckley), Best Costumes (John Napier), Best Lighting (David Hersey).
586 Grammy Award (1983) for Best Cast Show (Broadway complete recording).
586 Olivier Award (1981).
586 Dora Mavor Moore Award (1985) for Outstanding Direction (David Taylor), Outstanding Musical
Direction (Stanley Lebowsky), Outstanding Choreography (T. Michael Reed), Outstanding

Summary

This chapter includes information and explanations about cataloging music and non-music sound recordings using the MARC bibliographic format, cataloging tools and documentation, MARC fixed and variable fields, and steps in the bibliographic description.

Adapting, enhancing or constructing a bibliographic record for sound recordings facilitates a heightened awareness, identification, and retrieval to all information resources in the library collection; consistency of access and retrieval for users; and, international efforts in cooperative cataloging. Developed independently by colleagues charged with specific responsibilities, specialized cataloging tools are used with companion resources. Learning when and how to use each of the cataloging tools and documentation during the cataloging process is an important aspect of becoming a proficient cataloger.

Contributing bibliographic records to an online catalog requires the cataloger to use *AACR2r* and MARC together. *AACR2r* contains the rules for transcribing bibliographic data and MARC explains the structure into which the data that comprise records are placed. Rules in *AACR2r* follow an outline for description and access points for names and titles. The MARC bibliographic format enumerates the possible fields, subfields, and indicators for data required to describe the information package and its physical format.

Providing subject and classification access in bibliographic records for an online catalog requires the cataloger to use specialized tools in conjunction with MARC documentation and *AACR2r*. Because of the unique characteristics of sound recordings, the cataloger uses the *LCSH* for the assignment of topical terms, and a specialized thesaurus. The purpose of classification is to group information packages on similar and related topics together from general to specific and to lead the user to them. Catalogers use *Library of Congress Classification*, the *Dewey Decimal Classification* scheme, *ANSCR* or a local designation to determine the arrangement of music and non-music sound recordings for children, teens, and adults.

The cataloging process for these materials consists of five related tasks: identification of the type of media (composition, physical format, and required projecting equipment), descriptive cataloging, subject analysis (subject cataloging or indexing), authority control, and classification. Learning the unique aspects of the cataloging process for sound recordings requires familiarity with relevant national and international standards, technical aspects of the media itself, and an understanding of music. The successful completion of each task results in the construction or enhancement of a bibliographic record that represents the information package and the equipment required to hear it.

Review exercises

Please prepare a bibliographic record using the MARC format for the following titles:

- ***Empire of the Sun: original motion picture sound track*** (music CD; publisher number 9256682)
- ***Double Live by Garth Brooks*** (music CD; publisher number 7243-4-97424-2-0)
- ***Mary Poppins, 2005 London Stage Production sound track*** (music CD; publisher number CAST CD93)
- ***Dance & Sing: the best of Nick, Jr.*** (music cassette; ISBN 0737901403)
- ***Wild Fire: a novel by Nelson DeMille*** (spoken book on CD; unabridged; ISBN 141593486X)]

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Cataloging electronic resources

Computer technologies and networking offer users access to electronic resources that cannot otherwise be achieved. Exemplary libraries in the twenty-first century feature comprehensive collections providing access to electronic resources that enhance and complement print (e.g. tangible) resources. The development, introduction and universal availability of resources on diskette, CD, DVD, and the Internet prompted librarians to select and add them to collections. As physical facility limitations constrained the librarians' creativity to remodel and rearrange libraries, electronic resources offered possibilities to increase the number of resources without requiring shelving, handling and hands-on maintenance.

Although the type and number of electronic resources varies among libraries, their impact is most directly reflected in continuing resources. The description of continuing resources includes successively issued resources (i.e. serials) and integrating resources (updating loose-leafs and updating websites). Serial titles continue to be published as print resources; however, a number of them are born digital (i.e. published and existing only as a digital expression) or are also available electronically. Known as online serials, electronic serials, e-serials, and continuing resources, serials are available locally and remotely through networks.¹ Providing local or remote access has attracted publishers, vendors, distributors, secondary publishers, libraries, and other providers to the serials marketplace. Commercial providers aggregate (or gather) serials and sell them on a physical carrier (CD or floppy diskette) or as a subscription for remote access. A growing trend among libraries is the subscription to online serial titles and discontinuation of the print resource. When a library selects this method of subscription, savings result in handling, check-in, storage, and binding while maintaining access for users.

Cataloging electronic serials enables the user to view a complete listing of the library's holdings in the online public access catalog (OPAC). The creation of a bibliographic record for electronic resources must provide access and retrievability that parallels print resources. The application of internationally accepted cataloging standards to electronic resources ensures that their availability is readily evident to users. The integration of bibliographic records for electronic resources may include a hyperlink to the serial title, specific issue, and article.

Anglo-American Cataloging Rules, 2nd edition, revised (*AACR2r*) contains guidance for cataloging continuing resources (see Chapter 12).² Experience cataloging and guidance from the Cooperative Online Serials Program³ (CONSER) are essential for learning how to prepare standardized bibliographic descriptions at level two or level three of *AACR2r* for electronic resources. Because this handbook is designed for library school students and novice catalogers, continuing resources are not included.

Development of the personal computer and the Internet

The development of the first microcomputers using the 8080 (PC) and 6502 (Macintosh) central processing chips in the 1970s featured data storage on cassettes. Each type of computer saved, displayed, and stored data differently so the interchanging or sharing of data was not possible without significant effort and expense.⁴

Computer software can be transported among computers. Developed by Alan Shugart for International Business Machines (IBM) in 1976, floppy diskette drives enabled engineers and programmers to load software updates to mainframes and minicomputers. The 5¼-inch floppy diskette with its 360 kilobytes of storage co-existed with the 8-inch floppy from the early 1970s until the Sony Corporation began selling a 3½-inch diskette in 1980, a medium that features 1.5 megabytes of storage space.

Scientists and engineers at IBM worked on the development of a personal computer and operating system. Known as Project Chess, IBM introduced the first personal computer (known as a PC) on August 12, 1981.⁵ The first PC ran on an 8088 Intel microprocessor chip, featured up to 256K of random access memory (RAM), one or two 5¼ inch floppy drives, and an optional color monitor. Because of the popularity of personal computers with floppy diskette drives, the 3½-inch diskette became a standard method for backing-up, storing, and exchanging data and programs soon after its introduction in August 1981. These diskettes are small, inexpensive, readily available, easy to store, and have a long shelf life.⁶ The addition of floppy diskette drives increased the reliability and speed of data

storage. Standardization remained elusive but improved with the introduction of the control program/micro (CP/M) operating system.⁷ The operating system was replaced within a few years by the Microsoft disk operating system (MS-DOS).⁸

The development of the Internet in the early 1990s defined access technologies and the sharing of data and resources worldwide. The Internet changed how, when and where patrons and librarians communicated and accessed information. Envisioned in the 1960s as a global connection of computers, MIT researcher J C R Licklider described the Internet as a Galactic Network.⁶ The development of a packet switching capability rather than circuitry to send and receive data made computer networking feasible. The 1965 experiment connecting a TX-2 in Massachusetts to a Q-32 in California over circuit switching, copper telephone lines proved that computers could communicate, share programs and retrieve data remotely.⁹

Networking research over the next 20 years incorporated work on the infrastructure itself and its use, a tradition that continues into the twenty-first century. Although the Internet and the World Wide Web are often considered to be one in the same, this is not the case. Originally known as ARPANET, the modern Internet relies on open architecture networking that was introduced in 1972. Individual networks are designed and implemented with an interface that enables remote users to access information. Engineers designed a communication transport service among networks, transmission control protocol (TCP; RFC 793),¹⁰ provided protocols for remote log-ins, flow control, and the recovery of lost packets. When sending data packets, the system added an Internet protocol (IP) component to handle addressing and forwarding functions.

The concept of hypertext influenced Internet developers. Coined by Ted Nelson in 1965, hypertext represents a method for creating an electronic environment in which all data can be stored and accessed through a link from anywhere in the document. In this *docuverse*, users can navigate through the information without reliance on a linear search; thus, the entire text could be searched from any point.¹¹ In the early 1990s, Tim Berners-Lee and Robert Cailliau wrote a Web browser but did not immediately gain significant global attention. The development of a gopher system at the University of Minnesota gained popularity despite its lack of hyperlinks.¹² By 1995, interest in browsers for the World Wide Web resulted in the development of Netscape,¹³ the first W3 Conference in Geneva, Switzerland,¹⁴ and Sun Microsystems Inc's new product Hotjava,¹⁵ which incorporated interactive objects into hypertext. Individuals and teams had written dozens of browsers for the World Wide Web.¹⁶

These events paralleled the building of national networks and writing of national and later international standards for libraries and information centers. Librarians had hoped that the building of national networks would provide a common platform for the sharing of machine-readable bibliographic data. Libraries sought computer architectures that would support public online access computer access to the library catalog. These developments prompted catalogers, technical services librarians, and their public service colleagues to describe library resources electronically and develop rules, guidelines, and local cataloging practices and modules for acquisitions, serials check-in, union listing, circulation, resource sharing, and related internal operations. The construction and sharing of machine-readable bibliographic records was essential in order to serve the information needs of library users.¹⁷

Electronic resources in libraries

Electronic resources make up an increasingly significant portion of library collections. Computers revolutionized the work, entertainment and play routines worldwide. Librarians were interested in the potential to achieve increased efficiency and the decrease of tedious clerical tasks that computers could bring to libraries. Larger libraries had purchased and installed mainframe computers since the early 1960s. However, the capital cost, maintenance, and staffing requirements prevented medium and smaller libraries from automating tasks.

Librarians participated in discussions focused on navigation protocols, communication options, and design of websites. These new technologies surpassed available capabilities and encouraged information professionals to invest resources into the development of resource sharing (inter-library loan), communications (email), information and data exchange, multiple scripts, and electronic publishing.

By the end of the twentieth century the Internet, computer languages and online tools enabled individuals, groups, governments, corporations and others entities to create, reformat and distribute an array of electronic resources. Librarians assumed responsibilities for the organization, description, access, and preservation of electronic resources. These resources continue to evolve as librarians select born digital and made digital works for library collections. Electronic resources include discs (CD and DVD), data files, audio and video files, and digital assets that result from reformatting print resources.

The recognition of electronic resources as essential information and educational resources is key to their development as part of the collection. Therefore, the library's collection development policy needs to contain guidelines for the evaluation of websites, computer programs, e-books, and digital resources (numbers, text, graphics, images, maps, moving images, music, sounds, and more). Librarians use standard bibliographies, reviews from commercial, trade, and professional journals, syllabi, award-winning albums and other recommended lists, accreditation guidelines, and patron suggestions to select electronic resources.

Criteria that govern the selection of electronic resources include timeliness, usefulness, popular demand, permanent value, the need for and availability of information or materials in the subject area, authoritativeness, and cost. Collection building and maintenance require that selections contribute to a balanced collection including a variety of viewpoints and opinions to meet community needs. Libraries provide free and equal access to the entire range of library resources and formats, including media. These rights extend to all users of the library including minors.

Librarians create and share the bibliographic description of electronic resources in tandem with initiatives to create gateways to digital libraries, preserve documents, and cultural heritage assets. These resources are an integral part of our national and cultural memory that can be accessed through global multilingual information systems with metadata options. As a result of these developments, the twenty-first century library collection provides electronic resources that are unavailable locally.

The bibliographic record for an electronic resource must provide access and retrieval potentials that parallel those available for tangible resources. The application of internationally accepted cataloging standards to electronic resources ensures that the physical format and characteristics unique to them are readily evident to users through the data contained in bibliographic records.

Standardized bibliographic description at level two or level three in *AACR2r* for electronic resources facilitates a heightened awareness, identification, and retrieval to these resources in the library collection. Consistency of access and retrieval for users, support international efforts cooperative cataloging initiatives by sharing bibliographic records in local, regional, national, and global databases.

Primer of electronic resources

Electronic resources share reliance on a computer to view, use or interact with content and include several physical formats, and packaging that are accessible locally or remotely. The lack of standardization among physical formats identified as electronic resources requires librarians to provide reasonable distinctions among the types and names of resources found in contemporary library collections. Electronic resources include (but are not limited to) computer software, digital assets from reformatting (e-books, photographs, and the like), websites (pages in HTML/XML and other markup languages), downloadable audio and/or video, and files in portable document format (PDF), data sets, digital assets, and interactive multimedia. A review of each type of distinct physical format provides insight into similarities and differences.

Libraries purchase and circulate inexpensive software programs and games for users. The availability of software from the library enables users to test a program or game before making a personal purchase. Within collection development guidelines, libraries select, process, catalog, and circulate computer software and games as well as after-market documentation in the print collection.

Data sets are essential tools for scholars and researchers. Libraries facilitate access and retrieval of data sets by providing locations to data sets locally or remotely. They compile, use and share data sets electronically. Because of the variations in content and size, data sets are needed for the creation, management, packaging and distribution of knowledge. Statistical analysis is essential for managers and administrators who need to understand and interpret data in order to make critical operational and policy decisions. Data mining and meta-analysis empower researchers and scholars as they investigate phenomena, develop strategies, interpret data, and solve scientific, business, and societal problems.¹⁸

Creators of hypertext can use a number of mark-up languages. Hypertext is designed to enable users to navigate through a text rather than read it linearly. Attributed to Vannevar Bush and his Memex concept,¹⁹ the idea of a library's holdings available at the touch of a computer, displaying books or other documents, and linking them to one another and other resources resembles the World Wide Web. Although lacking typed links (e.g. hyperlinks), transclusion (the inclusions of part of a document into another), and source tracking (capability to track the addition and creator of a document or partial document), the World Wide Web accommodates several types of feature sets. Documents on the Internet may be formatted in several feature sets including (but not limited to) the following: Microsoft Word,²⁰ Adobe Portable Document (PDF),²¹ and hypertext.²²

Publicly available websites enable users to access, read, and save documents on the Internet. Written in a hypertext markup language and accessible using a web browser, websites contain data, information, a collection of web pages (e.g. wiki),²³ RSS (e.g. really simple syndication),²⁴ web log (i.e. blog),²⁵ and other documents dedicated to the creator's purpose and posted to share universally. Web pages can be viewed or accessed from a range of computer-based and Internet enabled devices, including desktop computers, laptop computers, personal digital assistants (PDAs),²⁶ portable media players (iPods),²⁷ digital audio players (i.e. MP3s),²⁸ and cell phones. Different types of websites are published and updated daily. When libraries choose to catalog websites, they acknowledge the

importance of electronic information and its place in the array and variety of resources available through the OPAC to their users.

Electronic books (i.e. e-books) represent the instant delivery of purchased books with adjustable fonts.²⁹ The eco-friendly, shelf space saving e-books result in fewer lost or damaged titles than tangible works and represent publishers' latest attempt to convince readers and librarians that electronic publishing ventures will be assimilated permanently into digital communication technologies. Librarians at selected institutions claim that e-books improve libraries and provide an opportunity to work with producers so that the next generation of hardware and software may be assembled into tools for improving library jobs and services. Purchasing e-books requires librarians to consider selection and acquisition policies, the relationship between circulation and acquisitions, the potential impact on interlibrary loan, and requirements for cataloging and processing.

Digital assets result from the reformatting of tangible resources. Digital reformatting provides an alternative for providing access to fragile and at-risk materials. Specific items may be identified and reformatted according to their value, condition, use, format, and physical characteristics of the original, access, and acceptability as a digital asset. When a library identifies a work for digitization, the bibliographic record in the OPAC enables users to locate, retrieve, and use a digital asset that may otherwise be unknown or unavailable.³⁰

Interactive multimedia offers students, teachers, scholars, instructors, and trainers teaching materials that can be run on personal computers. These technologies provide access to materials through the use of the condensed storage capabilities of computers and their abilities to deliver information in manageable, approachable and useful ways. Because interactive multimedia includes illustrations, photographs, sound, video, and text, engaging and meaningful learning can occur. The integration of multimedia programs into library collections searchable through OPACs increases access to them outside traditional classrooms and more formal learning environments.³¹

Unique characteristics in bibliographic records for electronic resources

Library patrons and staff members depend on the bibliographic record as it is displayed to indicate the unique characteristics and key information about electronic resources. The electronic resources format includes data (numbers, text, graphics, images, maps, moving images, music, sound, and the like), programs (instructions for the processing or use of data), and combinations of data and programs. The contents of electronic resources may be available locally or remotely (i.e. networked or available on the Internet). The carrier or container (e.g. discs, cassette, cartridge, etc.) for electronic resources that are available locally need to be described in the bibliographic record. When the electronic resource is available remotely, a physical carrier is not present and cannot be described. In these situations, the bibliographic record should contain a description of the mode of access using a computer terminal, a network within the library or the Internet.

Electronic resources circulate as a result of patron browsing in the library. The patron can identify a local electronic resource, locate it in the library or place a reserve, and check it out for personal use. Remote electronic resources can be linked through the bibliographic record for the convenience of patrons and library staff. Distinguishing among print and electronic physical formats is critical. Careful attention to detail during the cataloging process makes clear the descriptive data for each information package.

Library faculty who teach cataloging courses face a multitude of "is this website stable enough to merit cataloging?" and "will we continue to purchase this work as an electronic resource?" questions from students confused by the preponderance of unfamiliar terms, bibliographic control jargon, cataloging rules, guidelines, and technical requirements.

Building on the processes required to catalog other formats, the library school student adds MARC fields that reflect the unique physical characteristics and content of electronic resources. Students learn to distinguish and describe the information package (descriptive cataloging), determine where it fits into a given hierarchy (classifying), and discern the concepts addressed through subject analysis (subject cataloging or indexing). Each task requires the use of cataloging tools and documentation to transcribe data for electronic resources into the MARC bibliographic format.

This chapter includes a review of the information packages included in the MARC bibliographic format for electronic resources, specialized cataloging tools and documentation, MARC fixed and variable fields as they correlate to these works, and steps in the bibliographic description process.

The electronic resources format can be characterized by five unique characteristics. These characteristics include the following: several locations for chief sources of information, presence of a standard number, use of a general material designation (GMD), system requirements and mode of access note, and local cataloging policies regarding genre headings, added entries, and the like. Each of these characteristics are described briefly.

Several locations for chief sources of information

The cataloger reviews the information package in order to catalog the electronic resource (Rule 9.0B). This process differs significantly from examinations of the title page and its verso when cataloging a monograph (Rule 2.0B). In order to see the chief sources of information for an electronic resource, the cataloger examines it. The

chief source of information is the electronic resource itself that provides the title proper (245 #a), subtitles or parallel titles (245 #b). For an electronic resource, the title screen, main menu, program statement, home page(s), file header(s), encoded metadata (e.g. TEI headers and HTML/XML meta tags) provide the information required to identify, enhance or construct a bibliographic record. When the electronic resource itself does not contain adequate data to serve as the chief source of information, the cataloger consults printed online documentation, accompanying material, text on a container, other published descriptions, and metadata records.³²

Presence of a standard number

When searching for the standard number associated with an electronic resource, the cataloger will find important numbers other than a manufacturer's number or an International Standard Book Number (ISBN). The standard number may be located anywhere on the electronic resource, packaging, or accompanying material. Transcribed as required in *AACR2r* (Rules 9.8B and 9.7B19), the standard number may be used to search online catalogs and bibliographic utilities. If a standard number cannot be located on the electronic resource but can be identified with certainty from an auxiliary source, the cataloger should transcribe it (028 #a).

Use of general material designation

The cataloger must determine and transcribe the correct general material designation (GMD) term (Rules 1.1C and 9.1C; 245 #h) within square brackets. The term for electronic resources is generic and does not differentiate among physical formats. If the electronic resource contains items from two or more categories and neither is predominant, then the cataloger uses the term *multimedia* or *kit*.

System requirements and mode of access

The cataloger must determine and transcribe the mode of access for the electronic resource (Rule 9.7B1). If the electronic resource is available locally, then the cataloger adds a note (Rule 9.7B1b; 538 #a) with the system requirements (make and model of the computer(s) on which the resource is designed to run, memory requirements, name of the operating system(s), software requirements, kind and characteristics of required peripheral devices, and the type of required or recommended hardware modifications).

When the electronic resource is available remotely, the cataloger adds a mode of access note (Rule 9.7B1c; 538 #a) and an electronic location note (856 #u). When the electronic resource has been created through the reformatting an information package in another physical format, then a reproduction note (Rule 9.7B7; 533 #a) appears in the record. If the electronic resource is available in another physical format, a note indicating other formats appears in the record (Rule 9.7B16; 530 #a).

Local cataloging policies regarding notes

Local cataloging policies may require the addition of fields and subfields. Therefore, the cataloger is responsible for transcribing these data. *AACR2r* rules permit the inclusion of notes (Rule 9.7B). Because note fields contain words and phrases critical for keyword searching, their presence enhances content and retrievability.

These notes may include source of the title proper (Rule 9.7B3; 500 #a), variations of the title (Rule 9.7B4; 500 #a), titles of parts (Rule 9.7B5; 740 #a), type and extent of the resource (Rule 9.7B8; 256 #a), contents (Rule 9.7B18; 505 #a), a summary (Rule 9.7B17; 520 #a), restricted use notes (Rule 9.7B20; 540 #a), and intended audience (Rule 9.7B14; 521 #a). The cataloger is responsible for identifying and constructing the additional note fields according to local library cataloging policies.

Cataloging tools and documentation for electronic resources

Adapting, enhancing or constructing a bibliographic record to include descriptive data and points of access unique to electronic resources does not require the use of specialized tools. However, electronic resources include single-issue information packages (similar to monographs) and integrating or continuing resources (formerly called serials). The cataloging process described in this chapter focuses on single-issues that require the use of the bibliographic format for monographs. The library school student and novice cataloger rely on evolving guidelines, explanations, and local practices. Cataloging electronic resources requires an implied knowledge of computing technologies, programming languages, metadata, and web authoring.

Learning to catalog electronic resources becomes more difficult for the cataloger who does not possess a familiarity or background with computers and technologies. Cataloging electronic resources parallels the process for monographs. Therefore, the reader is encouraged to consult the instructions in the "Cataloging monographs" chapter. Tools that the cataloger uses for electronic resources include *AACR2r* (the "Introduction and overview" chapter, the "Cataloging notated music" chapter, and appendices), *Library of Congress Rule Interpretations (LCRI)*,³³ MARC documentation,³⁴ a subject heading list such as the *Library of Congress Subject Headings (LCSH)*³⁵ or the *Guidelines on Subject Access to Individual Works of Fiction, Drama, Etc. (GSAFD)*,³⁶ and the

classification scheme used in the library such as the *Library of Congress Classification (LCC)*,³⁷ the *Dewey Decimal Classification (DDC)*³⁸ or the *Superintendent of Documents Classification (SuDocs)*.³⁹

Using AACR2r and MARC 21 together

Constructing, enhancing or adapting bibliographic descriptions of electronic resources requires the cataloger to use *AACR2r* and MARC documentation concurrently. The machine-readable records for an online catalog describe the electronic resource using the rules in *AACR2r* and MARC 21 documentation.

