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**Functional Requirements
for
Bibliographic Records**

Final Report

IFLA Study Group on the
Functional Requirements for Bibliographic Records
Approved by the
Standing Committee of the

IFLA Section on Cataloguing
K . G. Saur München 1998

➤ **IFLA Cataloguing Section:** <http://www.ifla.org/VII/s13/sc.htm>

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Fédération Internationale des Associations de Bibliothécaires et des Bibliothèques
Internationaler Verband der Bibliothekarischen Vereine und Institutionen

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IFLA Universal Bibliographic Control
and International MARC Programme
Deutsche Bibliothek, Frankfurt am Main

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September 1997

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1. INTRODUCTION

1.1 Background

Almost forty years ago the International Federation of Library Associations and Institutions (IFLA) initiated a fundamental re-examination of cataloguing theory and practice on an international level. The first important outcome of that effort was a set of cataloguing principles agreed to at an international conference held in Paris in 1961 that have subsequently come to be known as the Paris Principles. A second key undertaking was initiated at the International Meeting of Cataloguing Experts held in Copenhagen in 1969 with the adoption of a resolution to establish international standards for the form and content of bibliographic descriptions. The first of the standards developed under that resolution, the *International Standard Bibliographic Description for Monographic Publications*, was published in 1971. In the years that have followed those initial undertakings the Paris Principles and the ISBDs have served as the bibliographic foundation for a variety of new and revised national and international cataloguing codes.

During that same period, however, the environment within which cataloguing principles and standards operate has changed dramatically. Key factors contributing to the change have been the introduction and ongoing development of automated systems for the creation and processing of bibliographic data, and the growth of large-scale databases, both national and international in scope, that contain records contributed and used by thousands of libraries participating in shared cataloguing programs. The growth of shared cataloguing has been spurred not only by the opportunities that new technologies bring with them but also by an increasing need to reduce cataloguing costs by minimizing duplicate cataloguing effort. Economic pressures have also prompted libraries to try to simplify the cataloguing process and to do more and more “minimal level” cataloguing in order to keep pace with the continued growth of publishing output. On the other side of the coin, there has been an increasing need to adapt cataloguing codes and practices to accommodate change resulting from the emergence of new forms of electronic publishing, and the advent of networked access to information resources. Equally important has been a recognized need to respond more effectively to an increasingly broad range of user expectations and needs.

It was this changing environment that formed the backdrop to the 1990 Stockholm Seminar on Bibliographic Records, sponsored by the IFLA Universal Bibliographic Control and International MARC (UBCIM) Programme and the IFLA Division of Bibliographic Control. While the participants in the Seminar recognized the economic realities faced by libraries and the need to reduce the cost of cataloguing, they also acknowledged the importance of meeting user needs and addressing more effectively the broad range of needs associated with various types of material and the various contexts within which bibliographic records are used. It was recognized that continuing pressure to do “minimal level” cataloguing required a careful re-examination of the relationship between individual data elements in the record and the needs of the user. It was also recognized that in this context the viability of shared cataloguing programs, both nationally and internationally, required an agreed standard for a “basic” or “core” level record.

There were nine resolutions adopted at the Stockholm Seminar, one of which led directly to the current study. That resolution called for the commissioning of a study to define the functional requirements for bibliographic records. The terms of reference that were subsequently developed for the study stated its purpose and scope as follows:

The purpose of this study is to delineate in clearly defined terms the functions performed by the bibliographic record with respect to various media, various applications, and various user needs. The study is to cover the full range of functions for the bibliographic record in its widest sense-- i.e., a record that encompasses not only descriptive elements, but access points (name, title, subject, etc.), other "organizing" elements (classification, etc.), and annotations.

The aim of the study was to produce a framework that would provide a clear, precisely stated, and commonly shared understanding of what it is that the bibliographic record aims to provide information about, and what it is that we expect the record to achieve in terms of answering user needs.

The terms of reference also gave a second charge to the study group: to recommend a basic level of functionality and basic data requirements for records created by national bibliographic agencies. The purpose of formulating recommendations for a basic level national bibliographic record was to address the need identified at the Stockholm Seminar for a core level standard that would allow national bibliographic agencies to reduce their cataloguing costs through the creation, as necessary, of less-than-full-level records, but at the same time ensure that all records produced by national bibliographic agencies met essential user needs.

The terms of reference for the study were approved by the Standing Committee of the IFLA Section on Cataloguing at the September 1992 IFLA Conference in New

Delhi. Members of the study group were appointed from both the Section on Cataloguing and the Section on Classification and Indexing.

The study group completed its lengthy deliberations for its draft report in the fall of 1995. The study group consultants were responsible for writing various interim working documents and the completed draft report. In May 1996 the draft report was sent to the members of the IFLA Section on Cataloguing and the study's volunteer commentators for a six-month, world-wide review. The draft report was also available electronically through the World Wide Web on the IFLA Section on Cataloguing's home page for other individuals and organizations to review and comment on. As a result of the six-month review, the study group received forty responses from sixteen countries. Most of the comments involved the draft report's organization, the definition of terms, the methodology, and conclusions relating to the requirements for specific types of material. Reviewers recommended that more examples be added in order to clarify various definitions and concepts.

In February 1997 the study group met to discuss the world-wide review comments and decide how to revise the report. Following this meeting the consultants incorporated the final revisions into the report. Ms. Olivia Madison, the study group chair, presented the final report to the Standing Committee of the IFLA Section on Cataloguing at the 63rd (1997) General Conference of the International Federation of Library Associations and Institutions held in Copenhagen, Denmark. The Standing Committee approved the study group's final report at its meeting on September 5, 1997.

1.2 Approach

The terms of reference for the study called for the development of a framework that identifies and clearly defines the entities of interest to users of bibliographic records, the attributes of each entity, and the types of relationships that operate between entities. The intent was to produce a conceptual model that would serve as the basis for relating specific attributes and relationships (reflected in the record as discrete data elements) to the various tasks that users perform when consulting bibliographic records.

The study makes no *a priori* assumptions about the bibliographic record itself, either in terms of content or structure. It takes a user-focused approach to analyzing data requirements insofar as it endeavours to define in a systematic way what it is that the user expects to find information about in a bibliographic record and how that information is used.

The study uses an entity analysis technique that begins by isolating the entities that are the key objects of interest to users of bibliographic records. The study then identifies the characteristics or attributes associated with each entity and the relationships between entities that are most important to users in formulating bibliographic searches, interpreting responses to those searches, and “navigating” the universe of entities described in bibliographic records. The model developed in the study is comprehensive in scope but not exhaustive in terms of the entities, attributes, and relationships that it defines. The model operates at the conceptual level; it does not carry the analysis to the level that would be required for a fully developed data model.