Rules in *AACR2r* follow an outline for description and access points for names and titles. The MARC documentation for the bibliographic format enumerates possible fields, subfields and indicators for data required to describe the work. While the rules for description and access in *AACR2r* correspond to MARC fields and subfields, the order of these tools is not parallel. MARC documentation includes fields, subfields, and codes not found in *AACR2r*.

Novice catalogers and library school students expect to find exact answers to cataloging problems or questions. However, the rules are deliberately framed to show principles and make them generally applicable. The examples in *AACR2r* are more illustrative than prescriptive and presume a familiarity with types of electronic resources, programs, data sets, computer-operating systems, peripheral devices, and the Internet. The examples in *AACR2r* are authoritative and provide guidance for instances that require cataloger's judgment to apply a rule.

Anglo-American Cataloging Rules, 2nd rev.

The rules necessary to identify bibliographic data and the mechanics of transcription (spacing, punctuation, capitalization, abbreviations, numerals, and initial articles) appear in *AACR2*. This volume considers and depends on the distinction of two main processes: description and access points.

The rules for describing electronic resources (data, programs and websites) enable the cataloger to complete bibliographic description at the level used by the library. From a practical point of view, the level of completeness in description and display in the OPAC for electronic resources should parallel other resources in the library's collection. After these decisions have been reached, the librarians describe the level of description detail and local cataloging practices in the bibliographic input standards document that are specific to locally available and remote electronic resources.

Cataloging electronic resources requires the use of two chapters in part one of *AACR2r*. The cataloger will use the general rules in chapter 1 and apply them to information packages. Chapter 9 contains the rules applicable to the unique features and characteristics of electronic resources and refers to chapter 1 for general rules. Part two of *AACR2r* covers the choice of access points for the main and added entries. The instructions in chapters 21-25 provide guidance for the cataloger to determine access points.

Chapter 21 contains general rules to determine access points (main headings and added entries) that can be used for searching OPACs. Headings for persons, corporate body, geographic place names, and uniform titles appear in Chapters 22-25. Rules that govern the construction of explanatory see and see also references appear in Chapter 26. Each chapter is laid out in the same order using a mnemonic numbering scheme.

The appendices contain general rules for capitalization, "Appendix A"; abbreviations, "Appendix B"; numerals, "Appendix C"; a glossary, "Appendix D"; and initial articles, "Appendix E". Catalogers apply the rules and terms in the appendices to all formats that they encounter.

MARC documentation

The *MARC 21 Concise Format for Bibliographic Data* includes detailed field descriptions, guidelines and examples for applying the defined content, and conventions to be used for input consistency. Available in print and electronic versions, the documentation provides a reference guide to the content designators defined in each MARC format. The description includes each field (or tag), character position of the fixed-length data element fields, and defined indicators in the variable data fields and subfields. The documentation considers and depends on the cataloger's judgment to determine the type of work, its physical format, and to use applicable sections.

Designed to be a framework or carrier for the exchange and sharing of bibliographic information, the *MARC 21 Format for Bibliographic Data* contains guidelines that the cataloger can use for sound recordings. These data include the following: main and variant forms of titles; personal, corporate and geographic place names; subjects and genre headings; notes; publication, distribution, and manufacturing data; and the physical description or extent of the information package to be cataloged. Library school students and technical services paraprofessionals who are learning to catalog and increasing their technical skills and competencies to handle electronic resources will find the documentation for each of the MARC formats is extracted from the larger document for ease of instruction and use. Therefore, for the purposes of this text, the documentation for the monographs format is extracted from the larger document for ease of instruction and use (see "Appendix E"). This appendix includes sample bibliographic records for electronic resources, an explanation of the correlations between the fields and subfields in the MARC bibliographic format and *AACR2r*, and a worksheet for cataloging electronic resources.

Using subject analysis and classification tools for electronic resources

Providing subject and classification access to bibliographic records in an OPAC requires the cataloger to use specialized tools as well as *AACR2r* and MARC documentation. Bibliographic records customarily contain one or more types of subject headings. The types of subject headings include personal name, corporate names, uniform titles, topical subjects, geographic place names, genre headings, and local subject headings. The *Library of Congress Subject Headings* contains topical terms and the *Guidelines on Subject Access to Individual Works of Fiction, Drama, etc.* lists genre headings from which the cataloger selects points of access. Each subject heading is transcribed into the MARC bibliographic format.

The bibliographic record contains a classification notation for the information package. Libraries may choose to arrange their locally available electronic resources separately by title, subject or classification number for ease of browsing.

Each subject headings and classification tool includes instructions and guidelines. The MARC bibliographic format enumerates the possible fields, subfields, and indicators for data required for subject headings and classification notations. The array of possibilities in MARC exceeds the individual fields and subfields required for any single bibliographic record. The rules in *AACR2r* do not contain guidance for the assignment of subject headings or classification notations.

Because these tools are developed and updated independently, the cataloger needs to understand the purposes, instructions, and strategies to combine the content in the cataloging process. An overview of standardized subject headings lists and classification schemes provides insights into their use with *AACR2r* and MARC documentation.

Subject headings

An individual subject heading provides an access point within the bibliographic record. The *Library of Congress Subject Headings (LCSH)* and the *Guidelines On Subject Access to Individual Works of Fiction, Drama, Etc. (GSAFD)* consist of words or phrases to designate topics and aspects contained in an information package. Keyword searching provides limited access to these types of access points if the data appear in the bibliographic record.

LCSH provides subject access to works through the use of the topics listed and reflects the nature and scope of the Library of Congress collections. Subject specialists construct new headings when needed to provide access to information packages and establish links among existing headings. Available in print, microform, and electronic versions, *LCSH* includes subject headings contributed by libraries participating in cooperative activities with the Library of Congress and reflect the needs of their local collections. Genre and specialized subject headings in *GSAFD* reflect the nature and scope of individual works of fiction.

Novice catalogers and LIS students are encouraged to use *LCSH* and to consult larger collections for guidance when cataloging electronic resources. Additions, modifications, and deletions to *LCSH* need to be acknowledged and incorporated into the OPAC to maintain currency and viability. Because these changes impact new and existing bibliographic records, catalogers and technical services managers must evaluate changes and determine appropriate balances between them and the need for consistency.

Classification

The purpose of classification is to group information packages on similar and related topics together from general to specific and to lead the user to them. Catalogers may use *Library of Congress Classification (LCC)*, the *Dewey Decimal Classification (DDC)* or the *Superintendent of Documents Classification (SuDocs)* to determine the arrangement of electronic resources in the library collection.

Each classification scheme provides an enumerative arrangement in a hierarchical order that employs a process of subdivision and collocation to reflect a natural order. Arrangements in the *LCC* and *DDC* classification schemes proceed from general to specific aspects of topics through the subdivision of classes, subclasses, and arrays of numbers. The *SuDocs* scheme uses a grouping approach representing federal government agencies so that documents they and their subunits release can be co-located.

The *LCC* is an enumerative scheme that uses a capital letter for the main class, two or three capital letters for subclasses, Arabic numerals for further subdivisions, and Cutter author-marks to achieve alphabetic sub-arrangements. Developed for the Library of Congress at the turn of the twentieth century, subject specialists at the Library of Congress prepare the *LCC* schedules using a similar arrangement and sequencing pattern. Within each sequence of class numbers, the subjects proceed from general to specific, chronologically or geographically. Changes and additions are incorporated into the electronic, PDF and print versions of *LCC*.

The *DDC* is a decimal classification scheme that uses broad three-digit Arabic numbers followed by a decimal point and varying quantities of additional digits to achieve arrangements. Originally developed by Melvyl Dewey and published anonymously in 1876, class numbers may be expanded indefinitely in order to achieve specificity for

topics in the electronic resources. The specificity of the classification number requires more digits after the decimal point.

Available in print and electronic versions, the *DDC* schedule is compact and includes mnemonic devices that can be transferred among selected classes. The external format is reflected in the organization of the schedule and includes the following sections: an introduction, the schedule proper, seven tables of standard subdivisions, an index, and a manual. Changes and additions are incorporated into the electronic version of *DDC*, distributed through a listserv, and available in print from OCLC.

Those electronic resources that are federal government publications include a *SuDocs* classification that the library may retain and use. If the library integrates government publications into the general collection, then a classification notation must be added.

Developed in the Library of the United States Post Office between 1895 and 1904, the Superintendent of Documents Classification Scheme is based on the organizational structure of federal government agencies and groups together the publications that they and their subordinate units issue. The purpose of the *SuDocs* scheme is to uniquely identify, logically relate, and physically arrange each information package so that all publications of a single agency or department may be found together.

Each executive department and agency, the Judiciary, Congress and other quasi-government agencies has a unique alphabetical identifier. Subordinate bureaus and offices are identified through the assignment of numbers that are added to alphabetic identifiers with 1 designating the parent organization, the Secretary's or Administrator's office. The numbers are assigned to subordinate bureaus and offices applied in numerical order beginning with 2. A period follows the combination of letters and numbers representing the bureau or office.⁴⁰

Additions, modifications and deletions to any classification scheme must be made to maintain currency and viability. Changes to the classification scheme impact new and existing bibliographic records. Catalogers and technical services managers must evaluate and determine an appropriate balance between the demands to change and the need for consistency and collocation of similar topics. Therefore, during the cataloging process the cataloger consults the classification schemes to verify or construct the notation selected for access.

Cataloging electronic resources—examples and analysis

The cataloging process for electronic resources consists of five related tasks: identification of the type (discs (CD and DVD), data files, audio and video files, and digital assets that result from reformatting print resources), descriptive cataloging, subject analysis (subject cataloging or indexing), authority control, and classification. Learning the unique aspects of the cataloging process for electronic resources requires familiarity with relevant national and international standards, its technical aspects, and an understanding of the necessary equipment. The successful completion of each task results in the construction or enhancement of a bibliographic record that represents the electronic resource.

In order to complete these tasks, the library school student or novice cataloger needs to be familiar with each of the required tools (*AACR2r*, MARC documentation, *LCSH*, *LCC*, *DDC*, *SuDocs*, and an authority file). Catalogers who devote their professional careers to the construction and enhancement of bibliographic descriptions for electronic resources and different physical formats rely on specialized tools. The steps in the cataloging process include examples of a PDF file on the Internet (remote access), *Census Effects on Access to Health Care* (see Figures 7.1 and 7.2), an electronic book, *The Office Romance: Playing With Fire Without Getting Burned* (see Figures 7.3 and 7.4), and an interactive multimedia CD, *Sesame Street Toddler* (see Figures 7.5 and 7.6) in order to contextualize the instructions. Additional examples appear in “Appendix E”.

Example one: *Census Effects On Access To Health Care*

Step 1—Examine the electronic resource. The cataloger determines that the information package is an electronic resource published in the portable document format (PDF) by a federal government agency. The work is accessible through the Internet. According to *AACR2r*, the work is a single-part bibliographic resource (Rules 1.0A2 and 9.0A).⁴¹ (Tools needed for this step: *Census Effects on Access to Health Care* and *AACR2r*.)

Step 2—Identify the correct MARC 21 format to use. The cataloger determines that the MARC bibliographic format for monographs is required.⁴² (Tools needed for this step: *Census Effects on Access to Health Care* and MARC documentation.)

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information in the electronic resource (Rules 1.0A3a, 9.0B1, and 9.0B2). These data are the most credible elements that the cataloger transcribes into the bibliographic record (see Figure 7.1). Using the guidelines for punctuation (Rules 1.0C and 9.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 9.0D). In order to consider each of the required data elements, the cataloger uses sections of chapter one and chapter nine. (Tools needed for this step: *Census Effects on Access to Health Care* and *AACR2r*.)

Step 4–Find standard numbers. The publisher, the US Census Monitoring Board, did not include a Universal Product Code (UPC) or a publisher's number in the electronic resource. (Tools needed for this step: the PDF file, *Census Effects on Access to Health Care*, AACR2r, and MARC documentation.)

Step 5–Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is OCLC.⁴³ The cataloger gains access to WorldCat® software through the institutional subscription and the student has permission through a formal agreement between the library school and OCLC.⁴⁴ The OCLC database requires a unique authorization and password.

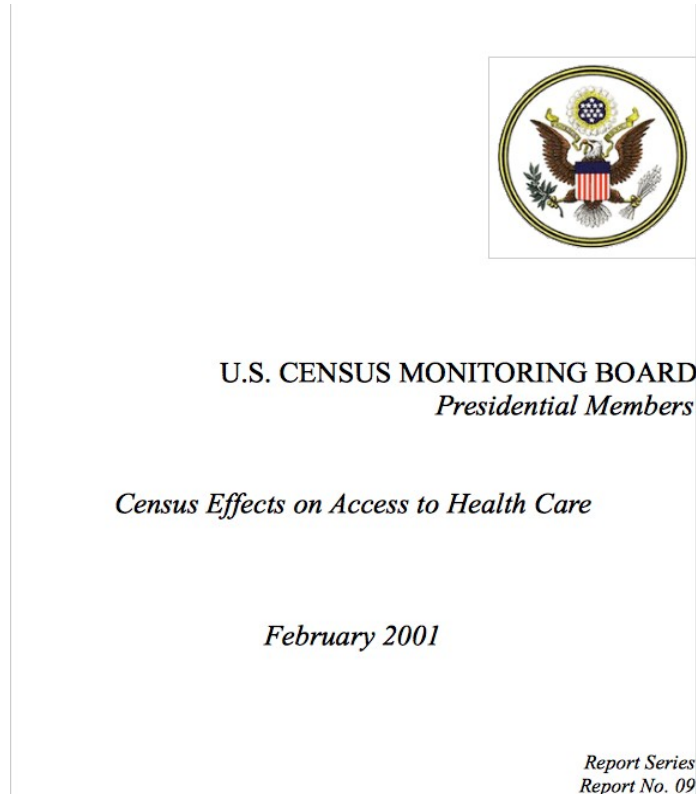


Figure 7.1. Cover for *Census Effects on Access to Health Care*.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home page, the searcher chooses the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*. The *Librarian's Toolbox* page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, and WorldCat® tools.⁴⁵ When the searcher chooses Connexion in the logon links section, the WorldCat® Services login page appears.⁴⁶ Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 6–Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the electronic resource. Because the electronic resource does not contain a UPC or a publisher's number, the most efficient search is by title.

The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible. In the middle of the screen the searcher will find three pull-down

boxes. To use this type of search, the cataloger selects publisher's number. Additional types of searches are described in OCLC documentation.⁴⁷

The cataloger enters the search key for the title in the command box: cen,ef,on,a and clicks on the search button. The bibliographic record (OCLC #52350828) appears on the screen. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 7—Examine the search results. The cataloger must determine whether the bibliographic record and its title match the electronic resource and its physical format. The cataloger needs to review OCLC #52350828 to determine if it matches. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 8—Determine if a bibliographic record matches the electronic resource. In order to determine whether or not the bibliographic record matches the electronic resource exactly, the cataloger will check and verify the following data elements: main entry (1.1F, 9.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5), format (Rule 9.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, and 9.1B), general material designation (Rule 1.1C and 9.1C1), publisher (Rules 1.4D, 9.4D, and 9.4E), and publication date (Rules 1.4F and 9.4F).

Local librarians determine which data elements must be exactly the same in order to constitute a match between the electronic resource and the bibliographic record. These data elements customarily include the title, publisher, date, and standard numbers. When a bibliographic record is identified as a match, the cataloger reviews each field, subfield and indicators to ensure that the data has been transcribed and tagged correctly.

The matching bibliographic record (OCLC #52350828) contains data elements that match the electronic resource. In this example, data for the main entry (Gaskin, Darrell G., 100 #a), title (*Census Effects on Access to Health Care*, 245 #a), imprint (Suitland, Md. : #b U.S. Census Monitoring Board, Presidential Members, #c 2001, 260 #a, #b, #c), and extent of the item (10 p. : #b digital, PDF file., 300 #a, #b) match the electronic resource exactly. In addition, the bibliographic record contains three subject headings (650 #a), an added entry (710 #a), and a URL (856 #u). Therefore, this is an appropriate record to use. (Tools needed for this step: *Census Effects on Access to Health Care*, AACR2r and MARC documentation.)

Step 9—Verify the access points. The cataloger needs to determine if the bibliographic record contains all of the access points that users may need for searching and retrieving the electronic resource. If the bibliographic record contains each of the required access points listed in the library's bibliographic input standard document, no additional fields are required. However, if the fields do not include all of the locally required access points, then the cataloger adds the missing fields and transcribes the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #52350828 contains data access points denoting the main entry (Rules 1.1F, 9.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 9.1B, and 9.1E), subject headings (no rule *per se*), and added entry for the government agency (Rules 1.1F, 9.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5), and URL (no rule *per se*). It is incumbent upon the cataloger to review each access point and make certain that the data are transcribed correctly into the MARC fields and subfields with the correct indicators.

The following access points appear in the selected bibliographic record: title (*Census Effect on Access to Health Care*), two geographic subjects (United States – Statistics, Medical; United States – Census, 2000, 651 #a, #x), a topical subject (Health services accessibility – United States, 650 #a, #z), and an added entry for the government agency (U.S. Census Monitoring Board. Presidential Members, 710 #a, #b). The cataloger verifies the correct transcription of each access point and reviews the fixed fields to be certain that they correlate accurately with these data. (Tools needed for this step: *Census Effects on Access to Health Care*, AACR2r and MARC documentation.)

Step 10—Verify the classification. The cataloger needs to determine that a classification notation for federal documents is present in the bibliographic record. However, if the library policy is to reclassify the work in LLC or DDC, then the cataloger needs to add an appropriate call number and a correct Cutter designation.

In this example, OCLC record #52350828 contains the government document classification notation (o86 #a). The *SuDocs* notation (o86 #a) is Y 3.2:C 33/2003011900. Librarians at the Government Printing Office (GPO)⁴⁸ contributed the bibliographic record and prepared the notation. (Tools needed for this step: *Census Effects on Access to Health Care*, AACR2r, MARC documentation, and classification scheme.)

Step 11—Determine other tags to include. If the online bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they should be transcribed according to the rules in AACR2r and placed correctly into fields and subfields as required by MARC documentation.

In this example, OCLC record #52350828 contains several other tags containing data required to describe the electronic resource. These tags include systems requirements and mode of access (Rule 9.7B1, 538 #a), bibliographical references note (Rule 9.7B18), three general notes (Rules 9.7B10 and 9.7B11, 500 #a), and a series note (Rules 1.6 and 9.6). The cataloger is responsible for adding an extent of the item field (Rule 9.5C3, 300 #a). (Tools needed for this step: *Census Effects on Access to Health Care*, AACR2r, and MARC documentation.)

Step 12—Review each point of access in the authority file. The cataloger needs to verify points of access in the bibliographic record against authority records. The bibliographic record does not carry an indication that it

was created at a Program for Cooperative Cataloging (PCC) library (042 #a) or the Library of Congress (040 #a). However, the record was prepared at the Government Printing Office (GPO), so the cataloger accepts the forms of entries.

In the fixed field, the record status, date the record was entered, date replaced, record type, the record status, bibliographic level, the description, record status, and the encoding level should not require modification. The fixed field data elements (008) that must match the data that have been transcribed in the variable fields (1XX-8XX) include the type of material form (monograph = a), format (electronic = s), contents (bibliography = b; statistics = s), source (document in hand = d), conference (not a conference proceeding = o), government publication (federal = f), festschrift (not a festschrift = o), literary form (non-fiction = o), date type (publication / distribution date = s), language (English = eng), country of publication (Maryland, USA = mdu), and date (date = 2006). In this example other fixed field data elements should be blank (illustration, audience, biography, control, and modified record). The cataloger reviews the fixed field and compares the characters in the bibliographic record to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.) The bibliographic record for *Census Effects on Access to Health Care* appears in Figure 7.2.

After all of the data have been entered and verified in the authority file, the cataloger should review the bibliographic record, check for transcription errors, fix punctuation marks, and correct spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, standard number).

006	m	d	f
008	030602s2001	mdu	sb fo00 o eng d
043	n-us---		
074	1089	(online)	
086	o	Y 3.2:C 33/2003011900	
100	1	Gaskin, Darrell J.	
245	10	Census effects on access to health care #h [electronic resource] / #c [Dr. Darrell Gaskin].	
260		[Suitland, Md.] : #b U.S. Census Monitoring Board, Presidential Members, #c [2001]	
300		10 p. : #b digital, PDF file.	
440	o	Report series (U.S. Census Monitoring Board) ; #v report no. 09	
500		Title from title screen (viewed on June 2, 2003).	
500		"The Presidential Members of the U.S. Census Monitoring Board present the research findings of Dr. Darrell Gaskin..."	
500		"February 2001."	
504		Includes bibliographical references.	
538		System requirements: Adobe Acrobat Reader.	
538		Mode of access: Internet from the UNT Cybercemetery web site. Address as of 6/2/2003: http://library.unt.edu/cmb/cmbp/downloads/report-022001-.pdf ; current access available via PURL.	
650	o	Health services accessibility #z United States.	
651	o	United States #v Statistics, Medical.	
651	o	United States #x Census, 2000.	
655	o	Government publications.	
710	2	U.S. Census Monitoring Board. #b Presidential Members.	
856	40	#u http://govinfo.library.unt.edu/cmb/cmbp/downloads/report-022001-health.pdf	

Figure 7.2. Bibliographic record for *Census Effects on Access to Health Care*.

Example two: *The Office Romance: Playing with Fire without Getting Burned*

Step 1—Examine the information package. The cataloger determines that the information package is an electronic book of a previously released non-fiction work published in hardcover and paperback editions. The entire electronic book is present and does not include inserts or accompanying items. According to *AACR2r*, the e-book is a single-part bibliographic resource (Rules 1.0A2 and 9.0A). (Tools needed for this step: *The Office Romance: Playing with Fire without Getting Burned* and *AACR2r*.)

Step 2—Identify the correct MARC 21 format to use. The cataloger determines that the MARC 21 bibliographic format for monographs is required. (Tools needed for this step: *The Office Romance: Playing with Fire without Getting Burned* and MARC documentation).

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information on the electronic book (Rules 1.0A3a, 9.0B1, and 9.0B2). These data are the most credible elements that the cataloger transcribes into the bibliographic record (see Figure 7.3). Using the guidelines for punctuation (Rules 1.0C and 9.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 9.0D). In order to consider each of the required data elements, the cataloger uses sections of chapter 1 and chapter 9. (Tools needed for this step: *The Office Romance: Playing with Fire without Getting Burned* and AACR2r).

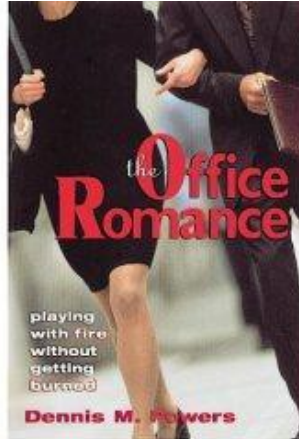


Figure 7.3. Cover packaging for The Office Romance: Playing with Fire without Getting Burned.

Step 4—Find standard numbers. The producer, netLibrary, included the ISBN. According to AACR2r (Rules 1.8B and 9.8B), the bibliographic record requires the inclusion of standard numbers when present. (Tools needed for this step: *The Office Romance: Playing with Fire without Getting Burned*, AACR2r, and MARC documentation.)

Step 5—Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is OCLC. The cataloger gains access to WorldCat® through the institutional subscription and the student frequently has permission through a formal agreement between the library school and OCLC. The OCLC database requires a unique authorization and password.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home page, the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*. The *Librarian's Toolbox* page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, and WorldCat® tools. When the searcher chooses Connexion in the logon links section, the WorldCat® Services login page appears. Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password).

Step 6—Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the electronic book. The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible. At the top of the screen the searcher will find a command line search capability. To use this type of search, the scan or an alphanumeric command is required.

The searcher should use the scan command in order to find a work by derived, keyword or phrase searches. Keyword searches enable the user to search by word, number, phrase or whole phrases with appropriate punctuation. The equal sign (=) indicates that a phrase or whole phrase index will be searched; a colon (:) indicates that a word index will be queried. Boolean operators (and, or, not) may be used to combine searches. In this example, a correct search protocol is as follows: scan ti=office romance playing with fire without getting burned.

The title that matches the search protocol is shown in bold type with the number of associated bibliographic records displayed in the column at the right-hand edge of the screen.

Three individual bibliographic records appear and represent print and electronic formats. The data for the title (245 #a), name (100 #a), publisher (260 #b), date (260 #c), and designation of the national library creating the record (in the case of the third record) appear. The first and third records are print resources and the second listing represents an electronic resource.

Double-clicking on the number 2 in the left-hand column results in a display of the individual bibliographic record. The record matches (OCLC #44961376). (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 7–Examine the search results. The cataloger must determine whether the bibliographic record and its title match the electronic resource. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 8–Determine if a bibliographic record matches the information package. In order to determine whether or not the bibliographic record matches the electronic book, the cataloger will check and verify the following data elements: format (Rule 9.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 6.1B, and 9.1D), subtitle (Rule 9.1E), general material designation (Rule 1.1C and 9.1C1), publisher and manufacturer (Rules 1.4D, 9.4D, and 9.4E), and publication date (Rules 1.4F and 9.4F).

The cataloger reviews OCLC #44961376 and determines that it matches the electronic book. The bibliographic record contains an exact match for the title (*The Office Romance: Playing with Fire without Getting Burned*, 245 #a), imprint (New York : #b American Management Association, #c 1999, 260 #a, #b, #c), and extent of the item (316 p. ; #c 24 cm., 300 #a, #c). In addition, the bibliographic record contains a note about the reproduction (533 #a), a subject heading (650 #a), an added entry (710 #a), and URL (856 #u). Therefore, this is an appropriate record to use. (Tools needed for this step: *The Office Romance: Playing with Fire without Getting Burned*, AACR2r and MARC documentation.)

Step 9–Verify the access points. The cataloger determines if the bibliographic record contains all of the access points that users may need for searching and retrieving the electronic book. If the bibliographic record includes the access points specified in the library's bibliographic input standard document, no additional fields are required. However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #44961376 contains data access points denoting the title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 9.1B, and 9.1E), subject headings, (no rule *per se*), and added entry for the manufacturer (Rules 1.1F, 9.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5). The bibliographic record contains these access points: title with subtitle (*The Office Romance: Playing with Fire without Getting Burned*, 245 #a, #b), a topical subject (Sex in the workplace, 650 #a), a genre heading (Electronic books, 655 #2), an added entry for the manufacturer (netLibrary, 710 #a), a link to the print edition (776 #a), and a URL (856 #u). The cataloger verifies each access point and the fixed field to determine that the content matches. (Tools needed for this step: *The Office Romance: Playing with Fire without Getting Burned*, AACR2r and MARC documentation.)

Step 10–Verify the classification. The cataloger determines whether or not the classification notation is part of the scheme that the library has adopted. If the bibliographic record includes a correctly formatted classification notation, the cataloger does not make modifications. However, if the classification notation does not correspond to the local scheme, then the cataloger needs to add an appropriate call number. In either instance, the cataloger is responsible for ensuring that a correct Cutter designation is added.

In this example, OCLC record #44961376 contains an *LCC* (050 #a) classification notation (HF5549.5.S45) with a Cutter (P69, 050 #b) and date (1999eb) and a *DDC* notation (331.2, 090 #a) without a Cutter (090 #b) or date. The cataloger adds a Cutter representing the main entry (POWERS) and a date (1999).

Regardless of which classification scheme is used locally, an accurate call number must be transcribed into the correct field. The cataloger is responsible for reviewing the classification notations in the bibliographic record and making certain that they are transcribed correctly for local library use. (Tools needed for this step: *The Office Romance: Playing with Fire without Getting Burned*, AACR2r, MARC documentation, and classification scheme.)

Step 11–Determine other tags to include. If the bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they should be transcribed according to the rules in AACR2r and placed correctly into fields and subfields as required by MARC documentation.

In this example, OCLC record #44961376 contains a bibliography and index note (Rule 9.7B18B), general notes for the characteristics of the electronic resource (Rule 9.7B10), narrator (Rule 9.7B7, 511 #a), and physical

description (Rule 9.7B10, 500 #a that must be updated to the new tag, 538 #a). The cataloger adds tags to bring the bibliographic record up to the requirements of the library's bibliographic input standard for electronic books.

Tags that need to be added include (but are not limited to) the following: formatted contents (Rule 9.7B18, 505 #a), mode of access (Rule 9.7B1), item described note (Rule 9.7B22, 500 #a), production (Rule 9.7B16, 533 #a), and three topical subject entries (650 #a). (Tools needed for this step: *The Office Romance: Playing with Fire without Getting Burned*, AACR2r and MARC documentation.)

Step 12—Review each point of access in the authority file. The cataloger needs to verify points of access in the bibliographic record against authority records. The bibliographic record does not carry an indication that it was created at a Program for Cooperative Cataloging (PCC) library (042 #a) or the Library of Congress (040 #a). Therefore, the cataloger must verify each point of access in an authority file.

To log into the Library of Congress authorities database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to its website. In the middle of the authorities page, the searcher chooses *Search Authorities*. The *Authorities Headings Search* page offers four types of searches: subject authority headings, name authority headings, title authority headings, and name/title authority headings. Search tips for each type of heading are linked to this site. Using an efficient search strategy saves time. Each access point is searched independently.

In this example, the cataloger must search for the corporate body in the added entry, four topical subject headings, and genre headings. To search for an individual the *name authority headings* is highlighted and the correct search protocol is entered: Powers, Dennis M. A listing of authority records appears as a result of the search. The number of bibliographic records in which the name appears, the form of the name and the type of heading appear in horizontal rows across the page. Headings with a red box in the left-hand column reading *authorized heading* can be viewed by double-clicking on the icon. The screen for the correct form of the name and its source (the Library of Congress Online Catalog) appear on the next screen.

In order to see the MARC version of the authority record, the searcher double-clicks on the name. Authority record # sh 94063219 contains the form of the name for the author with the correct field (100), indicators (1X), and subfield (#a). The cataloger reviews the authority record and compares it with the field in the bibliographic record to ensure that the data are transcribed and tagged correctly.

Searches for the subject headings require that the *subject authority headings* choice is highlighted and the correct search protocol is entered. A listing of authority records appears as a result of the search. The number of bibliographic records in which the subject appears, its correct form and the type of heading appear in horizontal rows across the page. Headings with a red box in the left-hand column reading *authorized heading* can be viewed by double-clicking on the icon. The correct form of the name and its source (the Library of Congress Online Catalog) appear on the next screen.

In order to see the MARC version of the authority record, the searcher double-clicks on the subject. Authority record #sh 85120615 contains the form of the subject for Sex in the workplace with the correct field (150) and subfield (#a). The cataloger reviews the authority record and compares it with the field in the bibliographic record to ensure that the data are transcribed and tagged correctly. This process is repeated for each subject heading.

In the fixed field, the record status, date the record was entered, date replaced, record type, the record status, bibliographic level, the description, record status, and the encoding level should not require modification. The fixed field data elements (008) that must match the data that have been transcribed in the variable fields (1XX-8XX) include the form (electronic = s), contents (bibliography = b), source (item in hand = d), conference (not a conference preceding = o), festschrift (not a festschrift = o), literary form (non-fiction = o), date type (publication / distribution date = s), language (English = eng), country of publication (New York, USA = nyu), and date (production date = 1999). In this example other fixed field data elements should be blank (illustration, government publication, audience, biography, control, and modified record). The cataloger reviews the fixed field and compares the characters in the bibliographic record to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.) The bibliographic record for *The Office Romance: Playing with Fire without Getting Burned* appears in Figure 7.4.

006	m	u
007	cr	cn-
008	000807s1999	nyu sb 001 o eng dcamLa
020	0585199019	(electronic bk.)
050 00	HF5549.5.S45	#b P69 1999
092 0	331.2	#b POWERS
100 1	Powers, Dennis M.	
245 14	The office romance #h [electronic resource] : #b playing with fire without getting burned /#c Dennis M. Powers.	
260	New York : #b American Management Association, #c c1999.	
300	xix, 316 p. ; #c 24 cm.	
500	Description based on contents viewed August 7, 2000.	
504	Includes bibliographical references (p. 305-312) and index.	
538	Mode of access: World Wide Web.	
505 1	The matchmaker -- Close encounters of a natural kind -- But what if? -- The law of romance--Where ends and harassment begins -- How cold's the climate? Getting to know you -- The new rules of romance -- Running from the blocks -- Partnering the relationship -- Dealing with those around you -- When love's in full bloom -- Good things do continue -- When good things come to an end -- Read this (before you hire a lawyer) -- Companies are people, too -- The twenty-first century.	
533	Electronic reproduction. #b Boulder, Colo. : #c NetLibrary, #d 2000. #n Available via the World Wide Web. #n Available in multiple electronic file formats. #n Access may be limited to NetLibrary affiliated libraries.	
650 0	Sex in the workplace.	
650 0	Sexual ethics.	
650 0	Employees #x Interpersonal relations.	
650 0	Man-woman relationships.	
655 7	Electronic books. #2 lcsb	
710 2	NetLibrary, Inc.	
776 1	#c Original #w (DLC) 98027074 #w (OCoLC)39340252	
856 4	#3 Bibliographic record display #u http://www.netLibrary.com/urlapi.asp?action=summary&v=1&bookid=16205 #z An electronic book accessible through the World Wide Web; click for information	

Figure 7.4. Bibliographic record for *The Office Romance: Playing with Fire without Getting Burned*.

After all of the data have been entered and verified in the authority file, the cataloger reviews the bibliographic record, checks for transcription errors, fixes punctuation marks, and corrects spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, standard number).

Example three: *Sesame Street Toddler*

Step 1—Examine the information package. The cataloger determines that the work is a pair of interactive compact discs. The entire information package is present and includes an installation sheet. According to *AACR2r*, the information package is a single-part bibliographic resource (Rules 1.0A2 and 9.0A). (Tools needed for this step: *Sesame Street Toddler* and *AACR2r*.)

Step 2—Identify the correct MARC 21 format to use. The cataloger determines that the MARC 21 bibliographic format for monographs is required. (Tools needed for this step: *Sesame Street Toddler* and MARC documentation.)

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information on the information package (Rules 1.0A3a, 9.0B1, and 9.0B2). These data are the most credible elements that the cataloger transcribes into the bibliographic record (see Figure 7.5). Using the guidelines for punctuation (Rules 1.0C and 9.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 9.0D). In order to consider each of the required data elements, the cataloger uses sections of chapter one and chapter nine. (Tools needed for this step: *Sesame Street Toddler* and *AACR2r*.)

Step 4–Find standard numbers. The manufacturer, Encore Software™, included a publisher’s number on the compact discs. According to AACR2r (Rules 1.8B and 9.8B), the bibliographic record requires the inclusion of standard numbers if they are present on the information package. (Tools needed for this step: *Sesame Street Toddler*, AACR2r and MARC documentation.)

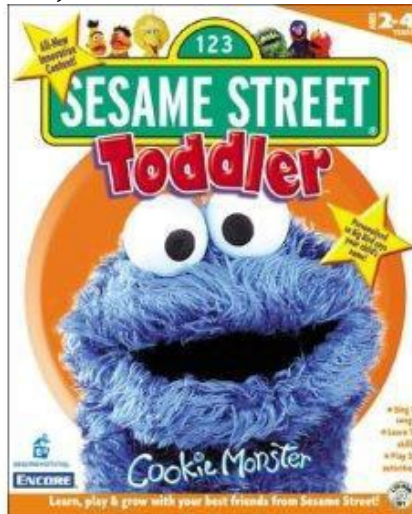


Figure 7.5. Cover for *Sesame Street Toddler*.

Step 5–Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is OCLC. The cataloger gains access to WorldCat® through the institutional subscription and the student has permission through a formal agreement between the library school and OCLC. The OCLC database requires a unique authorization and password.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home page, the searcher chooses the searcher chooses *Products and Services* and clicks on *Librarian’s Toolbox*. The *Librarian’s Toolbox* page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, and WorldCat® tools. When the searcher chooses Connexion in the logon links section, the WorldCat® Services login page appears. Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 6–Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the information package and its physical format. The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible: command line and keyword/numeric. Because the title for this sound recording is a single word, the most efficient search is using the publisher’s number.

The cataloger enters the publisher’s number (3145214642) in the top box in the left-hand column and uses the pull down box to select publisher number (mn:). No bibliographic records appear. Therefore, the cataloger enters the title as follows: scan ti=sesame street toddler. Seven possible matches appear on the screen. The data for the title (245 #a), name (100 #a), publisher (260 #b), and date (260 #c) appear; the column to designate that a national library created the record is blank.

Double-clicking on number in the left-hand column results in a display of the individual bibliographic record. The cataloger reviews each record with a 2002 date (OCLC #49744809, #49994198, #50862191, and #51721389). (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 7–Examine the search results. The cataloger must determine which bibliographic record matches the information package and physical format. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 8–Determine if a bibliographic record matches the information package. In order to determine whether or not the bibliographic record matches the information package, the cataloger will check and verify the following data elements: format (Rule 9.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 9.1B, and 9.1D), general material designation (Rule 1.1C and 9.1C1), version (Rules 1.2B and 9.2B), publisher (Rules 1.4D, 9.4D, and 9.4E), publication and release dates (Rules 1.4F and 9.4F), and system requirements (Rules 9.2B1 and 9.7B1).

The bibliographic record for the CDs in-hand (OCLC #50862191) contains data elements that match the information package exactly. In this example, data for the title (Sesame Street Toddler, 245 #a), imprint ([Los Angeles, Calif.] : #b Encore, #c 2002 + #e 1 installation sheet (12 x 12 cm.), 260 #a, #b, #c, #e) match the information package exactly. In addition, the bibliographic record contains three topical subject headings (650 #a), an added entry (710 #a), a uniform title for the television series (730 #a), and variant title added entries for the individual discs (740 #a). Therefore, this is an appropriate record to use. (Tools needed for this step: *Sesame Street Toddler*, AACR2r and MARC documentation.)

Step 9–Verify the access points. The cataloger determines if the access points users may need for searching and retrieving the information package are present. If the bibliographic record includes the access points specified in the library's bibliographic input standard document, no additional fields are required. However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #50862191 contains data access points denoting the title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 9.1B, and 9.1E), three topical subject headings, (no rule *per se*), an added entry (Rules 1.1F and 9.1F), a uniform title for the television series (Rules 1.1B and 9.1B), and variant title added entries for the individual discs (Rule 9.1G). It is incumbent upon the cataloger to review and verify each access point to make certain that the data are transcribed correctly into the MARC fields, subfields, and indicators. (Tools needed for this step: *Sesame Street Toddler*, AACR2r and MARC documentation.)

Step 10–Verify the classification. The cataloger needs to determine if the classification notation present in the bibliographic record is part of the scheme that the library has adopted. If the bibliographic record includes a classification notation correctly formatted in the local scheme, the cataloger does not need to make modifications. However, if the classification notation does not correspond to the local scheme, then the cataloger needs to add an appropriate call number. In either instance, the cataloger is responsible for ensuring that a correct Cutter designation is added.

In this example, OCLC record #50862191 contains a DDC classification notation. The DDC (o82 #a) notation is 372.21 without a Cutter (o82 #b) or date. It is incumbent upon the cataloger to review the classification notation for the scheme used in the library and make certain that it and the Cutter are transcribed correctly into the MARC field and subfields with the correct indicators. The cataloger adds a designation for children's interactive multimedia (o82 #f), and a Cutter representing the main entry (SESAME). (Tools needed for this step: *Sesame Street Toddler*, AACR2r, MARC documentation, and classification scheme.)

Step 11–Determine other tags to include. If the bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they should be transcribed according to the rules in AACR2r and placed correctly into fields and subfields as required by MARC documentation

In this example, OCLC record #50862191 contains several other tags containing data required to describe the information package. These tags include general notes (rule 9.7B5, 500 #a), audience (Rule 9.7B14, 521 #a), summary (Rule 9.7B17, 520 #a), physical description (Rule 9.7B10, 538 #a), and formatted contents (Rule 9.7B18, 505 #a). The cataloger deletes the general note containing the manufacturer's numbers (20100-CD3 & 20100-CD6, 500 #a) and adds a topical subject heading (Early childhood education–Interactive multimedia, 650 #a, #v) and two genre headings (Interactive multimedia; CD ROMs, 655 #a) in order to bring the bibliographic record up to the requirements of the library's bibliographic input standard for electronic resources. (Tools needed for this step: *Sesame Street Toddler*, AACR2r and MARC documentation.)

Step 12–Review each point of access in the authority file. The cataloger verifies points of access in the bibliographic record against authority records. The bibliographic record does not carry an indication that it was created at a PCC library (o42 #a) or the Library of Congress (o40 #a). Therefore, the cataloger is responsible for the verification of the forms of entries in an authority file for each point of access.

When the cataloger uses OCLC to search for authority records, the login process is the same until the welcome screen for the OCLC Connexion® Services appears. The authorities tab in the upper left-hand section (to the right of the cataloging tab) on the page needs to be highlighted in blue in order to search the authorities file. At the top of the screen, the searcher will find a command line search capability. To use this type of search, scan is used with a

designation for the personal name (pn), corporate body (co), title (ti) or subject (su). In this example, a correct search protocol for the composer is as follows: scan ti=sesame street television.

The correct entry appears at the top of the list on the search results screen. The name that matches the search protocol is shown in bold type with the number (designated by R) of associated bibliographic records displayed in the column at the right-hand edge of the screen. Double-clicking on the number adjacent to the name in bold type results in a display of the individual authority records (designated by E) and gives data about the individual and associated titles. Additional types of derived searches are described in OCLC documentation.

In this example, the authority record for the uniform title is OCLC #ARN 298267 with Library of Congress Control Number #n 79065347. The cataloger reviews the authority record and compares it with the field in the bibliographic record. The authority record contains matching data that are transcribed and tagged correctly (130 #a) and notes about the television program (670 #a).

Searches for the subject headings require search protocol as follows: scan su=educational games. A listing of authority records appears as a result of the search. The number of authority records for the subject and its correct form appear in horizontal rows across the page. Double-clicking on the number adjacent to the name in bold type results in a display of the individual authority records (designated by R) and gives data about the subject.

In this example, a single authority record exists for the subject heading educational games (OCLC #ARN 2114079) with Library of Congress Control Number sh 85041126 (010 #a) contains the form of the name for the subject with the correct field (150) and subfield (#a). The cataloger reviews the authority record and compares it with the fields in the bibliographic record to ensure that the data are transcribed and tagged correctly. This process is repeated for each subject heading and the genre heading. Regardless of which search method is selected, the authority record for each access point is the same.

In the fixed field, the record status, date the record was entered, date replaced, record type, the record status, bibliographic level, the description, record status, and the encoding level should not require modification. The fixed field data elements (008) that must match the data that have been transcribed in the variable fields (1XX-8XX) include the type of material form (computer file = m), type of computer file (interactive multimedia = i), source (item in hand = d), audience (juvenile = j), date type (publication date = s), language (English = eng), country of publication (California, USA = cau), and date (production date = 2002). In this example other fixed field data elements should be blank (government publication, control, and modified record). The cataloger reviews the fixed field and compares the characters in the bibliographic record to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.) The bibliographic record for *Sesame Street Toddler* appears in Figure 7.6.