For the purposes of the study, the users of bibliographic records are seen to encompass a broad spectrum, including not only library clients and staff, but also publishers, distributors, retailers, and the providers and users of information services outside traditional library settings. The study also takes into account the wide range of applications in which bibliographic records are used: in the context of purchasing or acquisitions, cataloguing, inventory management, circulation and interlibrary loan, and preservation, as well as for reference and information retrieval. As a result, the attributes and relationships identified in the study reflect the breadth of use that is made of bibliographic information, and the importance to users of aspects of both content and form of the materials described in bibliographic records.

The study also endeavours to be comprehensive in terms of the range of materials, media, and formats that are covered. The study group drew on a wide range of sources identifying data pertaining to textual, cartographic, audio-visual, graphic, and three-dimensional materials; to paper, film, magnetic tape, and optical media; and to acoustic, electric, digital, and optical recording modes.

The basic elements of the model developed for the study--the entities, attributes, and relationships--were derived from a logical analysis of the data that are typically reflected in bibliographic records. The principal sources used in the analysis included the *International Standard Bibliographic Descriptions* (ISBDs), the *Guidelines for Authority and Reference Entries* (GARE), the *Guidelines for Subject Authority and Reference Entries* (GSARE), and the *UNIMARC Manual*. Additional data were culled from other sources such as the *AITF Categories for the Description of Works of Art*, from input provided by experts who were consulted as drafts of the report were being prepared, from an extensive review of published user studies, and from comments received as part of the world-wide review of the draft report.

It is important to note that the model developed for the study does not cover the extended range of attributes and relationships that are normally reflected in authority records. The model defines the entities that are the focus of authority records--persons, corporate bodies, concepts, etc.--and depicts the relationships

between those entities and the entities described in the bibliographic record *per se*. The model also defines attributes of those entities to the extent that such attributes are typically reflected in the bibliographic record. But it does not analyse the additional data that are normally recorded in an authority record, nor does it analyse the relationships between and among those entities that are generally reflected in the syndetic apparatus of the catalogue. While it is recognized that an extended level of analysis would be necessary for a fully developed conceptual model, the terms of reference for the current study, with its focus on bibliographic data, as distinct from authority data, and the constraints of time available for the study, ruled out such an extended level of analysis. Nevertheless, the study group recognizes the need to extend the model at some future date to cover authority data.

The recommendations for a basic level national bibliographic record were arrived at by assessing the relative importance of the attributes and relationships identified in the model to the generic user tasks defined for the study. The assessment was based in large part on the knowledge and experience of the study group members and consultants, supplemented by evidence in the library science literature gathered from empirical research, as well as by assessments made by several experts outside the study group.

1.3 Areas for Further Study

The model developed for this study represents an initial attempt to establish a logical framework to assist in the understanding and further development of conventions for bibliographic description. It is intended to provide a base for common understanding and further dialogue, but it does not presume to be the last word on the issues it addresses. Certain aspects of the model merit more detailed analysis and there are dimensions of the model that could be extended. To fulfill the second charge in its terms of reference, the study group used the model as the framework for its recommendations on a basic level national bibliographic record. It is hoped, however, that the model itself will serve as a useful starting point for a number of follow-up studies of interest to those involved with designing cataloguing codes and systems to support the creation, management, and use of bibliographic data.

The model could be extended to cover the additional data that are normally recorded in authority records. In particular, further analysis is needed of the entities that are the centre of focus for subject authorities, thesauri, and classification schemes, and of the relationships between those entities.

Certain aspects of the model merit more detailed examination. The identification and definition of attributes for various types of material could be extended through

further review by experts and through user studies. In particular, the notion of “seriality” and the dynamic nature of entities recorded in digital formats merit further analysis.

The model developed for this study represents, as far as possible, a “generalized” view of the bibliographic universe; it is intended to be independent of any particular cataloguing code or implementation of the concepts it represents. In certain respects, however, it is arbitrary in the way it reflects what are usually referred to in such models as “business rules” (e.g., in the criteria used to define the boundaries of a work). Those responsible for the development of national cataloguing codes might find it useful to adapt the model to reflect the “business rules” or operative principles that apply within their particular cultural context and bibliographic tradition. An exercise of that kind might provide useful insights into the logical concepts that are reflected in national codes, and assist the designers in articulating those concepts more precisely and in reflecting them more consistently as the codes are developed to meet new requirements.

At the international level, the model’s mapping of individual attributes and relationships to the specific ways in which bibliographic data are used could serve as a useful framework for re-assessing data recording conventions and standards with a view to rationalizing the level of effort that is expended in “normalizing” bibliographic data. It could also help to frame investigations into the potential for more economic means of data capture. In the same vein, the recommendations pertaining to the basic level national bibliographic record could serve as a useful starting point for resumption of work on a concise ISBD by the Standing Committee of the IFLA Section on Cataloguing.

The entity-relationship analysis reflected in the model might also serve as a useful conceptual framework for a re-examination of the structures used to store, display, and communicate bibliographic data. Further study could be done on the practical implications of restructuring MARC record formats to reflect more directly the hierarchical and reciprocal relationships outlined in the model. An examination of that kind might offer a new approach to the so-called “multiple versions” issue. The model could also be expanded in depth to create a fully developed data model that would serve as the basis for the design of an experimental database to assess the efficiency and effectiveness of a database structure patterned on the model.

2. Objectives, Scope, and Methodology

2.1 Objectives of the Study

The study has two primary objectives. The first is to provide a clearly defined, structured framework for relating the data that are recorded in bibliographic records to the needs of the users of those records. The second objective is to recommend a basic level of functionality for records created by national bibliographic agencies.

2.2 Scope

For the purposes of this study a bibliographic record is defined as the aggregate of data that are associated with entities described in library catalogues and national bibliographies. Included in that aggregate of data are descriptive data elements such as those defined in the *International Standard Bibliographic Descriptions* (ISBDs); data elements used in headings for persons, corporate bodies, titles, and subjects that function as filing devices or index entries; other data elements used to organize a file of records, such as classification numbers; annotations such as abstracts or summaries; and data specific to the copies in library collections, such as accession numbers and call numbers.

Data associated with persons, corporate bodies, titles, and subjects are analysed only to the extent that they function as headings or index entries for the records describing bibliographic entities. The present study does not analyse those additional data associated with persons, corporate bodies, works, and subjects that are typically recorded only in authority records.

The study endeavours to be comprehensive in terms of the variety of materials that are covered. The data included in the study pertain to textual, music, cartographic, audio-visual, graphic and three-dimensional materials; they cover the full range of physical media described in bibliographic records (paper, film, magnetic tape, optical storage media, etc.); they cover all formats (books, sheets, discs, cassettes,

cartridges, etc.); and they reflect all modes of recording information (analogue, acoustic, electric, digital, optical, etc.).