After all of the data have been entered and verified in the authority file, the cataloger reviews the bibliographic record, checks for transcription errors, fixes punctuation marks, and corrects spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, standard number).

```
007    co cga
008    021025s2002 cau j i eng d
024 1  705381201205
028 52 20100-CD3 #b Encore
028 52 20100-CD6 #b Encore
082 04 372.21 #221
092 0   #f J IMM #a 372.21 #b SESAME
245 00  Sesame Street toddler #h [electronic resource].
246 10  Toddler
260     [Los Angeles, Calif.] : #b Encore, #c c2002.
300     2 CD-ROMS : #b sd., col. ; #c 4 ¾ in. + #e 1 installation sheet (12 x 12 cm.).
500     Title from disc surface label.
505 0   Disc 1. Names (version 2.0) -- Disc 2. Games (version 3.0).
520     Toddlers will learn about: music, colors, letters, shapes, animals, numbers, creativity,
        matching, counting, sorting & grouping, professions, listening skills, language
        development, objects & sounds, computer & mouse skills.
521     Ages 2-4 years.
538     Windows CD-ROM.
538     System requirements for Windows: Pentium 266MHz; 32MB RAM; 28MB free hard
        disk space; 8x CD-ROM drive; Windows 95/98/ /2000; DirectX 7.0; color monitor-16
        bit (thousands of colors) with 640x480 resolution; Windows compatible sound card;
        standard keyboard and mouse.
650 0   Education, Preschool #v Interactive multimedia.
650 0   Toddlers #x Education #v Interactive multimedia.
650 0   Educational games #v Juvenile software.
650 0   Early childhood education #v Juvenile software.
655 0   Interactive multimedia.
655 0   CD-ROMs.
```

- 710 2 Encore Software, Inc.
730 0 Sesame Street (Television program)

Summary

This chapter includes information and explanations about cataloging electronic resources using the MARC bibliographic format, cataloging tools and documentation, MARC fixed and variable fields, and steps in the bibliographic description. Adapting, enhancing or constructing a bibliographic record for electronic resources facilitates a heightened awareness, identification, and retrieval to all information resources in the library collection; consistency of access and retrieval for users; and, international efforts in cooperative cataloging. Developed independently by colleagues charged with specific responsibilities, specialized cataloging tools are used with companion resources. Learning when and how to use each of the cataloging tools and documentation during the cataloging process is an important aspect of becoming a proficient cataloger.

Contributing bibliographic records to an online public access catalog requires the cataloger to use *AACR2r* and MARC together. *AACR2r* contains the rules for transcribing bibliographic data and MARC explains the structure into which the data that comprise records are placed. Rules in *AACR2r* follow an outline for description and access points for names and titles. The MARC bibliographic format enumerates the possible fields, subfields, and indicators for data required to describe the electronic resource and its physical format.

Providing subject and classification access in bibliographic records for an online catalog requires the cataloger to use specialized tools in conjunction with MARC documentation and *AACR2r*. Because of the unique characteristics of electronic resources, the cataloger uses the *LCSH* for the assignment of topical terms, and *GSAFD* for genre headings.

The purpose of classification is to group information packages on similar and related topics together from general to specific and to lead the user to them. Catalogers use *Library of Congress Classification*, the *Dewey Decimal Classification* scheme or the *Superintendent of Documents Classification scheme* to determine the arrangement of electronic resources for children, teens and adults.

The cataloging process for these materials consists of five related tasks: identification of the type of media, descriptive cataloging, subject analysis (subject cataloging or indexing), authority control, and classification. Learning the unique aspects of the cataloging process for electronic resources requires familiarity with relevant national and international standards, technical aspects of the media itself, and an understanding of computer technologies. The successful completion of each task results in the construction or enhancement of a bibliographic record that represents the electronic resource and the equipment required to use it.

Review exercises

Please prepare a bibliographic record using the MARC format for the following titles.

- **Wyoming: A Sourcebook** (electronic resource; ISBN 058503673X)
- **The College Bluebook** (electronic resource; 33rd ed., 2006; ISBN 0028660692)
- **ERIC Database** (electronic resource, <http://www.eric.ed.gov>)
- **Statistical Package for the Social Sciences (SPSS)** (electronic resource, software, version 15.1)
- **Ivanhoe: a novel by Sir Walter Scott** (electronic resource; ISBN 058508694X)

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Cataloging cartographic materials

Traditionally, geography and cartography have not enjoyed status as significant components of social science. Geographic information systems (GIS) and digital mapping resulted in new importance and increased demand for maps, globes, atlases, remote-sensing images and geospatial data. The integration of bibliographic records for cartographic materials is becoming more prevalent as librarians and their information professional colleagues expand access to legacy printed map collections and digital assets in the twenty-first century.

Maps are graphic representations or scale models of spatial concepts. Because maps convey geographic information, they serve as a universal medium for communication, easily understood and appreciated by most people, regardless of language or culture. Incorporated in a map is an implied understanding of an idea, a single picture or a selection of concepts from a constantly changing database of geographic information.¹ Early maps provide important knowledge about times past, the philosophy and cultural basis of the area and people. Historically, maps were a means by which scientists distributed their ideas and passed them on to future generations.

A map is the product of human endeavor. Although it is subject to unintentional errors, misrepresentations or bias, a map is made according to basic assumptions that are not always true or verifiable. Field measurements are subject to accuracy and precision errors. Aerial photographs and satellite images portray selected portions of the light spectrum and are filtered through the atmosphere and detection instruments. No single map depicts all physical, biological, and cultural features for an area. Consequently, maps represent selected features, which are portrayed usually in highly symbolic styles according to a standardized classification scheme. Maps provide estimations, generalizations and interpretations of true geographic conditions. Despite these limitations, maps are remarkably adaptable and have proven to be useful, essential documentation throughout human civilization. Maps of all kinds are fundamentally important for modern society.

Cataloging map collections provides significant challenges. Davis and Chervink's research suggests that the number of librarians who prepare full-level bibliographic records for maps is significantly lower than that of other resources.² They report that the level of cataloging ability among map librarians results in a disproportionately high reliance on a limited number of libraries with staff members who create full-level bibliographic records and contribute them to a bibliographic utility.

The bibliographic record for cartographic materials provides access and retrieval that parallel those available for print resources. The application of internationally accepted cataloging standards to maps, globes and atlases ensures that the physical formats, geographic coverage, historical period, and other characteristics unique to them are readily evident to users through the data contained in bibliographic records.

Standardized bibliographic description at level two or level three in *Anglo-American Cataloging Rules*, 2nd edition, revised (*AACR2r*)³ for cartographic materials facilitates a heightened awareness, identification, and retrieval to all information resources in the library collection; consistency of access and retrieval for users; and, international efforts in cooperative cataloging by sharing bibliographic records in local, regional, national and global databases.

Map collections in libraries

The map is one of the oldest forms of nonverbal communication. Historians and geographers believe that humans in every part of the world were drawing maps before they were writing texts. Mapmaking may even predate formal language. The beginning of modern cartography or mapmaking dates back to the earliest known maps, a wall painting in the Turkish city of Çatal Hüyük drawn in the seventh century BC,⁴ the *House of the Admiral* wall painting in Minoan dated approximately 1600 BC, and an engraved map of Nippur, a city in Babylonia from the Kassite period (1300 – 1100 BC).⁵ As early as the fifteenth century, cartographers copied earlier maps and drew their own based on explorers' observations and surveys. Technological advancements resulted in the development of magnetic compass, telescope and sextant and enabled cartographers to improve the accuracy and reliability of their maps.

Early mapmakers used brushes and parchment to create maps. Although these maps varied in quality and had limited distribution, map users relied on them. With the advent of the compass in the early fourteenth century, mapmakers relied on the device to find magnetic north.⁶ A British engineer, Oberlin Smith, suggested the feasibility of magnetic storage devices in 1888, although he did not build a working model. By 1899, Danish engineer Valdemir Poulsen invented a metal wire recorder.⁷ In 1928, Fritz Pfleumer introduced the first magnetic tape recorder for analog sounds. At the end of the twentieth century, magnetic storage devices record digital data on computer hard disks and the recording of analog sound and video on tape. In 2006, a new magnetic storage medium, Magnetoresistive Random Access Memory (MRAM), is expanding the capacities of flash memory (Flash RAM) and dynamic random access memory (DRAM).⁸ Mapmakers and cartographers in the twenty-first century are able to create far more accurate maps that they can store and manipulate digitally.

The invention of the printing press, quadrant, and vernier scale in 1631 by French mathematician Pierre Vernier

enabled cartographers to make accurate reproductions of maps, thereby fostering the mass production of maps. Advances in photochemical technologies supported the creation of maps with fine details that do not lose their shape with use and handling. The use of lithography replaced the need for engraving and decreased the time required to produce a map. By the twentieth century, the use of computer technologies enabled cartographers to use remote and document scanners, plotters, and visualization image processing, spatial analysis and database software to expand and enhance mapmaking. The ability to superimpose spatially located variables onto existing maps created new uses and industries to explore and exploit these potentials.⁹

Library of Congress began collecting maps soon after its establishment in 1800. When the library moved to a separate building in 1897, the Hall of Maps and Charts served as the custodial unit for a collection of 47,000 maps and 1,200 atlases.¹⁰ Located in the Thomas Jefferson Building, the Map and Geography Division operates the Geography and Map Reading Room and is responsible for the acquisition, cataloging and preservation of the cartographic collections that include more than 5.2 million maps, 80,000 atlases, 6,000 globes, and three-dimensional relief models, in addition to a growing number of digital assets. The Map and Geography Division provides access and information services to an international community of cartographers, geographers, historians, archivists, scholars, and researchers.

Collection development and cartographic materials

The recognition of cartographic materials as essential information and educational resources is critical for the development of the collection of maps, globes and atlases. A significant number of large map collections participate in the US Federal Depository Library Program.¹¹ Therefore, their collection development policies align with federal guidelines and requirements for collecting, organizing, preserving, and providing equitable access to materials.

Comprehensive collections include sheet maps, aerial photographs, historical maps, Sanborn Fire Insurance maps, globes, atlases, and GIS data sets. Sheet maps include general topographic, geologic, nautical, and aeronautical coverage. Patrons and library staff members expect to find computers with Internet access, scanners, printers, and GIS software co-located with a comprehensive cartographic collection. Librarians build a collection with the addition of cartographic and geographic reference books and gazetteers.

Criteria that govern the selection of cartographic materials include timeliness, usefulness, popular demand, artistic merit, permanent value, the need for and availability of information or materials in the subject area, authoritativeness, and cost. Collection building and maintenance requires that selections represent a variety of viewpoints and opinions to meet community needs. Libraries provide free and equal access to the entire range of library resources and formats, including maps, atlases, and globes.

Primer of cartographic materials

Cartographic materials include three distinct types of materials: sheet maps, globes and atlases. This type of materials includes two- and three-dimensional maps (including imaginary places); aeronautical, nautical and celestial charts; globes; atlases; block diagrams; sections; aerial photographs with cartographic purposes; and bird's eye views (map views). An understanding of cartography is essential in order to work effectively with maps, globes and atlases.

Two types of cartography exist: general cartography and thematic cartography. General cartography is focused on the production of general use maps for general use containing numerous features. The topographical maps issued by the US Geological Survey¹² show topographic features (those on the surface of the earth) and contour intervals (representing differences in elevation). Terrain (or relief) provides a statement of the elevation, slope and features of the land. Topographic maps serve general purposes and indicate relief (changes in the vertical dimension of the land surface or bathymetry under water surface).¹³

Thematic cartography focuses on maps designed with a specific purpose for a specialized audience. Because the potential to create maps with specialized content for specific geographic locations has increased through the use of digital imaging, thematic maps have become more popular and prevalent in technical reports, government documents and commercial publications.

Library faculty who teach beginning cataloging courses face the challenge of answering the multitude of "why are there so many sizes?" and "which side is the main map?" questions from students who are easily confused by the preponderance of unfamiliar terms, bibliographic control jargon, rules, interpretations, practices, formats, and technical requirements for appropriate data element behavior within the local institution's online environment.

Building on the three processes required to catalog monographs, the library school student or novice cataloger adds MARC fields that reflect the unique physical characteristics and content of cartographic materials. They learn to distinguish and describe the work (descriptive cataloging), determine where it fits into a given hierarchy (classifying), and discern the concepts addressed through subject analysis (subject cataloging). Each of these tasks requires the use of specialized cataloging tools and documentation that are used for the transcription of data for cartographic materials into the MARC bibliographic format.

Survey findings suggest that academic libraries build and maintain the majority of cartographic collections.¹⁴ Sheet maps and atlases make up a significant portion of academic library cartographic collections. In addition to supporting instruction and learning, cartographic materials provide unique resources for research, an important fact due to the inclusion of a place in approximately 80 per cent of information.¹⁵

This chapter includes a review of representative information packages (i.e. sheet map, globe and atlas) that are considered to be cartographic materials, specialized cataloging tools and documentation, MARC fixed and variable fields as they correlate to the steps required to catalog information packages.

Unique characteristics in bibliographic records for cartographic materials

Sheet maps, globes and atlases have unique characteristics that need to be reflected in the bibliographic record. Patrons and library staff members depend on bibliographic records displayed in the online public access catalog (OPAC) to indicate key information about cartographic materials, including (but not limited to) the physical format, size, scale, and projection. Patrons consult and use a significant proportion of cartographic materials as a result of searching and identifying specific works. Unless data elements display correctly in the OPAC, the larger the collection size, the greater the probability that the patron will be unable to identify cartographic resources that the library owns. When patrons and library staff members place reserves on these materials, they rely on the data in the bibliographic record to ensure that the correct item in the desired physical format is selected. Careful attention to detail during the cataloging process makes clear the descriptive data for each title and physical format.

Cartographic materials can be characterized by eight unique characteristics. These characteristics include the following: presence of a standard number, use of titles and variant titles, use of a non-displayed general material designation (GMD), statements of responsibility, scale information, statement of projection and coordinates, unique characteristics of globes, and extensive use of note fields for descriptions of relief, physical features, and information included on sheet maps. Each of these characteristics is described briefly.

Presence of a standard number

When searching for a standard number, the cataloger will usually find an ISBN for an atlas. Standard numbers for commercial or privately published cartographic materials are less likely to be present. Government publications include the *Superintendent of Documents (SuDocs)* classification notation.¹⁶ The ISBN is customarily found on the verso of the title page or the back cover. Transcribed as required by the cataloging rules in *AACR2r* (Rules 3.8B and 3.7B19), the ISBN can be used to search online catalogs and bibliographic utilities. If a standard number is not located on the information package or its packaging but can be identified with certainty from an auxiliary source, the cataloger should transcribe it (020 #a).

Use of titles and variant titles

When a single title proper does not appear on the information package, the cataloger needs to check for the presence in other forms. If the cataloger cannot identify a single title, both a main title (Rules 1.1B and 3.1B, 245 #a), other titles (called scattered titles) and alternative forms of these titles may be transcribed so that they can be acknowledged for user recall and browsing.

The cataloger is responsible for identifying and transcribing the titles. If an alternative form of the title represents the entire main map (located on the recto or the sheet), then it is transcribed in the variant title field (Rules 1.1E, 1.7B4, 1.7B5, 3.1E, 3.7B4, and 3.7B5, 246 #a). If the scattered title represents an inset map or a portion of the map, then it is transcribed as an uncontrolled or related title added entry (740 #a).

Use of a non-displayed general material designation

The cataloger must determine and transcribe the correct general material designation (GMD) term (Rules 1.1C and 3.1C; 245 #h) within square brackets. A single term, “cartographic material”, is used to designate sheet maps, globes or atlases. Although the use of this term is correct and represents all types of cartographic resources, patrons and library staff members can become confused. However, the practice among bibliographic utilities and integrated library systems is to suppress the display of the GMD for cartographic materials.

Statements of responsibility

Government agencies and corporate bodies produce the majority of contemporary cartographic materials and the cataloger transcribes them as the main entry (Rules 21.1B2 and 3.1F). In determining the main entry, the cataloger may identify individuals who contributed to the work. When a specific individual cannot be identified as the author (i.e. cartographer or surveyor), the cataloger may determine that a title main entry is more appropriate (Rule 3.1B) with statements of responsibility for persons and corporate bodies credited with a major role in the chief source of information (Rule 3.1F). In cases when the main entry is a title (245 #a), the cataloger can make added entries for each of the responsible individuals (Rule 21.6C2, 700 #a, #d) and firms named in the statement of responsibility (710 #a). Relator codes (#4) may be included as part of these added entries to designate roles and responsibilities. The cataloger is responsible for selecting, constructing and verifying that the forms of each added entry are transcribed into the bibliographic record according to local library cataloging policies.

Scale information

AACR2 rules require the cataloger to record the statement of scale in the cartographic mathematical data fields (Rules 3.3B1 and 3.3B2; 034 #a, #b and 255 #a). Scale information is generally given through words and numbers (called a verbal scale) or a mathematical formula (called a representational scale). The scale may be exact or approximate, requiring the use of square brackets and/or an abbreviation (ca.). For maps that are not drawn to scale, the cataloger indicates this fact by transcribing a general note: “Not drawn to scale” (Rule 3.3B5). If a scale is not given, the cataloger transcribes a second type of general note: “Scale not given”. When different scales are used on a single map or among parts of a work containing parts, the cataloger transcribes a third type of general note: “Scales differ” or “Scales vary” (Rule 3.3B3).

Statement of projection and coordinates

AACR2r rules require the cataloger to record the statement of projection if it appears on the information package, its container or accompanying material (Rule 3.3C1, 255 #b). If the projection is not given, then the cataloger proceeds to the coordinates.

Map coordinates enable a user to find a specific point on the surface of the earth or to locate a specific geographic location. When cataloging a map, the cataloger transcribed the latitude and longitude statements (called bounding coordinates and located at the outer edges of the sheet) in the geographic mathematical data field (Rule 3.3B4 and 3.3D; 052 #d, #e, #f, #g and 255 #c).

Unique characteristics of globes

Globes differ from other cartographic materials as they have a spherical shape and a stand. Globes are made of different materials (paper, metal, plastic or plaster) that the cataloger can identify by tapping gently. Titles for globes should be transcribed from the sphere and include the area covered (Rule 3.1E). Statements of responsibility (245 #c) and production (260 #b) may differ and are recorded in the bibliographic record. The physical description for globes is extensive and describes the color, materials, and mounting, followed by the diameter and container (Rule 3.5; 300 #a, #b, #c).

Extensive use of note fields

Map cataloging requires the addition of notes as prescribed in *AACR2r* (Rule 3.7B). Because note fields contain words and phrases critical for keyword searching, their presence enhances content and retrievability. These notes may include general information about the information package (Rule 3.7B1; 500 #a), expanded statements of responsibility (Rule 3.7B6), edition and history (Rule 3.7B7), specific mathematical details for celestial charts (Rule 3.7B8), intended audience (Rule 3.7B14; 521 #a), and other physical formats (Rule 3.7B16; 533 #a). The cataloger is responsible for identifying and constructing the additional note fields according to local library cataloging policies.

Cataloging tools and documentation for cartographic materials

Adapting, enhancing or constructing a bibliographic record to include descriptive data and points of access unique to cartographic materials requires the use of specialized tools. The descriptive cataloging of cartographic materials requires the use of specialized tools. Tools that the cataloger uses in this cataloging process include *AACR2r* (chapters 1, 3 and appendices), *Library of Congress Rule Interpretations (LCRI)*,¹⁷ MARC documentation for cartographic materials,¹⁸ a subject heading list such as the *Library of Congress Subject Headings (LCSH)*¹⁹ or specialized thesaurus, and the classification scheme used in the library such as the *Library of Congress (LCC)*,²⁰ *Dewey Decimal (DDC)*,²¹ or *Superintendent of Documents (SuDocs)*.²²

Using AACR2r and MARC 21 together

Constructing, enhancing or adapting the bibliographic description of cartographic materials in machine-readable records for an OPAC requires the cataloger to use *AACR2r* and MARC documentation concurrently. *AACR2r* contains the rules for the cataloger to follow for transcribing bibliographic data elements and MARC explains the structure into which these data appear in machine-readable records.

Rules in *AACR2r* follow an outline for description and access points for names and titles. The MARC bibliographic format enumerates the possible fields, subfields, and indicators for data required to describe the manifestation of the work. While the rules for description and access in *AACR2r* correspond to MARC fields and subfields, the order of each tool is unique and does not parallel the other. MARC formats contain fields or subfields for all possible access points and information codes that are not included in *AACR2r*.

Learning to catalog requires an understanding, interpretation and application of rules. Novice catalogers and library school students expect the rules in *AACR2r* to provide an exact answer to any cataloging problem or question. However, the rules are deliberately framed to show principles and make them generally applicable. The examples in *AACR2r* are more illustrative than prescriptive. These examples can be considered authoritative and provide guidance for the cataloger who will encounter instances that require judgment to apply a rule.

Anglo-American Cataloging Rules, 2nd rev. (AACR2r)

The cataloging code describes rules for the identification of bibliographic data and the mechanics of transcription (spacing, punctuation, capitalization, abbreviations, numerals, and initial articles). The *AACR2r* rules consider and depend on the distinction of two main processes: description and access points.

The rules for describing cartographic materials (maps, globes and atlases) can be completed in a level of description recommended in *AACR2r*. From a practical point of view, the level of completeness in description and display in the OPAC for cartographic materials should parallel other resources in the library's collection. After these decisions have been reached, the librarians can prepare a bibliographic input standards document that reflects the level of detail in the description and local cataloging practices specific to the collection.

Cataloging cartographic materials requires the use of two chapters in part one of *AACR2r*. The cataloger will use the general rules in chapter 1 and apply them to cartographic materials. Chapter 3 contains the rules applicable to the unique features and characteristics of cartographic materials and refers to chapter 1 for general rules. Part two of *AACR2r* covers the choice of access points for the main and added entries. The instructions in chapters 21-25 provide guidance for the cataloger to determine access points.

Chapter 21 contains general rules to determine access points (main headings and added entries) that can be used for searching online catalogs. Headings for persons, corporate body, geographic place names, and uniform titles appear in chapters 22-25. Rules that govern the construction of explanatory *see* and *see also* references appear in chapter 26. Each chapter is laid out in the same order using a mnemonic numbering scheme.

The appendices contain general rules for capitalization ("Appendix A"), abbreviations ("Appendix B"), numerals ("Appendix C"), a glossary ("Appendix D"), and initial articles (Appendix E"). Catalogers apply the rules and terms in the appendices to all formats that they encounter.

MARC documentation

The *MARC 21 Concise Format for Bibliographic Data* includes detailed field descriptions, guidelines and examples for applying the defined content, and conventions to be used for input consistency. Available in print and electronic versions, the *documentation* provides a reference guide to the content designators defined in each MARC format. The description includes each field (or tag), character position of the fixed-length data element fields, and defined indicators in the variable data fields and subfields. The documentation considers and depends on the cataloger's judgment to determine the type of information package, its physical format and to use applicable sections.

Designed to be a framework or carrier for the exchange and sharing of bibliographic information, the *MARC 21 Format for Bibliographic Data* contains guidelines that the cataloger can use for cartographic materials. These data include the following: main and variant forms of titles; personal, corporate and geographic place names; subjects and genre headings; notes; publication, distribution and manufacturing data; and, the physical description or extent of the item. Library school students and technical services paraprofessionals who are learning to catalog and increasing their technical skills and competencies to handle the projected media format will find the documentation for each of the MARC 21 formats is extracted from the larger document for ease of instruction and use. Therefore, for the purposes of this text, the documentation for the monographs format is extracted from the larger document for ease of instruction and use (see "Appendix F"). This appendix includes sample bibliographic records for cartographic materials, an explanation of the correlations between the fields and subfields in the MARC bibliographic format and *AACR2r*, and a worksheet for cataloging cartographic materials.

Using subject analysis and classification tools for cartographic materials

Providing subject and classification access in bibliographic records for an OPAC requires the cataloger to use specialized tools in conjunction with MARC documentation and *AACR2r*. Each library adopts one or more tools for these tasks. Bibliographic records may contain one or more types of subject headings. The types of subject headings include personal name, corporate names, uniform titles, topical subjects, geographic place names, genre headings, and local subject headings. *LCSH* and the *Getty Thesaurus of Geographic Names*²³ (*TGN*) contain topical terms from which the cataloger selects points of access.

The physical format of each cartographic resource may contain a classification notation in the bibliographic record. Libraries may choose to arrange their cartographic materials by title or subject for ease of browsing rather than to classify them. If the library does not classify individual cartographic items, a classification notation may be included in the bibliographic record for the convenience and use of other catalogers.

Each subject headings and classification tool includes instructions and guidelines. The MARC bibliographic format enumerates the possible fields, subfields, and indicators for data required for subject headings and classification notations. The array of possibilities in MARC exceeds the individual fields and subfields that an individual record requires. The rules in *AACR2r* do not contain guidance for the assignment of subject headings or classification notations.

Because these tools are developed and updated independently, the cataloger needs to understand the purposes, instructions, and strategies to combine the content in the cataloging process. An overview of *LCSH*, the *TGN*, and the *Library of Congress G Schedule*²⁴ for cartographic materials provides insights into their use together with *AACR2r* and MARC documentation in the cataloging process.

Subject headings

An individual subject heading provides an access point within the bibliographic record and consists of a word or phrase to designate topics and aspects contained in the work. Catalogers use the *LCSH* and the *TGN*. These alphabetical lists of subject headings provide standard terms that can serve as useful access points to assist online catalog users identify and retrieve bibliographic records for specific cartographic resources. The subject headings enable searchers to identify cartographic resources in a variety of physical packaging.

The number and specificity of subject headings in *LCSH* reflect the nature and scope of the Library of Congress collections. Subject specialists construct new headings as needed to provide access to information packages during the cataloging process and establish links among existing headings. Available in print, microform and electronic versions, *LCSH* includes subject headings contributed by libraries participating in cooperative activities with the Library of Congress that reflect the needs of their local collections.

Additions, modifications and deletions to subject headings list occur to maintain currency and viability. These changes impact new and existing bibliographic records. Catalogers and technical services managers must evaluate and determine an appropriate balance between the need for change and the need for consistency among subject headings. Therefore, during the cataloging process the cataloger consults the subject headings list or authority file to verify the form of the headings selected for access.

Genre and specialized subject headings in the *TGN* can be used to improve access for place names and concepts related to geography, maps, and other cartographic materials in all formats. Available online, *TGN* includes access to a compiled list of terms needed to describe and catalog cartographic materials. Using national and international standards for thesaurus construction, *TGN* is a hierarchy with tree structures that correspond to current and historical worlds, based on terminology that is current, warranted for use by authoritative literary sources, and validated in the scholarly community.²⁵

Classification

The purpose of classification is to group information packages on similar and related topics together from

general to specific and to lead the user to them. Catalogers may use *Library of Congress Classification*, the *Dewey Decimal Classification* or the *Superintendent of Documents Classification* to determine the arrangement of information packages within the library collection, making adjustments due to the physical packaging and formats of individual cartographic resources.

Independent of the library collection, these classification schemes provide enumerative arrangements for topics. The hierarchical order enables the classification scheme to employ a process of subdivision and collocation that reflects a natural order. Arrangements in the *LCC* and *DDC* classification schemes proceed from general to specific aspects of topics through the subdivision of classes, subclasses and arrays of numbers. The cataloger follows the instructions in a classification scheme to identify a notation that reflects the topics contained within a work. A Cutter mark is added to the notation so that each work has location identification.

The *LCC* is an enumerative scheme that uses a capital letter for the main class, two or three capital letters for subclasses, Arabic numerals for further subdivisions, and Cutter author-marks to achieve alphabetic sub-arrangements. Developed for the Library of Congress at the turn of the twentieth century, all *LCC* schedules have a similar arrangement and sequencing pattern. The schedules are prepared by subject specialists at the Library of Congress and reflect the nature and scope of its collections. Within each sequence of class numbers, as a rule the subjects proceed from general to specific, chronologically or geographically.

Available in print, PDF and electronic versions, *LCC* schedules contain common features of external and internal format. The external format is reflected in the organization of the schedule. Components for each schedule customarily include the following sections: a preface, brief synopses to show the basic subdivisions within the class, an outline that includes the alphabetic subclasses and significant alphanumeric arrays, the schedule proper, auxiliary tables for use with more than one subclass or array within the schedule, and an index. Changes and additions are incorporated into the electronic version of *LCC*, available from the Cataloging Policy and Support Office website and in print from the Cataloging Distribution Service at the Library of Congress.

The *DDC* is a decimal classification scheme that uses broad three-digit Arabic numbers followed by a decimal point and varying quantities of additional digits to achieve arrangements. Originally developed by Melvyl Dewey and published anonymously in 1876, within each class sequence the subjects proceed from general to specific, chronologically or geographically. During the classification task in the cataloging process, any class number may be expanded indefinitely in order to achieve specificity for topics in the work. The specificity of the *DDC* classification requires additional digits after the decimal point.

Available in print and electronic versions, the *DDC* schedule is compact and includes mnemonic devices that can be transferred among selected classes. The external format is reflected in the organization of the schedule and includes the following sections: an introduction, the schedule proper, seven tables of standard subdivisions, an index, and a manual. Changes and additions are incorporated into the electronic version of *DDC*, distributed through a listserv and available in print from OCLC.

Those cartographic resources that are federal government publications include a *Superintendent of Documents (SuDocs)* classification that the library may retain and use. If the library integrates government publications into the general collection, then a classification notation must be added.

Developed in the Library of the United States Post Office between 1895 and 1904, the Superintendent of Documents Classification Scheme is based on the organizational structure of federal government agencies and groups together the publications that they and their subordinate units issue. The purpose of the *SuDocs* scheme is to uniquely identify, logically relate, and physically arrange each information package so that all publications of a single agency or department may be found together.

Each executive department and agency, the Judiciary, Congress, and other quasi-government agencies has a unique alphabetical identifier. Subordinate bureaus and offices are identified through the assignment of numbers that are added to alphabetic identifiers with 1 designating the parent organization, the Secretary's or Administrator's office. The numbers are assigned to subordinate bureaus and offices applied in numerical order beginning with 2. A period follows the combination of letters and numbers representing the bureau or office.²⁶

Additions, modifications and deletions to classification schemes must be made to maintain currency and viability. These changes impact new and existing bibliographic records. Catalogers and technical services managers must evaluate and determine an appropriate balance between the demands to change and the need for consistency and collocation of similar topics. Therefore, during the cataloging process the cataloger consults the classification schemes to verify or construct the notation selected for access.

Cataloging projected media-examples and analysis

The cataloging process for cartographic materials consists of five related tasks: identification of the type of cartographic material (map, atlas or globe), descriptive cataloging, subject analysis (subject cataloging or indexing), authority control, and classification. Learning the unique aspects of the cataloging process for cartographic materials requires familiarity with relevant national and international standards, technical aspects of the geography, maps and map reading, and an understanding of the equipment necessary to use electronic and digital formats.

The successful completion of each task contributes to a bibliographic record that represents the cartographic resource. In order to complete these tasks, the library school student or novice cataloger needs to be familiar with each of the required tools (*AACR2r*, MARC documentation, *LCSH*, *TGN*, *LCC*, *DDC*, or *SuDocs*, and an authority file). Catalogers who devote their professional careers to the construction and enhancement of bibliographic

descriptions for cartographic materials rely on specialized tools. The steps in the cataloging process include examples of a sheet map, *Arctic Region*, (see Figures 8.1 and 8.2), a 12-inch *World globe* (see Figures 8.3 and 8.4), and an atlas, *The Penguin Touring Atlas of Australia* (see Figures 8.5 and 8.6) in order to contextualize the instructions. Additional examples with notes regarding the cataloging process for cartographic materials appear in “Appendix F”.

Example one: *Arctic Region map*

Step 1—Examine the cartographic resource. The cataloger determines that the cartographic resource is a map on a single sheet that was originally issued as a set by a federal government agency. The library does not own the other maps in the set. The map is present and does not have accompanying items. According to *AACR2r*, the map is a single-part cartographic resource (Rules 1.0A2 and 3.0A).²⁷ (Tools needed for this step: *Arctic Region sheet map* and *AACR2r*.)

Step 2—Identify the correct MARC format to use. The cataloger determines that the MARC bibliographic format for cartographic materials is required.²⁸ (Tools needed for this step: *Arctic Region sheet map* and MARC documentation.)

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information on the sheet map (Rules 1.0A3a, 3.0B1, and 3.0B2). These data are the most credible elements that the cataloger transcribes into the bibliographic record (see Figure 8.1). Using the guidelines for punctuation (Rules 1.0C and 3.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 3.0D). In order to consider each of the required data elements, the cataloger uses sections of chapter 1 and chapter 3. (Tools needed for this step: *Arctic Region sheet map* and *AACR2r*.)



Figure 8.1. *Arctic Region map*.

Step 4—Find standard numbers. No standard numbers appear on the work. (Tools needed for this step: *Arctic Region* sheet map, AACR2r, and MARC documentation.)

Step 5—Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is OCLC.²⁹ The cataloger gains access to WorldCat® through the institutional subscription and the student frequently has permission through a formal agreement between the library school and OCLC.³⁰ The OCLC database requires a unique authorization and password.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home page, the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*. The *Librarian's Toolbox* page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, and WorldCat® tools.³¹ When the searcher chooses Connexion in the logon links section, the WorldCat® Services login page appears.³² Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 6—Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the cartographic resource. The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible. At the top of the screen the searcher will find a command line search capability. To use this type of search, the scan or an alphanumeric command is required.

The searcher should use the scan command in order to find a work by derived, keyword or phrase searches. Keyword searches enable the user to search by word, number, phrase or whole phrases with appropriate punctuation. The equal sign (=) indicates that a phrase or whole phrase index will be searched; a colon (:) indicates that a word index will be queried. Boolean operators (and, or, not) may be used to combine searches. In this example, a correct search protocol is as follows: scan ti=arctic region. Titles matching the search protocol appear in bold type with the number of associated bibliographic records displayed in the column at the right-hand edge of the screen.

Double-clicking on number in the left-hand column results in a display of the individual bibliographic record. The first entry is a group of 43 bibliographic records representing books and maps. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 7—Examine the search results. The cataloger must determine whether the bibliographic record and its title match the cartographic resource and its physical format. The cataloger reviews the two bibliographic records with the date on the map (1987) and checks the title (245 #a), main entry (1XX #a), publisher (260 #b), and date (260 #c). One record (OCLC # 16642929) was created at the Library of Congress (040 #a DLC) and the second record (OCLC #48216450) was contributed by Cambridge University (040 #a CUD). The first record is selected. (Tools needed for this step: *Arctic Region* sheet map and bibliographic records in OCLC.)

Step 8—Determine if a bibliographic record matches the cartographic resource. In order to determine whether or not the bibliographic record matches the sheet map exactly, the cataloger will check and verify the following data elements: format (Rule 3.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 3.1B, and 3.1D), publisher (Rules 1.4D, 3.4D, and 3.4E), publication date (Rules 1.4F and 3.4F), the cartographic mathematical data (Rule 3.3B4), and statement of scale (Rule 3.3B3) and projection (Rule 3.3C).

The matching bibliographic record (OCLC #16642929) contains data elements that match the manifestation exactly. In this example data for the title (*Arctic Region*, 245 #a), imprint (Washington, D.C. : #b Central Intelligence Agency, #c 1987, 260 #a, #b, #c), and extent of the item (1 map : #b col. ; #c 23 x 17 cm., 300 #a, #b, #c) match the map exactly. In addition, the bibliographic record contains four general notes (500 #a) and a geographic subject heading (651 #a). Therefore, this is an appropriate record to use. (Tools needed for this step: *Arctic Region* sheet map, AACR2r, and MARC documentation.)

Step 9—Verify the access points. The cataloger determines whether to make additional access points that users may need for searching and retrieving the sheet map. If the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #16642929 contains data access points denoting the title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 3.1B, and 3.1E), geographic subject heading, (no rule *per se*), and main entry for the corporate body (Rules 1.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5). The cataloger reviews each access point to make certain that the data are transcribed correctly into the MARC fields and subfields with the correct indicators.

The following access points appear in the selected bibliographic record: title (*Arctic Region*), a geographical subject (Arctic regions, 651 #a) with the form subdivision for a map (#v Maps) and a main entry (United States. Central Intelligence Agency, 110 #a, #b). The cataloger determines that each access point is transcribed correctly and contains variable data that match the sheet map. The cataloger reviews the fixed fields to verify that they correlate accurately with these data. (Tools needed for this step: *Arctic Region* sheet map, *AACR2r*, and MARC documentation.)

Step 10—Verify the classification. The cataloger must determine if the classification notation in the bibliographic record is part of the scheme that the library has adopted. If the bibliographic record includes a correctly formatted classification, the cataloger makes no modifications. However, if the classification notation does not correspond to the local scheme, then the cataloger adds an appropriate call number. In either instance, the cataloger is responsible for ensuring that a correct Cutter designation is added.

In this example, OCLC record #16642929 contains both *LCC* (050 #a) and *SuDocs* (086 #a) classification notations. The *LCC* notation (050 #a) is G3270 with a date (1987) and a Cutter (050 #b .U5). The *SuDocs* notation is PrEx3.10/4: Ar 2/3 for the Central Intelligence Agency. The cataloger adds a *DDC* notation (092 #a, 912.311), Cutter (092 #b, U56) and date (1987). (Tools needed for this step: *Arctic Region* sheet map, *AACR2r*, MARC documentation, and classification scheme.)

Step 11—Determine other tags to include. If the online bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they are transcribed according to *AACR2r* and placed correctly into fields and subfields as required by MARC documentation. In this example, the cataloger expands the general notes and adds a topical note. (Tools needed for this step: *Arctic Region* sheet map, *AACR2r*, and MARC documentation.)

Step 12—Review each point of access in the authority file. The cataloger verifies points of access in the bibliographic record against authority records. The bibliographic record carries an indication that it was created at the Library of Congress (040 #a). Therefore, the cataloger does not need to check the added topical subject heading (Cold War – Maps, 650 #a, #v).

In the fixed field, the record status, date the record was entered, date replaced, record type, bibliographic level, cartographic material type, the description, the encoding level, form, index, source, government publication, date type, and date are correct. The fixed field data elements (008) that match the data that have been transcribed in the variable fields (1XX-8XX) include the type of cartographic material (single map = a), form (not applicable = blank), index (none = 0), date type (single date = s), language (English = eng), country of publication (Washington, D.C., USA = dcu), and date (publication date = 1987). In this example, other fixed field data elements are blank (form, source, projection, relief, special format characteristics, control, and modified record). The cataloger reviews the bibliographic record to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.) The bibliographic record for *Arctic Region* appears in Figure 8.2.

After all of the data have been entered and verified in the authority file, the cataloger reviews the bibliographic record, checks for transcription errors, fixes punctuation marks, and corrects spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, and standard number).

007		a #b j #d a #e n #f u #g n #h n
008		901002s1987 dcu ae a f o eng
010		90685238
034	1	a #b 43000000 #d W1800000 #e E1800000 #f N0900000 #g N0600000
043		r-----
052		3270
074		856-A-1
086	0	PrEx 3.10/4:Ar 2/3
090	00	G3270 1987 #b .U5
092	00	912.311 #b U56
110	1	United States. #b Central Intelligence Agency.
245	10	Arctic region #h [cartographic material] / #c [prepared by] Central Intelligence Agency.
255		Scale 1:43,000,000. 1 cm. = approx. 500 km. or 1 in. = approx. 500 nautical miles; #b [Azimuthal equal-area proj.] #c (Centered at North Pole / Decl. limit 60°).
260		[Washington, D.C. : #b Central Intelligence Agency, #c 1987]
300		1 map : #b col. ; #c 23 x 17 cm.
500		North Pole at center.
500		Map provides information on cities, countries, and boundaries only within the circle circumscribed by 60° North, the exception being the note on the map; areas outside of 60° North are shaded gray, have country borders, but are otherwise devoid of information.
500		Below neat line: "800862 (545666) 4-87."
500		"The United States Government does not recognize the incorporation of Estonia, Latvia, and Lithuania into the Soviet Union ... Other boundary representation is not necessarily authoritative"
		--Note on map.
500		Arctic map part of a set; library does not have the other maps in the set.
651	0	Arctic regions #v Maps.
650	0	Cold War #v Maps.

Figure 8.2. Bibliographic record for *Arctic Region map*.

Example two: World globe

Step 1—Examine the cartographic resource. The cartographic resource is a 12-inch world globe on a stand without accompanying items. According to *AACR2r*, the globe is a single-part cartographic bibliographic resource (Rules 1.0A2 and 3.0A). (Tools needed for this step: *World globe* and *AACR2r*.)

Step 2—Identify the correct MARC 21 format to use. The cataloger determines that the MARC bibliographic format for cartographic materials is required. (Tools needed for this step: *World globe* and MARC documentation.)



Figure 8.3. *World globe*.

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information on the globe (Rules 1.0A3a, 3.0B1, and 3.0B2). These data are the most credible elements that the cataloger transcribes into the bibliographic record (see figure 8.3). Using the guidelines for punctuation (Rules 1.0C and 3.0C), the cataloger begins to prepare a bibliographic record at the second level of description

(Rules 1.0D and 3.0D). In order to consider each of the required data elements, the cataloger uses sections of chapter 1 and chapter 3. (Tools needed for this step: *World globe* and *AACR2r*.)

Step 4—Find standard numbers. The manufacturer, Rand McNally, did not include the International Standard Book Number (ISBN) on the globe. According to *AACR2r* (Rules 1.8B and 3.8B), the bibliographic record requires the inclusion of standard numbers if they are present. (Tools needed for this step: *World globe*, *AACR2r*, and MARC documentation.)

Step 5—Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home page, the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*. The *Librarian's Toolbox* page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, and WorldCat® tools. When the searcher chooses Connexion in the logon links section, the WorldCat® Services login page appears. Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 6—Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the work and manifestation. The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible. At the top of the screen the searcher will find a command line search capability. To use this type of search, the scan or an alphanumeric command is required.

The searcher should use the scan command in order to find a work by derived, keyword or phrase searches. Keyword searches enable the user to search by word, number, phrase or whole phrases with appropriate punctuation. The equal sign (=) indicates that a phrase or whole phrase index will be searched; a colon (:) indicates that a word index will be queried. Boolean operators (and, or, not) may be used to combine searches. In this example, a correct search protocol is as follows: scan ti=world globe. The title that matches the search protocol is shown in bold type with the number of associated bibliographic records displayed in the column at the right-hand edge of the screen.

Nine bibliographic records for globes appear. The data for the title (245 #a), name (100 #a), publisher (260 #b), date (260 #c), and designation of the national library creating the record if this is the case; otherwise, the column is blank.

Double-clicking on number in the left-hand column results in a display of the individual bibliographic record. In this example, records three OCLC records are potential matches. The cataloger proceeds to review these records (OCLC #17226009, #27760629, #33160656). The first record selected. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 7—Examine the search results. The cataloger must determine which of the records matches the globe. The cataloger reviews the three bibliographic records to determine a match with the work. (Tools needed for this step: Internet and documentation for the bibliographic utility.)

Step 8—Determine if a bibliographic record matches the cartographic resource. In order to determine a bibliographic record that matches the globe, the cataloger checks and verifies the following data elements: format (Rule 3.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 3.1B, and 3.1D), publisher (Rules 1.4D, 3.4D, and 3.4E), and dates (Rules 1.4F and 3.4F). When a bibliographic record is identified as a match, then the cataloger reviews each field, subfield and indicators to ensure that the data have been transcribed and tagged according to MARC requirements.

The bibliographic record (OCLC #17226009) contains data elements that match the globe. Data for the title (*World globe*, 245 #a), imprint (Chicago : #b Rand McNally & Co., #c 1985, 260 #a, #b, #c), and extent of the item (1 globe : #b col. ; #c 31 cm. in diam., 300 #a, #b, #c) match exactly. The bibliographic record contains three subject headings (650 #a) and a variant title (246 #a). Therefore, this is an appropriate record to use. (Tools needed for this step: *World globe*, *AACR2r*, and MARC documentation.)

Step 9—Verify the access points. The cataloger needs to determine if the bibliographic record contains all of the access points specified in the library's bibliographic input standard document. However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields, transcribing bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #17226009 contains data access points denoting the title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 3.1B, and 3.1E) and subject headings (no rule *per se*). The following access points appear in the selected

bibliographic record: title (*Rand McNally world globe*), three topical subjects (Globes, Physical geography – Globes, Relief models; 650 #a) with the form subdivision for a globe (=v Globes), and a variant title (*World globe*, 740 #a).

The cataloger verifies that each access point is transcribed correctly. The variant title represents the globe itself and need to be changed to a 246 field. After the cataloger reviews the content of the variable fields to be certain that they describe the globe, the fixed fields must be verified so ensure that they correlate accurately with these data. (Tools needed for this step: *World globe*, *AACR2r*, and MARC documentation.)

Step 10—Verify the classification. The cataloger needs to determine if the classification notation transcribed in the record is part of the scheme that the library has adopted. If the bibliographic record includes a correctly formatted classification notation, the cataloger makes no modifications. However, if the classification notation does not correspond to the local scheme, then the cataloger adds an appropriate call number. In either instance the cataloger is responsible for ensuring that a correct Cutter designation is added.

In this example, OCLC record #17226009 contains an *LCC* (050 #a) classification notation. The cataloger may choose to add a *DDC* notation (092 #a) with a Cutter (092 #b). The cataloger adds *DDC* notation (912) with a Cutter representing the main entry (RAND). In libraries that do not use either *LCC* or *DDC*, the cataloger will use a locally assigned classification notation to denote a globe (099 #f GLOBE #a RAND #b 1985). Regardless of which classification scheme is used locally, an accurate call number must be transcribed into the correct field. (Tools needed for this step: *World globe*, *AACR2r*, MARC documentation, and classification scheme.)