The study assumes that the data included in bibliographic records produced for national bibliographies and library catalogues are used by a wide range of users: readers, students, researchers, library staff, publishers, distribution agents, retailers, information brokers, administrators of intellectual property rights, etc. The study takes into account the wide variety of applications, both within and outside a library setting, in which the data in bibliographic records are used: collections development, acquisitions, cataloguing, the production of finding aids and bibliographies, inventory management, preservation, circulation, interlibrary loan, reference, and information retrieval.

Within the context of such applications users may make use of bibliographic records for a variety of purposes, for example: to determine what information resources exist, perhaps on a particular subject or by a particular person, within a given “universe” (e.g., within the totality of available information resources, within the published output of a particular country, within the holdings of a particular library or group of libraries, etc.); to verify the existence and/or availability of a particular document for purposes of acquiring, borrowing or lending; to identify a source or sources from which a document can be obtained and the terms under which it is available; to determine whether a record already exists for an item being added to a collection or whether a new record needs to be created; to track an item as it moves through a process such as binding or conservation treatment; to determine whether an item can be circulated or sent out on interlibrary loan; to select a document or group of documents that will serve the information needs of the user; or to determine the physical requirements for use of an item as they relate either to the abilities of the user or to special requirements for playback equipment, computing capabilities, etc.

For the purposes of this study the functional requirements for bibliographic records are defined in relation to the following generic tasks that are performed by users when searching and making use of national bibliographies and library catalogues:

- using the data to find materials that correspond to the user’s stated search criteria (e.g., in the context of a search for all documents on a given subject, or a search for a recording issued under a particular title);
- using the data retrieved to identify an entity (e.g., to confirm that the document described in a record corresponds to the document sought by the user, or to distinguish between two texts or recordings that have the same title);
- using the data to select an entity that is appropriate to the user’s needs (e.g., to select a text in a language the user understands, or to choose a version of a

computer program that is compatible with the hardware and operating system available to the user);

- using the data in order to acquire or obtain access to the entity described (e.g., to place a purchase order for a publication, to submit a request for the loan of a copy of a book in a library's collection, or to access online an electronic document stored on a remote computer).

2.3 Methodology

The methodology used in this study is based on an entity analysis technique that is used in the development of conceptual models for relational database systems. Although the study is not intended to serve directly as a basis for the design of bibliographic databases, the technique was chosen as the basis for the methodology because it provides a structured approach to the analysis of data requirements that facilitates the processes of definition and delineation that were set out in the terms of reference for the study.

The first step in the entity analysis technique is to isolate the key objects that are of interest to users of information in a particular domain. These objects of interest or entities are defined at as high a level as possible. That is to say that the analysis first focuses attention not on individual data but on the "things" the data describe. Each of the entities defined for the model, therefore, serves as the focal point for a cluster of data. An entity diagram for a personnel information system, for example, would likely identify "employee" as one entity that would be of interest to the users of such a system.

At a high level an entity diagram also depicts the relationships that normally hold between one type of entity and another type of entity. The model for a personnel information system, for example, would likely indicate a reciprocal relationship between the entity "employee" and the entity "position": an employee "occupies" a position; a position "is occupied by" an employee.

Once the high-level structure for the model has been charted by identifying the principal entities and the relationships between those entities, the next step in the methodology is to identify the important characteristics or attributes of each entity. For example, in the context of a personnel information system, the attributes associated with an employee might include the employee name, address, birth date, social insurance number, etc.

As an extension of the technique that is used to depict the relationships between entity types, the entity analysis methodology can also be applied at a more detailed

level to depict the specific relationships that operate between instances of entities. For example, the model for a personnel information system might show that relationships may exist between an individual employee and another employee (e.g., a spousal relationship). If such relationships are significant for the users of information in the domain being modeled, they will be defined as part of the model.

The entity-relationship structure derived from the analysis of entities, attributes, and relationships has been used in this study as the framework for assessing the relevance of each attribute and relationship to the tasks performed by users of bibliographic data. Each attribute and relationship is mapped to the four generic user tasks defined for the study, and relative values are assigned to each attribute and relationship with specific reference to the task performed and the entity that is the object of the user's interest.

The entity-relationship structure and the mapping of attributes and relationships to user tasks are used as the basis for the study group's recommendations on a basic level of functionality for records created by national bibliographic agencies. The recommendations are focused on the user tasks that are judged to be the most important for the national bibliographic record to support. Based on the relative values assigned to the attributes and relationships that support those tasks, the recommendations identify specific data requirements for the basic record.

The entity-relationship analysis technique and the conventions for graphic presentation that are used in this study are based in large part on the methodology developed by James Martin and outlined in his book *Strategic Data-Planning Methodologies* (Prentice-Hall, 1982). Graeme Simsion's *Data Modeling Essentials* (Van Nostrand Reinhold, 1994), Richard Perkinson's *Data Analysis: the Key to Data Base Design* (QED Information Sciences, 1984), and Ramez Elmasri and Shamkant Navanthe's *Fundamentals of Database Systems* (Benjamin/Cummings, 1989) were also used in shaping the methodology for the study. All four books are recommended to those who are interested in additional background and more detail on entity-relationship analysis.

2.4 Components of the Study

The entity analysis technique and the mapping of attributes and relationships to user tasks form the framework for this study's assessment of data requirements for records intended to serve the needs of users of bibliographic information, and for the study group's recommendations on basic data to be included in a national bibliographic record. The remainder of the report is divided into two major segments. The first sets out the entity-relationship model; the second presents the study group's recommendations for a basic level national bibliographic record.

The first segment of the study contains four chapters:

- Chapter 3 of the study identifies the entities that have been used in the model, naming, defining, and elaborating on their nature and scope.
- Chapter 4 analyses the attributes associated with each of the entities defined for the model, and provides definitions for each attribute. That analysis is then expanded in Appendix A to give a comprehensive listing of individual data elements associated with each attribute.
- Chapter 5 delineates the relationships used in the model, defining and elaborating on the nature of relationships that operate at a generalized level in the model as well as those that operate between specific instances of entities.
- Chapter 6 maps the attributes and relationships associated with each entity to the four generic user tasks the bibliographic record is intended to support, showing the relevance of each attribute or relationship to each of the user tasks.

The second segment of the study contains a single chapter:

- Chapter 7 uses the mapping in Chapter 6 as the frame of reference for the study group's recommendations regarding basic data requirements for national bibliographic records.

The report also contains an appendix that correlates the logical attributes defined in Chapter 4 with the data elements defined in the ISBDs, the *Guidelines for Authority and Reference Entries*, and the *UNIMARC Manual*.

3. ENTITIES

3.1 Overview

The entities that have been defined for this study represent the key objects of interest to users of bibliographic data. The entities have been divided into three groups. The first group comprises the products of intellectual or artistic endeavour that are named or described in bibliographic records: *work*, *expression*, *manifestation*, and *item*. The second group comprises those entities responsible for the intellectual or artistic content, the physical production and dissemination, or the custodianship of such products: *person* and *corporate body*. The third group comprises an additional set of entities that serve as the subjects of intellectual or artistic endeavour: *concept*, *object*, *event*, and *place*.

Sections 3.1.1 through 3.1.3 present the entities in each of the three groups in a simplified schematic form, depicting the underlying relationships between each of the entity types.

Sections 3.2.1 through 3.2.10 provide a more detailed explanation of each of the entities defined in the model.

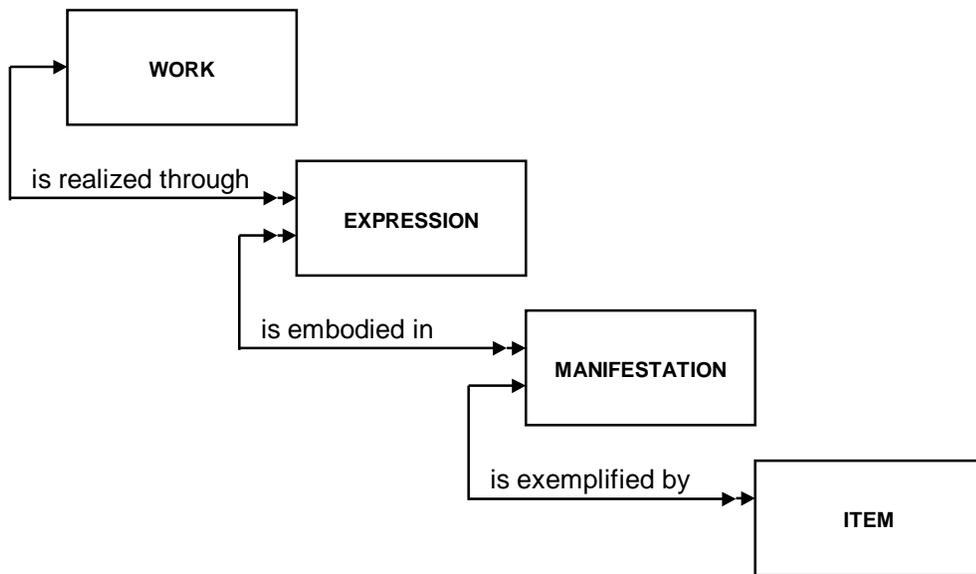
Chapter 5 (sections 5.2.1 through 5.2.3) provides a more detailed explanation of the relationships between the different types of entities that are depicted in the entity-relationship diagrams in sections 3.1.1. through 3.1.3.

3.1.1 Group 1 Entities: Work, Expression, Manifestation, Item

The entities in the first group (as depicted in Figure 3.1) represent the different aspects of user interests in the products of intellectual or artistic endeavour. The entities defined as *work* (a distinct intellectual or artistic creation) and *expression* (the intellectual or artistic realization of a *work*) reflect intellectual or artistic content. The entities defined as *manifestation* (the physical embodiment of an *expression* of a *work*) and *item* (a single exemplar of a *manifestation*), on the other hand, reflect physical form.

The relationships depicted in the diagram indicate that a *work* may be realized through one or more than one *expression* (hence the double arrow on the line that links *work* to *expression*). An *expression*, on the other hand, is the realization of one and only one *work* (hence the single arrow on the reverse direction of that line linking *expression* to *work*). An *expression* may be embodied in one or more than one *manifestation*; likewise a *manifestation* may embody one or more than one *expression*. A *manifestation*, in turn, may be exemplified by one or more than one *item*; but an *item* may exemplify one and only one *manifestation*.

Figure 3.1: Group 1 Entities and Primary Relationships



3.1.2 Group 2 Entities: Person, Corporate Body

The entities in the second group (outlined in bold in Figure 3.2) represent those responsible for the intellectual or artistic content, the physical production and dissemination, or the custodianship of the entities in the first group. The entities in the second group include *person* (an individual) and *corporate body* (an organization or group of individuals and/or organizations).

The diagram depicts the type of “responsibility” relationships that exist between entities in the second group and the entities in the first group. The diagram indicates that a *work* may be created by one or more than one *person* and/or one or more than one *corporate body*. Conversely, a *person* or a *corporate body* may create one or more than one *work*. An *expression* may be realized by one or more than one *person* and/or *corporate body*; and a *person* or *corporate body* may

realize one or more than one *expression*. A *manifestation* may be produced by one or more than one *person* or *corporate body*; a *person* or *corporate body* may produce one or more than one *manifestation*. An *item* may be owned by one or more than one *person* and/or *corporate body*; a *person* or *corporate body* may own one or more than one *item*.