Step 11—Determine other tags to include. If the bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they should be transcribed according to the rules in *AACR2r* and placed correctly into fields and subfields as required by MARC documentation.

In this example, OCLC record #17226009 contains three tags containing data required to describe the globe. These tags include a geographic area (052 #a), cartographic mathematical data (Rule 3.3A3, 034 #a and 255 #a), and two general notes (Rule 3.7, 500 #a). (Tools needed for this step: *World globe*, *AACR2r*, and MARC documentation.)

Step 12—Review each point of access in the authority file. The cataloger verifies points of access in the bibliographic record against authority records. The bibliographic record carries an indication that it was created at the Library of Congress (040 #a). Therefore, the cataloger can accept the forms of entries for each point of access.

In the fixed field, the record status, date the record was entered, date replaced, record type, the record status, bibliographic level, the description, record status, and the encoding level should not require modification. The fixed field data elements (008) that must match the data that have been transcribed in the variable fields (1XX-8XX) include the type of cartographic material (globe = d), form (not applicable = blank), index (none = o), relief (shading = b and spot heights =g), date type (single date = s), language (English = eng), country of publication (Chicago, Ill., USA = ilu), and date (publication date = 1985). In this example, other fixed field data elements should be blank (form, source, government publication, projection, special format characteristics, control, and modified record). The cataloger reviews the fixed field and compares the characters in the bibliographic record to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.) The bibliographic record for *World globe* appears in Figure 8.4.


```

007      d #b c #d c #e e #f n
008      871123s1985  ilubg d o eng
010      87694950
034  1    a #b 41850000 #d W1800000 #e E1800000 #f N0900000 #g S0900000
043      x-----
052      3170
050  00    G3170 1985 #b .R3
092      912 #b RAND
110  2      Rand McNally and Company.
245  10     Rand McNally 12 inch world globe #h [cartographic material] / Rand McNally and Company.
246  13     World globe #h [cartographic material]
255      Scale 1:41,850,000. 1 in. = approx. 660 miles ; #c (W 180°--E 180°/N 90°--S 90°).
260      [Chicago, Ill.] : #b Rand McNally & Co., #c 1985.
300      1 globe : #b col., paper gores over plastic core, mounted on metal stand ; #c 31 cm. in diam.
500      Raised relief globe in full color; relief shown by shading and spot heights.
500      "A-110000-250-4-4."
650  o      Globes.
650  o      Physical geography #v Globes.
650  o      Relief models.

```

Figure 8.4. Bibliographic record for *World globe*.

After all of the data have been entered and verified in the authority file, the cataloger reviews the bibliographic record, checks for transcription errors, fix punctuation marks, and correct spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, and standard number).

Example three: *Penguin Touring Atlas of Australia*

Step 1—Examine the cartographic resource. The cataloger determines that the cartographic resource is an atlas. The entire atlas is present without accompanying items. According to *AACR2r*, the work is a single-part cartographic resource (Rules 1.0A2 and 3.0A). (Tools needed for this step: *Penguin Touring Atlas of Australia* and *AACR2r*.)

Step 2—Identify the correct MARC 21 format to use. The cataloger determines that the MARC bibliographic format for cartographic materials is required (see Figure 8.5). (Tools needed for this step: *Penguin Touring Atlas of Australia* and MARC documentation.)

Step 3—Locate chief source of information. The cataloger identifies the chief source of information (Rules 1.0A3a, 3.0B1, and 3.0B2). Using the guidelines for punctuation (Rules 1.0C and 3.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 3.0D). To consider each of the required data elements, the cataloger uses chapters 1 and 3. (Tools needed for this step: *Penguin Touring Atlas of Australia* and *AACR2r*.)

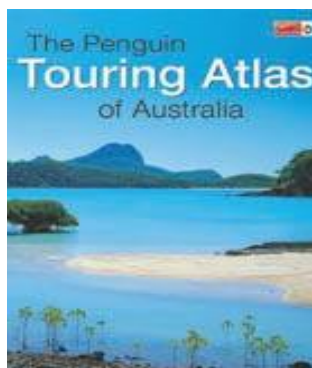


Figure 8.5. *Penguin Touring Atlas of Australia*.

Step 4—Find standard numbers. No standard numbers appear on the atlas. (Tools needed for this step: *Penguin Touring Atlas of Australia*, *AACR2r*, and MARC documentation.)

Step 5—Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student accesses a bibliographic

database. To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) accesses the Internet and goes to the OCLC website. In the right-hand column of the home page, the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*.⁷ Several tutorials and documentation are linked to this page, including (but are not limited to) Connexion®. After entering the authorization and password, the welcome screen for the OCLC cataloging appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 6—Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the work. The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database.

The searcher should use the scan command in order to find a work by word, number, phrase or whole phrases with appropriate punctuation. The equal sign (=) indicates that a phrase or whole phrase index will be searched. In this example, a correct search protocol is as follows: scan ti=penguin touring atlas of Australia. Titles matching the search protocol appear in bold type with the number of associated bibliographic records displayed in the column at the right-hand edge of the screen. Double-clicking on number in the left-hand column results (choice 10) is a group of five bibliographic records. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 7—Examine the search results. The cataloger examines each bibliographic record to determine a match with the work. The cataloger reviews the five bibliographic records to determine which one describes the third edition (2001). The cataloger checks the title (245 #a), main entry (1XX #a), publisher (260 #b), and date (260 #c). One record (OCLC # 50999146) was created at the University of South Carolina for the work. (Tools needed for this step: *Penguin Touring Atlas of Australia* and bibliographic records in OCLC.)

Step 8—Determine if a bibliographic record matches the cartographic resource. In order to determine whether or not the bibliographic record matches the atlas exactly, the cataloger checks and verifies the following data elements: format (Rule 3.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 3.1B, and 3.1D), publisher (Rules 1.4D, 3.4D, and 3.4E), publication date (Rules 1.4F and 3.4F), the cartographic mathematical data (Rule 3.3B4), and statement of scale (Rule 3.3B3) and projection (Rule 3.3C).

The matching bibliographic record (OCLC #50999146) contains data elements that match the atlas. In this example, data for the title (*Australia Touring Atlas*, 245 #a), imprint (Auckland, New Zealand : #b Hema Maps, #c 2001, 260 #a, #b, #c), and extent of the item (1 atlas (xvi, 112 p.) : #b col. ill., col. maps ; #c 30 cm., 300 #a, #b, #c) match the atlas exactly. In addition, the bibliographic record contains two general notes (500 #a) and a geographic subject heading (651 #a). Therefore, this is an appropriate record to use. (Tools needed for this step: *Penguin Touring Atlas of Australia*, AACR2r, and MARC documentation.)

Step 9—Verify the access points. The cataloger determines if additional access points are needed for searching and retrieving the cartographic resource. If the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #16642929 contains data access points denoting the title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 3.1B, and 3.1E), geographic subject heading, (no rule *per se*), and main entry for the corporate body (Rules 1.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5). The cataloger reviews each access point to make certain that the data are transcribed correctly into the MARC fields and subfields with the correct indicators.

The following access points appear in the selected bibliographic record: title (*Australia Touring Atlas*), a geographical subject (Australia, 651 #a) with the form subdivision for an atlas (#v Maps, Tourist) and a main entry (Hema Maps (Firm), 110 #a, #b). The cataloger determines that each access point is transcribed correctly and contains variable data that match the atlas. The cataloger reviews the fixed fields to verify that they correlate accurately with these data. (Tools needed for this step: *Penguin Touring Atlas of Australia*, AACR2r, and MARC documentation.)

Step 10—Verify the classification. The cataloger determines if the classification notation in the record is part of the scheme that the library has adopted. If the bibliographic record includes a correctly formatted classification, the cataloger makes no modifications. However, if the classification notation does not correspond to the local scheme, then the cataloger adds an appropriate call number. In either instance the cataloger is responsible for ensuring that a correct Cutter designation is added.

In this example, OCLC record #50999146 contains both *LCC* (050 #a) and *DDC* (082 #a) classification notations. The *LCC* notation (050 #a) is G2751.E635 with a Cutter (050 #b .H35) and a date (2001). The *DDC* notation is 912.94 (092 #a) without a Cutter (092 #b) or date. The library uses *LCC*, so the cataloger makes no

changes. (Tools needed for this step: *Penguin Touring Atlas of Australia*, AACR2r, MARC documentation, and classification scheme.)

Step 11—Determine other tags to include. If the bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they are transcribed according to AACR2r and placed correctly into fields and subfields as required by MARC 21 documentation. In this example, the cataloger accepts the notes. (Tools needed for this step: *Penguin Touring Atlas of Australia*, AACR2r, and MARC documentation.)

Step 12—Review each point of access in the authority file. The cataloger verifies points of access in the bibliographic record against authority records. The bibliographic record carries an indication that it was created at the University of South Carolina (040 #a). Therefore, the cataloger checks the two additional geographic subject headings (Australia—Road maps, Automobile travel – Australia – Guidebooks; 651 #a, #z, #v) and topical subject heading (Cities and towns – Australia – Maps, Tourist; 650 #a, #v) and decides to use the database of authority records from the Library of Congress.

To log into the Library of Congress authorities database, the searcher (whether cataloger, technical services staff member or library school student) accesses the Internet and goes to its website.³³ In the middle of the authorities page, the searcher chooses *Search Authorities*. The *Authorities Headings Search* page offers four types of searches: subject authority headings, name authority headings, title authority headings, and name/title authority headings. Search tips for each type of heading are linked to this site.

In this example, the cataloger searches for the subject entry by highlighting *subject authority headings* and entering the correct search protocol: Australia. A listing of authority records appears as a result of the search. The number of bibliographic records in which the name appears, the form of the name and the type of heading appear in horizontal rows across the page. Headings with a red box in the left-hand column reading *authorized heading* can be viewed by double-clicking on the icon. The correct form of the name and its source (the Library of Congress Online Catalog) appears on the next screen.

In order to see the MARC version of the authority record, the searcher double-clicks on the term. Authority record #n 79021326 contains the form of the subject heading with the correct field (151), indicators (X0), and subfield (#a). The cataloger reviews the authority record and compares it and the form subdivisions in the 651 field to ensure that the data are transcribed and tagged correctly.

In the fixed field, the record status, date the record was entered, date replaced, record type, bibliographic level, cartographic material type, the description, the encoding level, form, index, source, government publication, date type, and date do not require modification. The fixed field data elements (008) that must match the data that have been transcribed in the variable fields (1XX-8XX) include the type of cartographic material (atlas = e), form (item in-hand = d), index (present = 1), date type (single date = s), language (English = eng), country of publication (Auckland, New Zealand = nz), and date (publication date = 2001). In this example other fixed field data elements should be blank (form, government publication, projection, relief, special format characteristics, control, and modified record). The cataloger reviews the fixed field and compares the characters in the bibliographic record to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.) The bibliographic record for *Penguin Touring Atlas of Australia* appears in Figure 8.6.

```

007      a #b d #d c #e a #f n #g z #h n
008      021113s2001 nz e eng
020      1865001155
034  o   a
043      u-at---
052      2751
090      G2751.E635 #b H35 2001
092      912.94 #b HEMA 2001
110  2    Hema Maps (Firm)
245  14   Australia touring atlas #h [cartographic material].
250      3rd ed.
255      Scales vary.
260      Auckland, N.Z. : #b Hema Maps, #c 2001.
300      1 atlas (xvi, 112 p.) : #b col. ill., col. maps ; #c 30 cm.
500      Cover title.
500      Includes index.
500      Detailed road maps-Australia -wide coverage, intercapital city route maps, major
        city approach and bypass maps, capital city maps.
651  o   Australia #v Maps, Tourist.
651  o   Australia #v Road maps.
650  o   Automobile travel #z Australia #v Guidebooks.

```

Figure 8.6. Bibliographic record for Penguin Australia Touring Atlas.

After all of the data have been entered and verified in the authority file, the cataloger reviews the bibliographic record, checks for transcription errors, fixes punctuation marks, and corrects spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, standard number).

Summary

This chapter includes information and explanations about cataloging cartographic materials (maps, globes, and atlases) using the MARC bibliographic format, cataloging tools and documentation, MARC fixed and variable fields, and steps in the bibliographic description.

Adapting, enhancing or constructing a bibliographic record for cartographic resources facilitates a heightened awareness, identification, and retrieval to all information resources in the library collection; consistency of access and retrieval for users; and, international efforts in cooperative cataloging. Learning when and how to use each cataloging tool and documentation during the cataloging process is an important aspect of becoming a proficient cataloger.

Contributing bibliographic records to an online catalog requires the cataloger to use *AACR2r* and MARC 21 together. *AACR2r* contains the rules for transcribing bibliographic data and MARC 21 explains the structure into which the data that comprise records are placed. Rules in *AACR2r* follow an outline for description and access points for names and titles. The MARC bibliographic format enumerates the possible fields, subfields, and indicators for data required to describe the cartographic resource and its physical format.

Providing subject and classification access in bibliographic records for an online catalog requires the cataloger to use specialized tools in conjunction with MARC documentation and *AACR2r*. Because of the unique characteristics of cartographic materials, the cataloger uses the *Library of Congress Subject Headings (LCSH)* for the assignment of topical terms and the *Getty Thesaurus of Geographic Names (TGN)* for specialized headings.

The purpose of classification is to group information packages on similar and related topics together from general to specific and to lead the user to them. A majority of map and cartographic resources catalogers use *Library of Congress Classification*, although a smaller number of libraries use the *Dewey Decimal Classification* scheme or the *Superintendent of Documents* scheme.

The cataloging process for these materials consists of five related tasks: identification of the type of media, descriptive cataloging, subject analysis (subject cataloging or indexing), authority control, and classification. Learning the unique aspects of the cataloging process for cartographic materials requires familiarity with relevant national and international standards, technical aspects of geography and cartography, and a basic understanding of

digital and spatial software. The successful completion of each task results in the construction or enhancement of a bibliographic record that represents maps, globes, and atlases.

Review exercises

Please prepare a bibliographic record using the MARC format for the following titles.

Proposed National Highway System Map (LCCN 96682006)

- **Street Atlas USA** (electronic resource; ISBN 0899339530)
- **The Washington Historical Atlas** (ISBN 0933149425)
- **Rand McNally Commercial Atlas and Marketing Guide, 2005** (ISBN 0528934651)
- **DestinationMap Paris** (ISBN 1566950759)

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²⁸ *Bibliographic Formats and Standards*, 3rd ed., <http://www.oclc.org/bibformats/default.htm> (15 May 2008).

²⁹ *WorldCat: Window to the World's Libraries*, <http://www.oclc.org/worldcat/default.htm> (15 May 2008).

³⁰ *OCLC Library and Information Science Education Program*, <http://www.oclc.org/education/lis/> (15 May 2008).

³¹ OCLC, Inc., *Librarian's Toolbox*, <http://www.oclc.org/toolbox/default.htm> (15 May 2008).

³² *WorldCat® Services*, <http://connexion.oclc.org/> (15 May 2008).

³³ *Library of Congress Authorities*, <http://authorities.loc.gov> (15 May 2008).

Cataloging notated music

The integration of bibliographic records for music is essential in order to serve the information needs of library users. For the purposes of bibliographic description, music identifies sheet music (also called notated music or printed music). Sheet music can be hand-written or printed. The physical format for music is constant and the content evolves. Music includes single sheets printed on one or both sides, folios, folios with a loose half-sheet, double-folios, and double-folios with a loose half-sheet.¹ Sheet music can be bound into scores for an individual instrument or ensemble (band, orchestra, and the like).

Sheet music is an integral part of a culture, for it records the sentiments of a time and place, transporting the performer and listener to the daily life of another individual or group. Composers and their assistants wrote the earliest music by hand. These manuscripts date back to the fifteenth century. Written to economize space, composers placed musical notations for individual instruments in different locations on a page. These practices continued until the eighteenth century and the advent of mechanized music publishing.²

The advent of Gutenberg's press with movable type impacted music publishing. Ottoviano Petrucci, an Italian printer, is credited with publishing *Harmonice Musices Odhecaton* in 1501, a collection of lyric French songs. Petrucci continued to perfect his printing techniques for polyphonic music, the predominant style of the time.³ His three-pass (and later two-pass) technique required significant effort but resulted in elegant prints. By 1528, Parisian music printer Pierre Attaignant perfected a single-pass printing method that remains in use.⁴ Attaignant secured royal privileges for his music books and he was named *imprimeur et libraire du Roy en musique* (Royal music-printer and librarian).

Sheet music publishers in the nineteenth century used engraved plates and a lithographic process to produce and sell their wares. During the US Civil War music was printed using lithography due to its lower technology and cost. A new age of parlor music began in the mid-1860s and continued through the beginning of the twentieth century, featuring tunes written by composers in New York City's Tin Pan Alley and the market among a growing number of middle class families who had a piano at home.

The realization that the blank pages of music could be sold to advertisers prompted publishers to sell them individually as newspaper supplements. By World War I, music publishers promoted the war effort through the sale of notices in margins.⁵ In the twentieth century, music publishers competed with the phonograph and sound recordings for the attention and entertainment of the public.

The popular library music collection provides examples of sheet music for single instruments or vocalists, scores for a larger group, and individual parts for performances, composition and study. By the late twentieth century, computerized sheet music was available as digital assets or downloadable files. The Mutopia Project is building a public domain database of sheet music.⁶ Compiled by scanning copies of out-of-copyright sheet music, volunteers use the GNU LilyPond format and distribute songs in that format as well as PDF and PostScript.

The creation of a bibliographic record for music must provide access and retrieval that are parallel those available for print resources. The application of internationally accepted cataloging standards to music ensures that the physical format, instrumentation, and other unique characteristics are readily evident to users through the data contained in bibliographic records.

Standardized bibliographic description at level two or level three of the *Anglo-American Cataloging Rules*, 2nd edition, revised (*AACR2r*)⁷ for music facilitates a heightened awareness, identification, and retrieval to all information resources in the library collection; consistency of access and retrieval for users; and, international efforts in cooperative cataloging by sharing bibliographic records in local, regional, national and global databases.

Music in libraries

Recorded history of music has existed since the 4,000-year-old cuneiforms found at Ur.⁸ The history of music is part of a culture and its people. Although musical incidents and utterances can be traced back thousands of years, the primary written records focus on Western civilization. The history of music outside of Europe and European influence is considered to be world music (ethnomusicology).

Music is an important part of cultural and personal education. Involvement in music teaches basic skills in listening, concentration, counting, cooperating, language, recall, and creating an environment conducive to learning.⁹ In pre-school and elementary school, youngsters play instruments, sing in small groups and learn about

the history of Western music. When they are in secondary school, students may have opportunities to perform in musical ensembles including choirs, bands or orchestras. Students may also learn to play an instrument and pursue private or group lessons.

Undergraduate students in arts and humanities programs can enroll in music courses, including an overview of music history or music appreciation. A significant number of North American and European universities have musical ensembles for non-music students who choose to participate in choirs, bands or orchestras. Amateur and professional musicians may rely on libraries for access to music.

The recognition of music as essential information and educational resources is the cornerstone for the development of the collection. Therefore, the library's collection development policy contains guidelines for the evaluation of published music. Librarians use standard bibliographies; reviews from commercial, trade, and professional journals; syllabi and recommended lists; accreditation guidelines and patron suggestions to select music.

Criteria that govern the selection of music include timeliness, usefulness, popular demand, literary or artistic merit, permanent value, the need for and availability, and cost. Collection building and maintenance require that music selections contribute to an array of resources that represent a variety of viewpoints and opinions to meet community needs. Libraries provide free and equal access to the entire range of library resources and formats, including music. These rights extend to all users of the library including minors.

Primer of music manifestations

Music includes published scores and notated music in several types of physical formats. If a score is written for a single instrument or voice, it is published on its own sheet music. If a work is written for more than one instrument or voice, then it is published as a score for the ensemble (e.g. band or orchestra) with individual parts for each performer. When the parts for more than one instrument or voice are printed together, the work is called a score.

Scores are published in a number of formats.¹⁰ A full score is published with the parts for instruments and voices on each page so that a conductor may use it for rehearsals and performances. A miniature score resembles a full score except that it is too small for a performance but can be useful to an individual performer for study and practice. Study scores are *octavo* size and customarily include comments and notes the music and its interpretation. A piano score is published so that an individual can use it for practice and performance. Vocal scores (or more correctly piano-vocal scores) show the vocal parts separately from smaller printings of the orchestral parts. This type of score is designed for vocalists to learn the music and rehearsal independently from the instrumentalists. A short score contains the parts for many instruments on a few staves and is not generally published or used for performances. Lead sheets are written for vocalists with notations of the underlying chords.

When library faculty members teach beginning cataloging courses, they do not customarily include notated music in the curriculum. Learning to catalog notated music may be part of an advanced course in descriptive or music cataloging. Without a background in music, musical terms, types of manifestations, facet access in subject indexing, and local cataloging practices confuse students.

Building on the processes required to catalog other formats, the library school student adds MARC fields that reflect the unique physical characteristics for notated music. Students learn to distinguish and describe the information package and its physical format (descriptive cataloging), determine where it fits into a given hierarchy (classifying), and discern the concepts addressed through subject analysis (subject cataloging or indexing). Each task requires the use of specialized cataloging tools and documentation to transcribe data for notated music into the MARC bibliographic format.

Music makes up an important portion of academic library collections and a smaller proportion in public libraries. This chapter includes a review of the information packages included in the MARC bibliographic format for notated music, specialized cataloging tools and documentation, fixed and variable fields, and steps in the bibliographic description process.

Unique characteristics in bibliographic records for notated music

The notated music format includes published scores in full, condensed, close, miniature, and parts for voice, individual instruments, and ensembles. Notated music has unique characteristics that need to be reflected in the bibliographic descriptions. Library patrons and staff members depend on the bibliographic record to indicate key information about the notated music, including (but not limited to) the physical format, medium of performance, key, length, and musical presentation.

Patrons request notated music in songbooks and scores more frequently than they encounter them through browsing. Unless data elements appear correctly in the OPAC display, the larger the collection size, the greater the probability that distinguishing among physical formats is problematic. Patrons and library staff members rely on the displayed catalog record to place reserves. Careful attention to detail during the cataloging process makes clear the descriptive data for each information package.

The notated music format can be characterized by seven unique characteristics. These characteristics include the following: several locations for chief sources of information, presence of a publisher's number and/or plate numbers, use of a general material designation (GMD), duration of performance, use of uniform titles, musical presentation statement, and local cataloging policies regarding notes (i.e. restricted use, added entries and the like). Each of these characteristics is described briefly.