Figure 3.2: Group 2 Entities and “Responsibility” Relationships

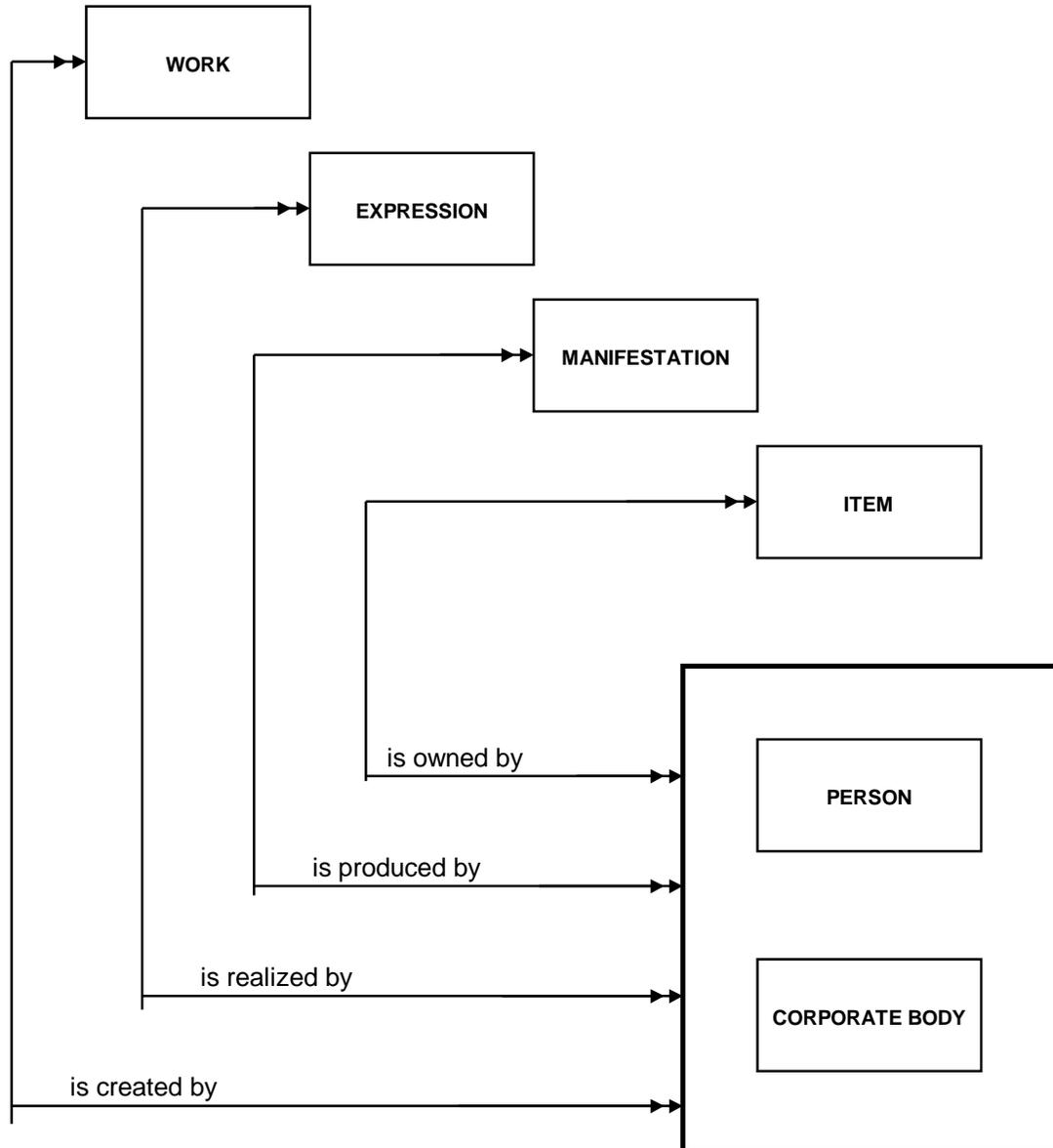
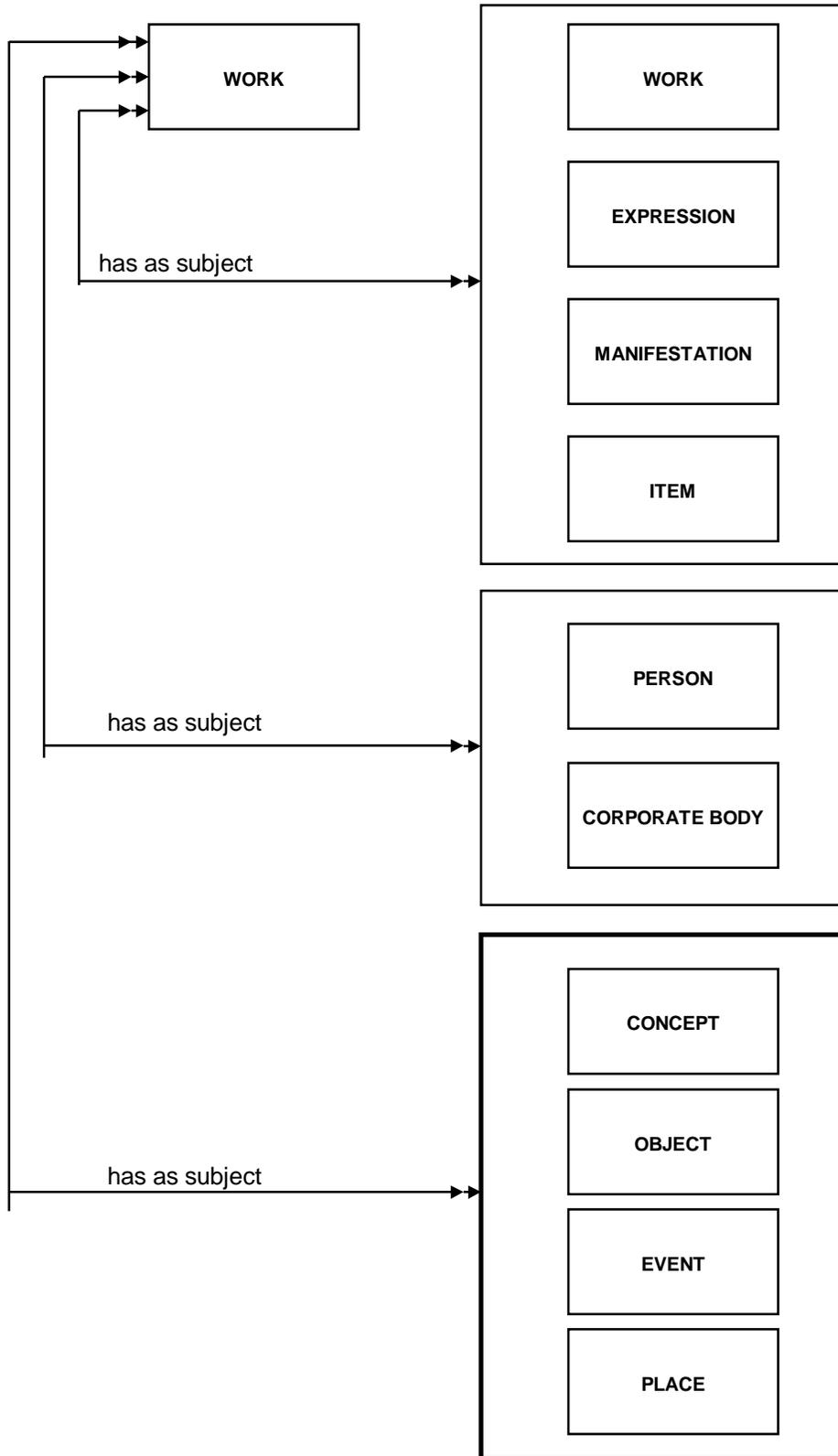


Figure 3.3: Group 3 Entities and “Subject” Relationships



3.1.3 Group 3 Entities: Concept, Object, Event, Place

The entities in the third group (outlined in bold in Figure 3.3) represent an additional set of entities that serve as the subjects of *works*. The group includes *concept* (an abstract notion or idea), *object* (a material thing), *event* (an action or occurrence), and *place* (a location).

The diagram depicts the “subject” relationships between entities in the third group and the *work* entity in the first group. The diagram indicates that a *work* may have as its subject one or more than one *concept*, *object*, *event*, and/or *place*. Conversely, a *concept*, *object*, *event*, and/or *place* may be the subject of one or more than one *work*.

The diagram also depicts the “subject” relationships between *work* and the entities in the first and second groups. The diagram indicates that a *work* may have as its subject one or more than one *work*, *expression*, *manifestation*, *item*, *person*, and/or *corporate body*.

3.2 The Entities

3.2.1 Work

The first entity defined in the model is *work*: a distinct intellectual or artistic creation.

A *work* is an abstract entity; there is no single material object one can point to as the *work*. We recognize the *work* through individual realizations or *expressions* of the *work*, but the *work* itself exists only in the commonality of content between and among the various *expressions* of the *work*. When we speak of Homer’s *Iliad* as a *work*, our point of reference is not a particular recitation or text of the *work*, but the intellectual creation that lies behind all the various *expressions* of the *work*.

Because the notion of a *work* is abstract, it is difficult to define precise boundaries for the entity. The concept of what constitutes a *work* and where the line of demarcation lies between one *work* and another may in fact be viewed differently from one culture to another. Consequently the bibliographic conventions established by various cultures or national groups may differ in terms of the criteria they use for determining the boundaries between one *work* and another.

For the purposes of this study variant texts incorporating revisions or updates to an earlier text are viewed simply as *expressions* of the same *work* (i.e., the variant texts are not viewed as separate *works*). Similarly, abridgements or enlargements

of an existing text, or the addition of parts or an accompaniment to a musical composition are considered to be different *expressions* of the same *work*. Translations from one language to another, musical transcriptions and arrangements, and dubbed or subtitled versions of a film are also considered simply as different *expressions* of the same original *work*.

Examples

- **w₁** Henry Gray’s *Anatomy of the human body*
 - **e₁** text and illustrations for the first edition
 - **e₂** text and illustrations for the second edition
 - **e₃** text and illustrations for the third edition
 -

- **w₁** J. S. Bach’s *The art of the fugue*
 - **e₁** the composer’s score for organ
 - **e₂** an arrangement for chamber orchestra by Anthony Lewis
 -

- **w₁** *Jules et Jim* (motion picture)
 - **e₁** the original French language version
 - **e₂** the original with English subtitles added
 -

By contrast, when the modification of a *work* involves a significant degree of independent intellectual or artistic effort, the result is viewed, for the purpose of this study, as a new *work*. Thus paraphrases, rewritings, adaptations for children, parodies, musical variations on a theme and free transcriptions of a musical composition are considered to represent new *works*. Similarly, adaptations of a *work* from one literary or art form to another (e.g., dramatizations, adaptations from one medium of the graphic arts to another, etc.) are considered to represent new *works*. Abstracts, digests and summaries are also considered to represent new *works*.

Examples

- **w₁** John Bunyan’s *The pilgrim’s progress*
- **w₂** an anonymous adaptation of *The pilgrim’s progress* for young readers
-

- **w₁** William Shakespeare’s *Romeo and Juliet*
- **w₂** Franco Zeffirelli’s motion picture *Romeo and Juliet*
- **w₃** Baz Lurhmann’s motion picture *William Shakespeare’s Romeo and Juliet*

□

On a pragmatic level, defining *work* as an entity in the model serves a number of purposes. It enables us to give a name and draw relationships to the abstract intellectual or artistic creation that encompasses all the individual *expressions* of that *work*. Thus, when we describe a *work* of literary criticism dealing with Homer's *Iliad*, for example, we are able to relate the *work* of criticism to the *work* that it treats as its subject. By naming Homer's *work* and defining the relationship between it and the *work* of criticism, we are able to indicate that the subject of the *work* of criticism is in fact the abstraction we know as the *Iliad*, and not any specific *expression* of that *work*.

Defining *work* as an entity also enables us to establish indirect relationships between *expressions* of the same *work* in cases where we are unable to draw direct relationships between individual *expressions*. For example, there may exist many translations of a *work* (e.g., *Anne of Green Gables*), and it may not always be possible or necessary to specify the text that has served as the basis for a given translation. In that case we do not draw a direct relationship between individual *expressions* of the *work* (i.e., between the translation and the text or texts on which the translation was based), but we relate those and other texts and translations of the *work* implicitly by relating each of them to the entity we call the *work*.

Relating *expressions* of a *work* indirectly by relating each *expression* to the *work* that it realizes is often the most efficient means of grouping related *expressions*. In effect, the name we give to the *work* serves as the name for the entire set or group of *expressions* that are realizations of the same intellectual or artistic creation (e.g., *Lancelot du Lac*). It is the entity defined as *work*, therefore, that provides us with this grouping capability.

3.2.2 Expression

The second entity defined in the model is *expression*: the intellectual or artistic realization of a *work* in the form of alpha-numeric, musical, or choreographic notation, sound, image, object, movement, etc., or any combination of such forms.

An *expression* is the specific intellectual or artistic form that a *work* takes each time it is "realized." *Expression* encompasses, for example, the specific words, sentences, paragraphs, etc. that result from the realization of a *work* in the form of a text, or the particular notes, phrasing, etc. resulting from the realization of a musical *work*. The boundaries of the entity *expression* are defined, however, so as to exclude aspects of physical form, such as typeface and page layout, that are not integral to the intellectual or artistic realization of the *work* as such.

Inasmuch as the form of *expression* is an inherent characteristic of the *expression*, any change in form (e.g., from alpha-numeric notation to spoken word) results in a new *expression*. Similarly, changes in the intellectual conventions or instruments that are employed to express a *work* (e.g., translation from one language to another) result in the production of a new *expression*. Strictly speaking, any change in intellectual or artistic content constitutes a change in *expression*. Thus, if a text is revised or modified, the resulting *expression* is considered to be a new *expression*, no matter how minor the modification may be.

Examples

- **w₁** Ellwanger's *Tennis--bis zum Turnierspieler*
 - **e₁** the original German text
 - **e₂** the English translation by Wendy Gill
 -

- **w₁** Franz Schubert's *Trout quintet*
 - **e₁** the composer's score
 - **e₂** a performance by the Amadeus Quartet and Hephzibah Menuhin on piano
 - **e₃** a performance by the Cleveland Quartet and Yo-Yo Ma on the cello
 -

On a practical level, the degree to which bibliographic distinctions are made between variant *expressions* of a *work* will depend to some extent on the nature of the *work* itself, and on the anticipated needs of users. Differences in form of *expression* (e.g., the differences between the *expression* of a *work* in the form of musical notation and the *expression* of the same *work* in the form of recorded sound) will normally be reflected in the bibliographic record, no matter what the nature of the *work* itself may be. Variant *expressions* in the same form (e.g., revised versions of a text) will often be indirectly identified as different *expressions* because the variation is apparent from the data associated with an attribute used to identify the *manifestation* in which the *expression* is embodied (e.g., an edition statement). Variations that would be evident only from a more detailed analysis and comparison of *expressions* (e.g., variations between several of the early texts of Shakespeare's *Hamlet*) would normally be reflected in the data only if the nature or stature of the *work* warranted such analysis, and only if it was anticipated that the distinction would be important to users.

Defining *expression* as an entity in the model gives us a means of reflecting the distinctions in intellectual or artistic content that may exist between one realization and another of the same *work*. With *expression* defined as an entity, we can describe the intellectual or artistic attributes of a particular realization of a *work*,

and use the differences in those attributes to signal differences in intellectual or artistic content.