Several locations for chief sources of information

The cataloger must review the information package in order to describe notated music (Rule 5.0B). In order to see the chief sources of information for notated music, the cataloger needs to examine the information package, its caption, cover, colophon, other preliminaries, and other available sources. The chief sources of information will provide the title proper (245 #a), subtitles (245 #b) or uniform titles (240 #a).

Presence of a publisher's number

When searching for a standard number on notated music, the cataloger will find a manufacturer's number or a plate number rather than an ISBN. This standard number is customarily found on the cover or the back of the score or songbook. Transcribed as required in *AACR2r* (Rules 5.8B and 5.7B19), the standard number can be used to search online catalogs and bibliographic utilities. If a standard number is not located on the information package but can be identified with certainty from an auxiliary source, the cataloger should transcribe it (Rule 5.8B; 028 #a).

Use of general material designation

The cataloger must determine the correct general material designation (GMD) term (Rules 1.1C and 5.1C; 245 #h). Although the GMD should be transcribed within square brackets, the term is suppressed and does not appear in the OPAC display for a significant number of libraries. The term for notated music is used for all types of scores (245 #h [music]). Therefore, patrons and library staff members must read the extent of the item to determine the physical format.

Duration of performance

The cataloger must determine and transcribe the performance time (i.e. duration) for the score (Rules 1.5B4, 5.5B, and 5.7B10). If the total playing time is given on the score, then the cataloger includes the data in the extent of the item (Rule 5.7B10; 300 #a), non-displaying duration note (506 #a), and a note field (500 #a) that displays in the OPAC. When the durations for individual songs within a larger work (collection or parts or a score) are given, the cataloger must add the times to arrive at the total performance time. If the cataloger cannot determine the performance times from the score, then accompanying material and external sources (including catalogs and the Internet) can be consulted. Regardless of whether the performance time is recorded on the score or calculated by the cataloger, this information is transcribed.

Prevalent use of uniform titles

When verifying the composer and title on the score, the cataloger is advised to check an authority file to determine uniform titles for the work in addition to statements of responsibility for persons and corporate bodies credited with a major role in the chief source of information (Rule 5.1F). Uniform titles are common and essential points of access for classical works and need to be present in bibliographic records, especially for use by musicians and musicologists. The cataloger can make added entries for each of the responsible individuals (700 #a, #d) and firms named in the statement of responsibility (710 #a). Relator codes (#4) may be included as part of these added entries to designate the role and responsibility.

Musical presentation statement

The musical presentation statement presents the physical format of the score (Rule 5.3B) and may appear in more than one language. When the musical presentation statement is an integral part of another area, the cataloger does not repeat it.

Local cataloging policies regarding notes

Local cataloging policies may require the addition of fields and subfields. Therefore, the cataloger is responsible for transcribing these data. *AACR2r* rules permit the inclusion of notes (Rule 5.7B). Because note fields contain words and phrases critical for keyword searching, their presence enhances content and retrievability.

These notes may include contents (Rule 5.7B18; 505 #a), date and time of an event (Rule 5.7B7; 518 #a), restricted use notes (Rule 5.7B20; 540 #a), intended audience (Rule 5.7B14; 521 #a), and other physical formats (Rule 5.7B16; 533 #a). The cataloger is responsible for identifying and constructing the additional note fields according to local library cataloging policies.

Cataloging tools and documentation for music

Adapting, enhancing or constructing a bibliographic record to include descriptive data and points of access unique to notated music requires the use of specialized tools. Unfortunately for the library school student and novice cataloger, the introductions and instructions in cataloging tools do not contain explanations regarding notated music. Cataloging scores and songbooks relies on an implied knowledge of music, composers, performers, instrumentalists, and music history. Learning to catalog music becomes more difficult when the cataloger does not possess a background in the discipline. Tools that the cataloger uses for music include *AACR2r* (chapters 1, 5 and appendices), *Library of Congress Rule Interpretations (LCRI)*,¹¹ MARC documentation,¹² a subject heading list such as the *Library of Congress Subject Headings (LCSH)*,¹³ and the classification scheme used in the library such as the *Library of Congress Classification (LCC)*¹⁴ or *Dewey Decimal Classification (DDC)*.¹⁵

Using AACR2r and MARC together

Constructing, enhancing or adapting bibliographic descriptions of music requires the cataloger to use *AACR2r* and MARC documentation concurrently. Regardless of the manifestation, the machine-readable records for an online catalog describe the work using the rules in *AACR2r* and MARC documentation.

Rules in *AACR2r* follow an outline for description and access points for names (main entries and added entries) and titles (main titles and uniform titles). The MARC documentation for the bibliographic format enumerates possible fields, subfields and indicators for data required to describe the work. While the rules for description and access in *AACR2r* correspond to MARC fields and subfields, the order of these tools is not parallel. MARC documentation includes fields, subfields, and codes not found in *AACR2r*.

Learning to catalog notated music (i.e. scores and songbooks) requires an understanding, interpretation, and application of rules and basic knowledge of music. Although novice catalogers and library school students expect to find exact answers to cataloging problems or questions in *AACR2r*, the rules are deliberately framed to show principles and make them generally applicable. The examples in *AACR2r* are more illustrative than prescriptive and presume a familiarity with composers, types of musical compositions, instrumentalists, classical works, and popular music. The examples in *AACR2r* are authoritative and provide guidance for instances that require cataloger's judgment to apply a rule.

Anglo-American Cataloging Rules, 2nd rev. (AACR2r)

The rules necessary to identify bibliographic data and the mechanics of transcription (spacing, punctuation, capitalization, abbreviations, numerals, and initial articles) appear in *AACR2r*. This volume considers and depends on the distinction of two main processes: description and access points.

The rules for describing notated music enable the cataloger to complete bibliographic description at the level used by the library. From a practical point of view, the level of completeness in description and display in the online catalog for notated music should parallel other resources in the library's collection. After these decisions have been reached, the librarians describe the level of description detail and local cataloging practices in the bibliographic input standards document that are specific to notated music.

Cataloging music requires the use of two chapters in part one of *AACR2r*. The cataloger will use chapter 5 for the rules that are applicable to the unique features and characteristics of notated music and refer back to chapter 1 for general rules. Part two of *AACR2r* covers the choice of access points for the main and added entries. The instructions in chapters 21-25 provide guidance for the cataloger to determine access points.

Chapter 21 contains general rules to determine access points (main headings and added entries) that can be used for searching online catalogs. Headings for persons, corporate body, geographic place names, and uniform titles appear in chapters 22-25. Rules that govern the construction of explanatory *see* and *see also* references appear in chapter 26. Each chapter is laid out in the same order using a mnemonic numbering scheme.

The appendices contain general rules for capitalization ("Appendix A"), abbreviations ("Appendix B"), numerals ("Appendix C"), a glossary ("Appendix D"), and initial articles ("Appendix E"). Catalogers apply the rules and terms in the appendices to notated music regardless of the physical format.

MARC Documentation

The *MARC 21 Concise Format for Bibliographic Data* includes detailed field descriptions, guidelines and examples for applying the defined content, and conventions to be used for input consistency. Available in print and electronic versions, the *documentation* provides a reference guide to the content designators defined in each MARC format. The description includes each field (or tag), character position of the fixed-length data element fields, and defined indicators in the variable data fields and subfields. The documentation considers and depends on the cataloger's judgment to determine the type of work, its manifestation, and to use applicable sections.

Designed to be a framework or carrier for the exchange and sharing of bibliographic information, the *MARC 21 Format for Bibliographic Data* contains guidelines that the cataloger can use for notated music. These data include the following: main, uniform, and variant forms of titles; personal, corporate and geographic place names; subjects

and genre headings; notes; publication, distribution, and manufacturing data; and the physical description or extent of the information package to be cataloged. Library school students and technical services paraprofessionals who are learning to catalog and increasing their technical skills and competencies to handle the notated music format will find the documentation for each of the MARC formats is extracted from the larger document for ease of instruction and use (see “Appendix G”). The appendix includes sample bibliographic records for cartographic materials, an explanation of the correlations between the fields and subfields in the MARC bibliographic format and *AACR2r*, and a worksheet for cataloging cartographic materials.

Using subject analysis and classification tools for music

Providing subject and classification access to bibliographic records in an online catalog requires the cataloger to use specialized tools as well as *AACR2r* and MARC documentation. Bibliographic records customarily contain one or more types of subject headings. The *Library of Congress Subject Headings* contains topical terms from which the cataloger selects points of access. In addition to this tool, the cataloger may choose to follow the guidelines of the ongoing *Music Thesaurus Project* to construct points of access for the agents (musicians), the events (ceremonies, festivals, holidays, services), forms (instrumental, vocal), geo-cultural attributes (languages, locations, religions), sound devices (instrumental, vocal), texts (sacred, secular), and other (to be determined).¹⁶ Each subject heading is transcribed into the MARC bibliographic format.

The bibliographic record contains a classification notation for the score or songbook. Libraries choose to arrange their music classification number. If the library does not classify individual scores, a classification notation may be included in the bibliographic record for the convenience and use of other catalogers.

Each subject headings and classification tool includes instructions and guidelines. The MARC bibliographic format enumerates the possible fields, subfields, and indicators for data required for subject headings and classification notations. The array of possibilities in MARC exceeds the individual fields and subfields required for any single bibliographic record. The rules in *AACR2r* do not contain guidance for the assignment of subject headings or classification notations.

Because these tools are developed and updated independently, the cataloger needs to understand the purposes, instructions, and strategies to combine the content in the cataloging process. An overview of *LCSH* and the challenges of faceted access to music provide insights into their use with *AACR2r* and MARC.

Subject headings

An individual subject heading provides an access point within the bibliographic record. Standard lists of subject headings (e.g. *Library of Congress Subject Headings*) consist of words or phrases to designate topics and aspects contained in a work. However, the use of standard subject heading lists and thesauri does not address non-topical and multi-element access points. Keyword searching provides limited access to these types of access points if the data appear in the bibliographic record. In addition to topical subjects, music librarians, musicians, and musicologists want to access sound recordings by instrumentation and object.

LCSH provides subject access to works through the use of the topics listed and reflects the nature and scope of the Library of Congress collections. Subject specialists construct new headings when needed to provide access to information packages and establish links among existing headings. Available in print, microform, and electronic versions, *LCSH* includes subject headings contributed by libraries participating in cooperative activities with the Library of Congress that reflect the needs of their local collections.

Music librarians and catalogers agree that these general tools do not provide adequate access for sound recordings and scores. Preliminary work on a music thesaurus began in 1991 and resulted in the compilation of 12,000 subject entries. The tentative facets for music cataloging include agents, events, forms, geo-cultural attributes, sound devices, and texts. While music catalogers envision the eventual use of a *Music Thesaurus* that includes *LCSH* headings, the combined database is under development.

Novice catalogers and LIS students are encouraged to use *LCSH* and to consult larger music collections for guidance when cataloging sound recordings. Additions, modifications and deletions to *LCSH* need to be acknowledged and incorporated into the OPAC to maintain currency and viability. Because these changes impact new and existing bibliographic records, catalogers and technical services managers must evaluate changes and determine appropriate balances between them and the need for consistency.

Classification

The purpose of classification is to group information packages on similar and related topics together from general to specific and to lead the user to them. Catalogers may use *Library of Congress Classification (LCC)* or the *Dewey Decimal Classification (DDC)* to determine the arrangement of notated music within the library collection.

Each classification scheme provides an enumerative arrangement in a hierarchical order that employs a process of subdivision and collocation to reflect a natural order. Arrangements in the *LCC* and *DDC* classification schemes proceed from general to specific aspects of topics through the subdivision of classes, subclasses and arrays of numbers.

The *LCC* is an enumerative scheme that uses a capital letter for the main class, two or three capital letters for subclasses, Arabic numerals for further subdivisions, and Cutter author-marks to achieve alphabetic subarrangements. Developed for the Library of Congress at the turn of the twentieth century, subject specialists at the Library of Congress prepare the *LCC* schedules using a similar arrangement and sequencing pattern. Within each sequence of class numbers, the subjects proceed from general to specific, chronologically or geographically.

Available in print and electronic versions, the M schedule of *LCC* contains notations for music and books on music. The schedule has two subclasses: ML for literature on music and MT for musical instruction and study.¹⁷

Components of the M schedule include a preface, brief synopses to show the basic subdivisions within the class, an outline that includes the alphabetic subclasses and significant alphanumeric arrays, the schedule proper, auxiliary tables for use with more than one subclass or array within the schedule, and an index. Changes and additions are incorporated into the electronic, PDF and print versions of *LCC*.

The *DDC* is a decimal classification scheme that uses broad three-digit Arabic numbers followed by a decimal point and varying quantities of additional digits to achieve arrangements. Originally developed by Melvyl Dewey and published anonymously in 1876, the treatment of music in *DDC* is prejudiced toward classical, European music. Music from other countries and popular works are treated less comprehensively.

Music is located in the 780-789 range and is arranged by type of music, voice, and instrumentation. The class is arranged as follows: music (780), general principles and musical forms (781), vocal music (782), music for single voices and the voice (783), instruments and instrumental ensembles (784), chamber music (785), keyboard and other instruments (786), stringed instruments (787), wind instruments (788), and not assigned (789). Class numbers may be expanded indefinitely in order to achieve specificity for topics in the work. The specificity of the *DDC* classification number requires additional digits after the decimal point.

Available in print and electronic versions, the *DDC* schedule is compact and includes mnemonic devices that can be transferred among selected classes. The external format is reflected in the organization of the schedule and includes the following sections: an introduction, the schedule proper, seven tables of standard subdivisions, an index, and a manual. Changes and additions are incorporated into the electronic version of *DDC*, distributed through a listserv, and available in print from OCLC.

Additions, modifications and deletions to any classification scheme must be made to maintain currency and viability. Changes to the classification scheme impact new and existing bibliographic records. Catalogers and technical services managers must evaluate and determine an appropriate balance between the demands to change and the need for consistency and collocation of similar topics. Therefore, during the cataloging process the cataloger consults the classification schemes to verify or construct the notation selected for access.

Cataloging music-examples and analysis

The cataloging process for notated music consists of four related tasks: descriptive cataloging, subject analysis (subject cataloging or indexing), authority control, and classification. Learning the unique aspects of the cataloging process for music requires familiarity with relevant national and international standards, background of music and its history, and, ideally, an ability to read musical notations. The successful completion of each task results in the construction or enhancement of a bibliographic record that represents the manifestation and the equipment.

In order to complete these tasks, the library school student or novice cataloger needs to be familiar with each of the required tools (*AACR2r*, MARC documentation, *LCSH*, *LCC*, *DDC*, and an authority file). Catalogers who devote their professional careers to the construction and enhancement of bibliographic descriptions for notated music rely on specialized tools. The steps in the cataloging process include examples of a classical work for the piano, Ludwig van Beethoven's *Moonlight Sonata*, the Piano Sonata number 14, in C sharp minor, *Quasi Una Fantasia* (see Figures 9.1 and 9.2) and the vocal score for Leonard Bernstein's *West Side Story* (see Figures 9.3 and 9.4) in order to contextualize the instructions. Additional examples with notes regarding the cataloging process for music appear at the end of this section.

Example one: *Moonlight Sonata*

Step 1—Examine the information package. The cataloger determines that the information package is a piano score. The entire score is present and is a single-part bibliographic resource (*AACR2r* Rules 1.0A2 and 5.0A).¹⁸ (Tools needed for this step: piano score, *Moonlight Sonata* and *AACR2r*.)

Step 2—Identify the correct MARC format to use. The cataloger determines that the MARC 21 bibliographic format for music is required.¹⁹ (Tools needed for this step: piano score, *Moonlight Sonata* and MARC documentation.)

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information on the information package (Rules 1.0A3a, 5.0B1, and 5.0B2). These data are the most credible elements that the cataloger transcribes into the bibliographic record (see Figure 9.1). Using the guidelines for punctuation (Rules 1.0C and 5.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 5.0D). In order to consider each of the required data elements, the cataloger uses sections of chapter 1 and chapter 5. (Tools needed for this step: piano score, *Moonlight Sonata* and AACR2r.)



Figure 9.1. Opening page of *Moonlight Sonata*.

Step 4—Find standard numbers. The publisher, Century Music, included a publisher's number on the cover of the score. According to AACR2r (Rules 1.8B and 5.8B), the bibliographic record requires the inclusion of standard numbers. The publisher's number can be used to search the local OPAC, the databases of bibliographic utilities and commercial vendors. (Tools needed for this step: piano score, *Moonlight Sonata*, AACR2r, and MARC documentation.)

Step 5—Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is OCLC.²⁰ The cataloger gains access to WorldCat® through the institutional subscription and the student has permission through a formal agreement between the library school and OCLC.²¹ The OCLC database requires a unique authorization and password.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home page, the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*. The *Librarian's Toolbox* page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, and WorldCat® tools.²² When the searcher chooses Connexion in the

logon links section, the WorldCat® Services login page appears.²³ Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 6–Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the work and manifestation. The cataloger may search by the publisher's number, composer or title. Searches by standard numbers are the most efficient.

The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible. In the middle of the screen the searcher will find three pull down boxes. To use this type of search, the cataloger selects publisher's number. Additional types of searches are described in OCLC documentation.²⁴

The cataloger enters the publisher's unique number for *Moonlight Sonata* (1186-14) and clicks on the search button. A screen display of four records appears. The titles of two records match; the other two records are for a different title. Bibliographic records (OCLC #63153514 and #7531256) match the title. However, only the publisher of the second record matches the manifestation. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 7–Examine the search results. The cataloger must determine whether the bibliographic record matches score and its physical format. The cataloger reviews OCLC #7531256 to determine whether or not it matches. (Tools needed for this step: piano score, *Moonlight Sonata*, Internet, and documentation for the bibliographic utility.)

Step 8–Determine if a bibliographic record matches. In order to determine whether or not the bibliographic record matches, the cataloger will check and verify the following data elements: main entry (Rules 1.1F, 5.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5), publisher's number (Rules 1.8B and 5.8B), format (Rule 5.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, and 5.1B), general material designation (Rules 1.1C and 5.1C1), publisher (Rules 1.4D, 5.4D, and 5.4E), and publication date (Rules 1.4F and 5.4F).

Local librarians determine which data elements must match exactly in order to accept the bibliographic record. When cataloging music, these data elements customarily include the title, composer, publisher, date, and standard numbers. When a bibliographic record is accepted, the cataloger reviews each field, subfield and indicators to ensure that the data have been transcribed and tagged according to MARC requirements.

The matching bibliographic record (OCLC #7531256) contains data elements that match the score exactly. In this example, data for the main entry (Beethoven, Ludwig van, 1770-1827, 100 #a, #d), title (*Moonlight Sonata*, 245 #a), subtitle (sometimes called *Moonlight Sonata*, 245 #b), imprint (New York : #b Century Music, #c pc1906, 260 #a, #b, #c), and extent of the item (1 score (15 p.) ; #c 31 cm., 300 #a, #c) match the score exactly. In addition, the bibliographic record contains a uniform title (*Sonatas, piano, no. 14, op. 27, no. 2, C # minor*, 240 #a, #m, #n, #n, #r), a topical subject heading (650 #a) and an added entry (700 #a). Therefore, this is an appropriate record to use. (Tools needed for this step: piano score, *Moonlight Sonata*, AACR2r, and MARC documentation.)

Step 9–Verify the access points. The cataloger needs to determine if the bibliographic record contains all of the access points that users may need for searching and retrieving the score. If the bibliographic record includes the access points specified in the library's bibliographic input standard document, no additional fields are required. However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

The cataloger is responsible for making certain that each access point and make certain that the data are transcribed correctly into the MARC fields and subfields with the correct indicators. In this example, OCLC record #7531256 contains data access points denoting the main entry (Rules 1.1F, 5.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 5.1B, and 5.1E), parallel title (Rule 5.1D), uniform title (Rule 5.1B2), subject headings, (no rule *per se*), and added entry for the editor (Rules 1.1F, 5.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5). The following access points appear in the selected bibliographic record: title (*Moonlight Sonata*), a topical subject (*Sonatas (Piano)*, 650 #a) and an added entry for the editor (Burdick, Irving, 700 #a).

The cataloger needs to verify that each of these access points is transcribed correctly and determines that the content of the variable fields in the bibliographic record match the score and that the fixed fields correlate accurately with these data. (Tools needed for this step: piano score, *Moonlight Sonata*, AACR2r, and MARC documentation.)

Step 10–Verify the classification. The cataloger needs to determine if the classification number present in the bibliographic record is part of the scheme that the library has adopted. If the bibliographic record includes a correctly formatted classification number in the local scheme that the library uses, the cataloger does not need to make modifications. However, if the classification number does not correspond to the local scheme or is not

present, then the cataloger needs to add an appropriate call number. In either instance, the cataloger is responsible for ensuring that a correct Cutter designation is added.

In this example, OCLC record #7531256 contains both *LCC* (090 #a) and *DDC* (092 #a) classification notations. The cataloger reviews the classification notation for the scheme used in the library to make certain that it and the Cutter are transcribed correctly into the MARC field and subfields with the correct indicators.

The *LCC* notation (090 #a) is M23 with a Cutter (050 #b .B414 op. 27) and date (1906). The *DDC* notation is 786.411 with a Cutter (092 #b B393, op27/2ce) representing the main entry and uniform title. Librarians at Wheaton College contributed the bibliographic record and prepared both notations. (Tools needed for this step: piano score, *Moonlight Sonata*, *AACR2r*, MARC documentation, and classification scheme.)

Step 11—Determine other tags to include. If the bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they should be transcribed according to the rules in *AACR2r* and placed correctly into fields and subfields as required by MARC documentation.

In this example, OCLC record #7531256 does not contain several tags required to describe the score. The cataloger is responsible for adding these tags: the number of musical instruments code (048 #a), variant title (246 #a), duration (Rule 5.7B10, 306 #a), and a general note (rules 5.7B10 and 5.7B11, 500 #a). (Tools needed for this step: piano score, *Moonlight Sonata*, *AACR2r*, and MARC documentation.)

Step 12—Review each point of access in the authority file. The cataloger needs to verify points of access in the bibliographic record against authority records. The bibliographic record does not carry an indication that it was created at a Program for Cooperative Cataloging (PCC) library (042 #a) or the Library of Congress (040 #a). Therefore, the cataloger is responsible for the verification of the forms of entries in an authority file for each point of access.