Defining *expression* as an entity also enables us to draw relationships between specific *expressions* of a *work*. We can use the entity called *expression* to identify, for example, the specific text on which a translation is based, or the specific score used for the performance of a musical composition.

We can also use the entity defined as *expression* to indicate that the intellectual or artistic content embodied in one *manifestation* is in fact the same as that embodied in another *manifestation*. If two *manifestations* embody the same intellectual or artistic content, even though the physical embodiment may differ and differing attributes of the *manifestations* may obscure the fact that the content is the same in both, we can make the common link through the entity defined as *expression*.

3.2.3 Manifestation

The third entity defined in the model is *manifestation*: the physical embodiment of an *expression* of a *work*.

The entity defined as *manifestation* encompasses a wide range of materials, including manuscripts, books, periodicals, maps, posters, sound recordings, films, video recordings, CD-ROMs, multimedia kits, etc. As an entity, *manifestation* represents all the physical objects that bear the same characteristics, in respect to both intellectual content and physical form.

When a *work* is realized, the resulting *expression* of the *work* may be physically embodied on or in a medium such as paper, audio tape, video tape, canvas, plaster, etc. That physical embodiment constitutes a *manifestation* of the work. In some cases there may be only a single physical exemplar produced of that *manifestation* of the *work* (e.g., an author's manuscript, a tape recorded for an oral history archive, an original oil painting, etc.). In other cases there are multiple copies produced in order to facilitate public dissemination or distribution. In those cases there is normally a more formal production process involved, and a publisher, producer, or distributor takes responsibility for the process. In other cases there may be only a limited number of copies made of an original exemplar for purposes such as private study (e.g., a dubbing of an original recording of a piece of music), or preservation (e.g., a photocopy produced on permanent paper of an author's original typescript). Whether the scope of production is broad (e.g., in the case of publication, etc.) or limited (e.g., in the case of copies made for private study, etc.), the set of copies produced in each case constitutes a *manifestation*. All copies produced that form part of the same set are considered to be copies of the same *manifestation*.

The boundaries between one *manifestation* and another are drawn on the basis of both intellectual content and physical form. When the production process involves changes in physical form the resulting product is considered a new *manifestation*. Changes in physical form include changes affecting display characteristics (e.g., a change in typeface, size of font, page layout, etc.), changes in physical medium (e.g., a change from paper to microfilm as the medium of conveyance), and changes in the container (e.g., a change from cassette to cartridge as the container for a tape). Where the production process involves a publisher, producer, distributor, etc., and there are changes signaled in the product that are related to publication, marketing, etc. (e.g., a change in publisher, repackaging, etc.), the resulting product may be considered a new *manifestation*. Whenever the production process involves modifications, additions, deletions, etc. that affect the intellectual or artistic content, the result is a new *manifestation* embodying a new *expression* of the work.

Examples

- **w₁** Harry Lindgren's *Geometric dissections*
 - **e₁** original text entitled *Geometric dissections*
 - **m₁** the book published in 1964 by Van Nostrand
 - **e₂** revised text entitled *Recreational problems in geometric dissections*
 - **m₁** the book published in 1972 by Dover

- **w₁** J. S. Bach's *Six suites for unaccompanied cello*
 - **e₁** performances by Janos Starker recorded in 1963 and 1965
 - **m₁** recordings released on 33 1/3 rpm sound discs in 1965 by Mercury
 - **m₂** recordings re-released on compact disc in 1991 by Mercury
 - **e₂** performances by Yo-Yo Ma recorded in 1983
 - **m₁** recordings released on 33 1/3 rpm sound discs in 1983 by CBS Records
 - **m₂** recordings re-released on compact disc in 1992 by CBS Records

- **w₁** Jean Jolivet’s *Vraie description des Gaules...*
 - **e₁** the cartographer’s original rendering
 - **m₁** the map issued in 1570
 - **m₂** a facsimile reproduction published in 1974 by Hier et demain

- **w₁** *The Wall Street Journal*
 - **e₁** the Eastern edition
 - **m₁** the print format of the Eastern edition
 - **m₂** the microfilm of the Eastern edition
 - **e₂** the Western edition
 - **m₁** the print format of the Western edition
 - **m₂** the microfilm of the Western edition

Changes that occur deliberately or even inadvertently in the production process that affect the copies result, strictly speaking, in a new *manifestation*. A *manifestation* resulting from such a change may be identified as a particular “state” or “issue” of the publication.

Changes that occur to an individual copy after the production process is complete (e.g., the loss of a page, rebinding, etc.) are not considered to result in a new *manifestation*. That copy is simply considered to be an exemplar (or *item*) of the *manifestation* that deviates from the copy as produced.

Defining *manifestation* as an entity enables us to name and describe the complete set of *items* that result from a single act of physical embodiment or production. The entity *manifestation* serves to describe the shared characteristics of copies of a particular publication, edition, release, etc., as well as to describe unique productions such as manuscripts, original oil paintings, etc.

With the entity defined as *manifestation* we can describe the physical characteristics of a set of *items* and the characteristics associated with the production and distribution of that set of *items* that may be important factors in enabling users to choose a *manifestation* appropriate to their physical needs and constraints, and to identify and acquire a copy of that *manifestation*.

Defining *manifestation* as an entity also enables us to draw relationships between specific *manifestations* of a *work*. We can use the relationships between *manifestations* to identify, for example, the specific publication that was used to create a microreproduction.

3.2.4 Item

The fourth entity defined in the model is *item*: a single exemplar of a *manifestation*.

The entity defined as *item* is a concrete entity. It is in many instances a single physical object (e.g., a copy of a one-volume monograph, a single audio cassette, etc.). There are instances, however, where the entity defined as *item* comprises more than one physical object (e.g., a monograph issued as two separately bound volumes, a recording issued on three separate compact discs, etc.).

In terms of intellectual content and physical form, an *item* exemplifying a *manifestation* is normally the same as the *manifestation* itself. However, variations may occur from one *item* to another, even when the *items* exemplify the same *manifestation*, where those variations are the result of actions external to the intent of the producer of the *manifestation* (e.g., damage occurring after the *item* was produced, binding performed by a library, etc.).

Examples

- **w₁** Ronald Hayman's *Playback*
 - **e₁** the author's text edited for publication
 - **m₁** the book published in 1973 by Davis-Poynter
 - **i₁** copy autographed by the author
- **w₁** Allan Wakeman's *Jabberwocky*
 - **e₁** the author's design for the game and text for the notes
 - **m₁** the game and accompanying notes for teachers issued in 1974 by Longman
 - **i₁** copy lacking notes for teachers

Defining *item* as an entity enables us to separately identify individual copies of a *manifestation*, and to describe those characteristics that are unique to that particular copy and that pertain to transactions such as circulation, etc. involving that copy.

Defining the entity called *item* also enables us to draw relationships between individual copies of *manifestations*.