In order to take advantage of authority records produced in other institutions, the cataloger or library school student needs to have online access to them. The largest databases of authority records are available from the Library of Congress and OCLC. The cataloger has free access to the Library of Congress website. Access to WorldCat® is available to library staff members through the institutional subscription, and frequently, LIS students have permission through a formal agreement between their library school and OCLC. The OCLC database requires a unique authorization and password.

To log into the Library of Congress authorities database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to its website.²⁵ In the middle of the authorities page, the searcher chooses *Search Authorities*. The *Authorities Headings Search* page offers four types of searches: subject authority headings, name authority headings, title authority headings, and name/title authority headings. Search tips for each type of heading are linked to this site.

Using an efficient search strategy saves time and enables the cataloger to find each authority record that matches access points. Each access point is searched independently. In this example, the cataloger must search for the individuals and corporate bodies in the added entries, two personal subject headings, topical subject heading, and six genre headings. To search for an individual the name authority headings is highlighted and the correct search protocol is entered: Beethoven, Ludwig van. A listing of authority records appears as a result of the search. The number of bibliographic records in which the name appears, the form of the name and the type of heading appear in horizontal rows across the page. Headings with a red box in the left-hand column reading authorized heading can be viewed by double-clicking on the icon. The screen for the correct form of the name and its source (the Library of Congress Online Catalog) appear on the next screen.

In order to see the MARC version of the authority record, the searcher double-clicks on the name. Authority record #n 79107741 contains the form of the name for the performer with the correct field (100), indicators (1X), and subfields (#a, #d). The cataloger reviews the authority record and compares it with the field in the bibliographic record to ensure that the data are transcribed and tagged correctly.

Searches for the uniform title require that the *author/title authority headings* choice is highlighted. The most efficient search is as follows: Beethoven, Ludwig van, 1770-1827. Sonatas, piano, no. 14. A listing of authority records appears as a result of the search. The number of bibliographic records in which the subject appears, its correct form and the type of heading appear in horizontal rows across the page. Headings with a red box in the left-hand column reading “authorized heading” can be viewed by double-clicking on the icon. The screen for the correct form of the name and its source (the Library of Congress Online Catalog) appear on the next screen.

In order to see the MARC version of the authority record, the searcher double-clicks on the composer/title entry. Authority record #n 82028186 contains the composer and the uniform title with the correct field (100) and

subfields (#a, #d, #t, #m, #n, #r). The cataloger compares the authority record with the field in the bibliographic record to ensure that the data are transcribed and tagged correctly.

Searches for the subject headings require that the *subject authority headings* choice is highlighted and the correct search protocol is entered. A listing of authority records appears as a result of the search. The number of bibliographic records in which the subject appears, its correct form and the type of heading appear in horizontal rows across the page. Headings with a red box in the left-hand column reading *authorized heading* can be viewed by double-clicking on the icon. The screen for the correct form of the name and its source (the Library of Congress Online Catalog) appear on the next screen.

In order to see the MARC version of the authority record, the searcher double-clicks on the subject. Authority record #sh 85124927 contains the form of the subject for Sonatas (Piano) with the correct field (150) and subfield (#a). The cataloger reviews the authority record and compares it with the bibliographic record to ensure that the data are transcribed and tagged correctly. This process is repeated for each subject heading and the genre heading.

After all of the data have been entered and verified in the authority file, the cataloger should review the bibliographic record, check for transcription errors, fix punctuation marks, and correct spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, and standard number). The bibliographic record for *Moonlight Sonata* appears in Figure 9.2.

<i>Moonlight Sonata (Piano score)</i>	
008	800423s1906 nyusn n N/A d
028 22	1186-14 #b Century Music
048 o	ka01
090	M23 #b .B414 op.27, no.2, 1906
092	786.411 #b B393, Op27/2ce
100 1	Beethoven, Ludwig van, #d 1770-1827.
240 10	Sonatas, #m piano, #n no. 14, op. 27, no. 2, #r C# minor
245 10	Moonlight sonata = Sonata quasi una fantasia, op.27, no.2 : #b sometimes called Moonlight sonata / #c Ludwig van Beethoven ; edited by Irving Burdick.
246 30	Moonlight sonata
260	New York : #b Century Music, #c c1906.
300	1 score (15 p.) ; #c 31 cm.
306	001541
500	Caption title.
650 o	Sonatas (Piano)
650 o	Piano music.
700 1	Burdick, Irving. \$4 edt

Figure 9.2. Bibliographic record for *Moonlight Sonata*.

Example two: *West Side Story*

Step 1—Examine the information package. The cataloger determines the information package to be a musical score. The entire musical score is present and does not include inserts or accompanying items. According to AACR2r, the information package is a single-part bibliographic resource (Rules 1.0A2 and 5.0A). (Tools needed for this step: vocal score for *West Side Story* and AACR2r.)

Step 2—Identify the correct MARC 21 format to use. The cataloger determines that the MARC 21 bibliographic format for music is required. (Tools needed for this step: vocal score for *West Side Story* and MARC documentation.)

Step 3—Locate chief source of information. The cataloger identifies the first occurrence of the chief source of information on the vocal score (Rules 1.0A3a, 5.0B1, and 5.0B2). These data are the most credible elements that the cataloger transcribes into the bibliographic record (see Figure 9.3). Using the guidelines for punctuation (Rules 1.0C and 5.0C), the cataloger begins to prepare a bibliographic record at the second level of description (Rules 1.0D and 5.0D). In order to consider each of the required data elements, the cataloger uses sections of chapter 1 and chapter 5. (Tools needed for this step: vocal score for *West Side Story* and AACR2r.)

Step 4—Find standard numbers. The publisher, Hal Leonard Corporation, included an International Standard Book Number (ISBN) and a publisher's number on the vocal score. According to AACR2r (Rules 1.8B and 5.8B), the bibliographic record includes standard numbers if they are present on the information package. (Tools needed for this step: vocal score for *West Side Story*, AACR2r, and MARC documentation.)

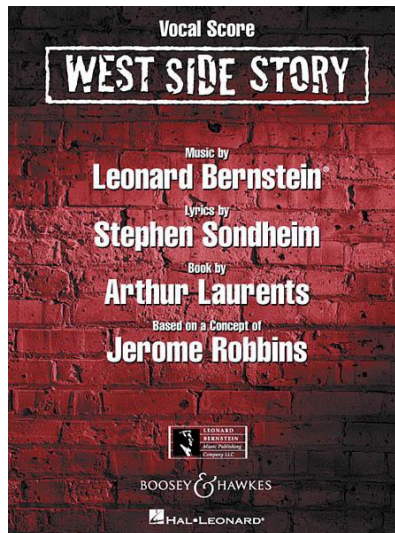


Figure 9.3. Cover for *West Side Story*.

Step 5–Log into the bibliographic utility or cataloging software. In order to take advantage of bibliographic records produced in other institutions, the cataloger or library school student needs to have online access to the bibliographic database that will be searched. The largest global database of bibliographic records is OCLC. The cataloger gains access to WorldCat® through the institutional subscription and the student frequently has permission through a formal agreement between the library school and OCLC. The OCLC database requires a unique authorization and password.

To log into the OCLC database, the searcher (whether cataloger, technical services staff member or library school student) needs to access the Internet and go to the OCLC website. In the right-hand column of the home page, the searcher chooses *Products and Services* and clicks on *Librarian's Toolbox*. The *Librarian's Toolbox* page includes links for several categories of resources including (but not limited to) logon links, cataloging tools, FirstSearch tools, resource sharing tools, and WorldCat® tools. When the searcher chooses Connexion in the logon links section, the WorldCat® Services login page appears. Several tutorials and documentation are linked to this page. Choices include (but are not limited to) Connexion® documentation, Connexion® tutorials, OCLC cataloging, the label program, product services web, Connexion® statistics, system alerts, Connexion® tips and information about the links. After entering the authorization and password, the welcome screen for the OCLC Connexion® Services appears. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 6–Search the bibliographic database. Using an efficient search strategy to save time and money, the cataloger needs to find the bibliographic record that matches the work and manifestation. The cataloging tab in the upper left-hand corner of the page needs to be highlighted in blue in order to search the database. Two types of searches are possible. At the top of the screen the searcher will find a command line search capability. To use this type of search, the scan or an alphanumeric command is required.

The searcher should use the scan command in order to find a work by derived, keyword or phrase searches. Keyword searches enable the user to search by word, number, phrase or whole phrases with appropriate punctuation. The equal sign (=) indicates that a phrase or whole phrase index will be searched; a colon (:) indicates that a word index will be queried. Boolean operators (and, or, not) may be used to combine searches. In this example, a correct search protocol is as follows: scan ti=west side story. The title that matches the search protocol is shown in bold type with the number of associated bibliographic records displayed in the column at the right-hand edge of the screen.

A total of 671 individual bibliographic records appears and represents monographs, textual serials, projected media, sound recordings, notated music, and computer files. The type of information package (music scores) enables the cataloger to choose a group by the dates (1900-2000), which contains 99 records. Double-clicking on music scores in the left-hand column results in a display of 99 individual bibliographic records.

Given the publisher (H. Leonard) and the latest date (2000), the number of potential matches can be reduced to two possibilities. The cataloger reviews records OCLC #48029746 and #52343931 and chooses the second one. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.)

Step 7–Examine the search results. The cataloger determines that the bibliographic record and its title match the information package. The cataloger reviews OCLC #48029746 in order to determine whether or not it matches the manifestation. (Tools needed for this step: vocal score for *West Side Story*, Internet, and documentation for the bibliographic utility.)

Step 8–Determine if a bibliographic record matches. In order to determine whether or not the bibliographic record matches the vocal score, the cataloger checks and verifies the following data elements: format (Rule 5.1C), title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 5.1B and 5.1D), subtitle (Rule 5.1E), general material designation (Rule 1.1C and 5.1C1), publishers (Rules 1.4D, 5.4D, and 5.4E), publication and copyright dates (Rules 1.4F and 5.4F), credits (Rule 5.7B), and duration (Rule 5.5B).

Local librarians determine which data elements must be exactly the same in order to constitute a match between the information package and the bibliographic record. For notated music, these data elements customarily include the title, publisher, date, and standard numbers. When a bibliographic record is identified as a match, then the cataloger reviews each field, subfield and indicators to ensure that the data have been transcribed and tagged according to MARC requirements.

The matching bibliographic record (OCLC #52343931) contains data elements that match the information package exactly. In this example, data for the title (*West Side Story*, 245 #a), imprint ([United States] : #b Leonard Bernstein Music Pub. Co. ; #b Boosey & Hawkes ; #a Milwaukee, WI : #b Hal Leonard Corp., #c c2000, 260 #a, #b, #c), and extent of the item (1 vocal score (219 p.) ; #c 31 cm., 300 #a, #b, #c) match the information package exactly. In addition, the bibliographic record contains an International Standard Music Number (024 #a), a language code for accompanying materials (since the library does not have these items, this tag is deleted), a time period of content field (045 #b), a uniform title (240 #a, #s), four general notes (500 #a), a subject heading (650 #a), and five added entries (700 #a). Therefore, this is an appropriate record to use. (Tools needed for this step: vocal score for *West Side Story*, AACR2r, and MARC documentation.)

Step 9–Verify the access points. The cataloger needs to determine if the bibliographic record contains all of the access points that users may need for searching and retrieving the information package. If the bibliographic record includes the access points specified in the library's bibliographic input standard document, no additional fields are required. However, if the fields do not include all of the locally required access points, then the cataloger needs to add the missing fields and transcribe the bibliographic data into appropriate MARC fields and subfields.

In this example, OCLC record #52343931 contains data access points denoting the title (Rules 1.1B, 1.1C, 1.1D, 1.1E, 5.1B, and 5.1E), subject headings, (no rule *per se*), and added entries for the contributors to the intellectual content of the manifestation (Rules 1.1F, 5.1F, 21.0A, 21.1, 22.1, 22.4, and 22.5). It is incumbent upon the cataloger to review each access point and make certain that the data are transcribed correctly into the MARC fields and subfields with the correct indicators.

The following access points appear in the selected online record: title (*West Side Story*), a topical subject (Musicals – Vocal scores with piano, 650 #a, #v), and added entries for the the author of the original idea (Kerns, Jerome, 700 #a), the lyricists (Laurents, Arthur and Sondheim, Stephen; 700 #a), and the editors (Alderking, Seann and Harmon, Charlie; 700 #a).

The cataloger verifies each of these access points to be certain that the content of the variable fields in the bibliographic record match the information package. Then the cataloger reviews the fixed fields to verify that they correlate accurately with these data. (Tools needed for this step: vocal score for *West Side Story*, AACR2r, and MARC documentation.)

Step 10–Verify the classification. The cataloger needs to determine if the classification number present in the online record is part of the scheme that the library has adopted. If the bibliographic record includes a classification number in the local scheme and if formatted correctly, the cataloger does not need to make modifications. However, if the classification number does not correspond to the local scheme, then the cataloger needs to add an appropriate call number. In either instance, the cataloger is responsible for ensuring that a correct Cutter designation is added.

In this example, OCLC record #52343931 contains an LCC (050 #a) classification notation (M1503) with a double Cutter (.B495 W4, 050 #b) and date (2000). It is incumbent upon the cataloger to review the classification notation for the scheme used in the library and make certain that it and the Cutter are transcribed correctly into the MARC 21 field and subfields with the correct indicators. The cataloger updates the DDC notation (782.14138, 090 #a) and adds a Cutter (B53, 090 #b). (Tools needed for this step: vocal score for *West Side Story*, AACR2r, MARC documentation, and classification scheme.)

Step 11—determine other tags to include. If the bibliographic record includes each field required by the local bibliographic input standards document, no others are added. However, if the cataloger adds tags, they should be transcribed according to the rules in *AACR2r* and placed correctly into fields and subfields as required by MARC documentation.

The cataloger may choose to add tags that bring the bibliographic record up to the requirements of the library's bibliographic input standard for notated music. Tags that need to be added include (but are not limited to) the following: a note describing the original music (500 #a) and formatted contents (Rule 6.7B18, 505 #a). (Tools needed for this step: vocal score for *West Side Story*, *AACR2r*, and MARC documentation.)

Step 12—Review each point of access in the authority file. The cataloger needs to verify points of access in the bibliographic record against authority records. The bibliographic record does not carry an indication that it was created at a Program for Cooperative Cataloging (PCC) library (042 #a) or the Library of Congress (040 #a). Therefore, the cataloger is responsible for the verification of the forms of entries in an authority file for each point of access.

In order to take advantage of authority records produced in other institutions, the cataloger or library school student needs to have online access to them. The largest databases of authority records are available from the Library of Congress and OCLC. The cataloger has free access to the Library of Congress website. Access to WorldCat® is available to library staff members through the institutional subscription, and LIS students frequently have permission through a formal agreement between their library school and OCLC. The OCLC database requires a unique authorization and password.

Each access point is searched independently. Using an efficient search strategy saves time and enables the cataloger to find each authority record that matches access points. In OCLC, the cataloger highlights the authorities blue tab at the top of the screen. The cataloger selects the type of search among the choices in a drop down box and enters the name (personal or corporate), title or term into the search text box.

If the cataloger uses OCLC to search for authority records, the login process is the same until the welcome screen for the OCLC Connexion® Services appears. The authorities tab in the upper left-hand section (to the right of the cataloging tab) on the page needs to be highlighted in blue in order to search the authorities file. At the top of the screen the searcher will find a command line search capability. To use this type of search, scan is used with a designation for the personal name (pn), corporate body (co), title (ti) or subject (su). In this example, a correct search protocol is as follows: scan pn=bernstein,leonard.

An entry with birth and death dates appears on the search results screen. The name that matches the search protocol is shown in bold type with the number (designated by R) of associated bibliographic records displayed in the column at the right-hand edge of the screen. Double-clicking on the number adjacent to the name in bold type results in a display of the individual authority records (designated by E) and gives data about the individual and associated titles. The authority record for the composer is OCLC #ARN 43243 with Library of Congress Control Number #n 50007704. The authority record contains matching data that are transcribed and tagged correctly (100 1X #a, #d) and notes about the work and its author (670 #a).

Searches for the subject headings require search protocol as follows: scan su=musicals. A listing of authority records appears as a result of the search. The number of authority records for the subject and its correct form appear in horizontal rows across the page. Double-clicking on the number adjacent to the name in bold type results in a display of the individual authority records (designated by R) and gives data about the subject.

In this example, a single authority record exists for the subject heading musicals (OCLC #ARN 2050535) with Library of Congress Control Number #sh 85089018 (010 #a) contains the form of the name for the subject with the correct field (150) and subfield (#a). The cataloger reviews the authority record and compares it to the bibliographic record. The cataloger checks the free-floating subdivision (#v Vocal scores with piano). An authority record exists (OCLC #ARN 5026943) for the free-floating subdivision with Library of Congress Control Number #sh 99002055 (010 #a) contains the form with the correct subfield (#v). This process is repeated for each subject heading and the genre heading. Regardless of which search method is selected, the authority record for each access point is the same.

In the fixed field, the record status, date the record was entered, date replaced, record type, the record status, bibliographic level, the description, record status, and the encoding level should not require modification. The fixed field data elements (008) that must match the data that have been transcribed in the variable fields (1XX-8XX) include the type of material form (notated music = c), format of music (accompaniment reduced for keyboard = c), form of composition (musical = mc), accompanying matter (technical information = h and historical information = i), date type (publication / copyright dates = t), and country of publication (New York and Milwaukee, Wisc. = xxu).

In this example, the single date (s) needs to be updated to indicate that there are two dates (publication and copyright dates = 2000,1957). The other fixed field data elements should be blank (form, part, transposition and arrangement, literary text for sound recordings, audience, control, and modified record). The cataloger reviews the fixed field and compares the characters in the bibliographic record to ensure that the data are transcribed and tagged correctly. (Tools needed for this step: Internet, documentation for the bibliographic utility, username, and password.) The bibliographic record for *West Side Story* appears in Figure 9.4.

008	011003t20001957nyumcm hi n eng d
020	0634046780
024 2	M051970209
028 30	HL00450050#bHal Leonard
041 0	eng #g enggerfre
050 4	M1503.B53 #b W47 2000
092	782.14138 #b B53
100 1	Bernstein, Leonard, #d1918-1990.
240 10	West Side story. #sVocal score
245 10	West Side story / #c Leonard Bernstein ; based on a conception of Jerome Robbins ; book by Arthur Laurents ; lyrics by Stephen Sondheim ; entire original production directed and choreographed by Jerome Robbins ; orchestrations by Leonard Bernstein with Sid Ramin and Irwin Kostal.
250	[Rev. ed.]
254	Vocal score.
260	[New York?] : #b L. Bernstein Music Pub., ; #a Milwaukee, WI : #b Boosey & Hawkes : #b Hal Leonard, #c 2000, c1957.
300	1 vocal score (219 p.) ; #c 31 cm.
306	021500
500	Vocal score with instrumental cues functions as piano/ score also.
500	Edited from 1994 publication of the full score prepared from the performance materials for the composer's 1984 Deutsche Grammophon recording and from mss. at the Library of Congress.
500	Editors' notes by Seann Alderking and Charlie Harmon in English, with German and French translations.
500	Duration: 135 min.
505 00	#t Jet song -- #t Something's coming -- #t Maria -- #t Balcony scene -- #t America -- #t Cool -- #t One hand, one heart -- #t Tonight -- #t I feel pretty -- #t Under dialogue -- #t Ballet sequence -- #t Somewhere -- #t Procession and nightmare -- #t Gee, Officer Krupke -- #t Boy like that, and I have a love.
650 0	Musicals #v Vocal scores with piano.
700 1	Sondheim, Stephen. #4 lyr
700 1	Robbins, Jerome.
700 1	Laurents, Arthur. #4 lbt
700 1	Ramin, Sid. #4 arr
700 1	Kostal, Irwin. #4 arr
700 1	Alderking, Seann. #4 edt
700 1	Harmon, Charlie. #4 edt

Figure 9.4. Bibliographic record for *West Side Story*.

After all of the data have been entered and verified in the authority file, the cataloger should review the bibliographic record, check for transcription errors, fix punctuation marks, and correct spelling (see at least the following elements: title proper, statement of responsibility, edition statement, material or type of publication specific details, first publisher, etc., date of publication, extent of the item, notes, and standard number).

Summary

This chapter includes information and explanations about cataloging notated music using the MARC bibliographic format, cataloging tools and documentation, MARC fixed and variable fields, and steps in the bibliographic description.

Adapting, enhancing or constructing a bibliographic record for notated music requires the cataloger to possess a heightened awareness and knowledge of the discipline. Consistency of accessing and retrieving information resources in the library collection can be achieved through the adherence to national and international standards

and cataloging conventions developed by music catalogers. Learning when and how to use each cataloging tool and documentation during the cataloging process is critical when handling notated music.

Contributing bibliographic records to an online catalog requires the cataloger to use *AACR2r* and MARC together. Providing subject and classification access in bibliographic records for an online catalog requires the cataloger to use specialized tools in conjunction with MARC documentation and *AACR2r*. Because of the unique characteristics of music, the cataloger must rely on the *Library of Congress Subject Headings (LCSH)* for the assignment of topical terms and follow the development of *The Music Thesaurus* by members of the Music Library Association. The purpose of classification is to group information packages together and lead the user to them. Catalogers use *Library of Congress Classification* and the *Dewey Decimal Classification* scheme to determine the arrangement of notated music for children, teens and adults.

The cataloging process for these materials consists of four related tasks: descriptive cataloging, subject analysis (subject cataloging or indexing), authority control, and classification. Learning the unique aspects of the cataloging process for music requires familiarity with relevant national and international standards, technical aspects of the media itself, and an understanding of notated music. The successful completion of each task results in the construction or enhancement of a bibliographic record that represents the information package.

Review exercises

Please prepare a bibliographic record using the MARC format for the following titles.

○ ***Carmen: opera in four acts by Georges Bizet*** (score; publisher number 12117 [G. Schirmer])

○ ***Nocturnes by Claude Debussy*** (score; publisher number BM 900118 [Belwin/Mills])

○ ***Sonatina, Op. 51 for Guitar by Lennox Berkeley*** (score; publisher number M 2090 [Masters Music])

○ ***Stephen Foster songbook: original sheet music of 40 songs*** (score; ISBN 0486230481 (pbk) and 0486230864)

Additional resources

Additional resources for music

The American Society of Composers, Authors and Publishers, <http://www.ascap.com/index.html> (17 May 2008).

Copyright for Music Librarians, <http://www.lib.jmu.edu/org/mla/> (17 May 2008).

Dictionary of Contemporary Music. John Vinton, editor. [1st ed.]. New York: E. P. Dutton [1974].

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