3.2.5 Person

The fifth entity defined in the model is *person*: an individual.

The entity defined as *person* encompasses individuals that are deceased as well as those that are living.

Examples

- **p₁** Margaret Atwood
- **p₂** Hans Christian Andersen
- **p₃** Queen Victoria
- **p₄** Anatole France
-

For the purposes of this study *persons* are treated as entities only to the extent that they are involved in the creation or realization of a *work* (e.g., as authors, composers, artists, editors, translators, directors, performers, etc.), or are the subject of a *work* (e.g., as the subject of a biographical or autobiographical *work*, of a history, etc.).

Defining the entity *person* enables us to name and identify the individual in a consistent manner, independently of how the individual's name appears on or in any particular *expression* or *manifestation* of a *work*.

Defining *person* as an entity also enables us to draw relationships between a specific *person* and a *work* or *expression* of a *work* for which that *person* may be responsible, or between a *work* and the *person* that is the subject of the *work*.

3.2.6 Corporate Body

The sixth entity defined in the model is *corporate body*: an organization or group of individuals and/or organizations acting as a unit.

The entity defined as *corporate body* encompasses organizations and groups of individuals and/or organizations that are identified by a particular name, including occasional groups and groups that are constituted as meetings, conferences, congresses, expeditions, exhibitions, festivals, fairs, etc. The entity also encompasses organizations that act as territorial authorities, exercising or claiming to exercise government functions over a certain territory, such as a federation, a state, a region, a local municipality, etc. The entity encompasses organizations and groups that are defunct as well as those that continue to operate.

Examples

- **cb₁** Museum of American Folk Art
- **cb₂** BBC Symphony Orchestra
- **cb₃** Symposium on Glaucoma
- **cb₄** Regional Municipality of Ottawa-Carleton
-

For the purposes of this study *corporate bodies* are treated as entities only to the extent that they are involved in the creation or realization of a *work* (e.g., as the sponsors or endorsers of a *work*, etc.), or are the subject of a *work* (e.g., as the subject of a history, etc.).

Defining the entity *corporate body* enables us to name and identify the organization or group in a consistent manner, independently of how the name of the organization or group appears on or in any particular *expression* or *manifestation* of a *work*.

Defining *corporate body* as an entity also enables us to draw relationships between a specific *corporate body* and a *work* or *expression* of a *work* for which that *corporate body* may be responsible, or between a *work* and the *corporate body* that is the subject of the *work*.

3.2.7 Concept

The seventh entity defined in the model is *concept*: an abstract notion or idea.

The entity defined as *concept* encompasses a comprehensive range of abstractions that may be the subject of a *work*: fields of knowledge, disciplines, schools of thought (philosophies, religions, political ideologies, etc.), theories, processes, techniques, practices, etc. A *concept* may be broad in nature or narrowly defined and precise.

Examples

- **c₁** Economics
- **c₂** Romanticism
- **c₃** Hydroponics
- **c₄** Supply-side economics
-

For the purposes of this study *concepts* are treated as entities only to the extent that they are the subject of a *work* (e.g., as the subject of a philosophical treatise, of a critique of a school of thought, etc.).

Defining the entity *concept* enables us to name and identify the *concept* in a consistent manner, independently of the presence, absence, or form of the name for that *concept* that appears on or in any particular *expression* or *manifestation* of a *work*.

Defining *concept* as an entity also enables us to draw a relationship between a *work* and the *concept* that is the subject of the *work*.

3.2.8 Object

The eighth entity defined in the model is *object*: a material thing.

The entity defined as *object* encompasses a comprehensive range of material things that may be the subject of a *work*: animate and inanimate objects occurring in nature; fixed, movable, and moving objects that are the product of human creation; objects that no longer exist.

Examples

- **o₁** Buckingham Palace
- **o₂** The *Lusitania*
- **o₃** *Apollo 11*
- **o₄** The Eiffel Tower
-

For the purposes of this study *objects* are treated as entities only to the extent that they are the subject of a *work* (e.g., as the subject of a scientific study, etc.).

Defining the entity *object* enables us to name and identify the *object* in a consistent manner, independently of the presence, absence, or form of the name for that *object* that appears on or in any particular *expression* or *manifestation* of a *work*.

Defining *object* as an entity also enables us to draw a relationship between a *work* and the *object* that is the subject of the *work*.

3.2.9 Event

The ninth entity defined in the model is *event*: an action or occurrence.

The entity defined as *event* encompasses a comprehensive range of actions and occurrences that may be the subject of a work: historical events, epochs, periods of time, etc.

Examples

- **e₁** The Garment Workers' Strike
- **e₂** The Battle of Hastings
- **e₃** The Age of Enlightenment
- **e₄** The Nineteenth Century
-

For the purposes of this study *events* are treated as entities only to the extent that they are the subject of a *work* (e.g., the subject of an historical treatise, of a painting, etc.).

Defining the entity *event* enables us to name and identify the *event* in a consistent manner, independently of the presence, absence, or form of the name for that *event* that appears on or in any particular *expression* or *manifestation* of a *work*.

Defining *event* as an entity also enables us to draw a relationship between a *work* and the *event* that is the subject of the *work*.

3.2.10 Place

The tenth entity defined in the model is *place*: a location.

The entity defined as *place* encompasses a comprehensive range of locations: terrestrial and extra-terrestrial; historical and contemporary; geographic features and geo-political jurisdictions.

Examples

- **pl₁** Howard Beach
- **pl₂** The Alacran Reef
- **pl₃** Morey Peak Wilderness Study Area
- **pl₄** Bristol
-

For the purposes of this study *places* are treated as entities only to the extent that they are the subject of a *work* (e.g., the subject of a map or atlas, or of a travel guide, etc.).

Defining the entity *place* enables us to name and identify the *place* in a consistent manner, independently of the presence, absence, or form of the name for that *place* that appears on or in any particular *expression* or *manifestation* of a *work*.

Defining *place* as an entity also enables us to draw a relationship between a *work* and the *place* that is the subject of the *work*.

3.3 Aggregate and Component Entities

The examples used in sections 3.2.1 through 3.2.4 to illustrate the entities *work*, *expression*, *manifestation*, and *item* showed the entities primarily as integral units (e.g., Shakespeare's *Romeo and Juliet* as an example of a *work*, a particular performance of Schubert's *Trout quintet* as an *expression*, etc.). The structure of the model, however, permits us to represent aggregate and component entities in the same way as we would represent entities that are viewed as integral units. That is to say that from a logical perspective the entity *work*, for example, may represent an aggregate of individual *works* brought together by an editor or compiler in the form of an anthology, a set of individual monographs brought together by a publisher to form a series, or a collection of private papers organized by an archive as a single *fond*. By the same token, the entity *work* may represent an intellectually or artistically discrete component of a larger *work*, such as a chapter of a report, a segment of a map, an article in a journal, etc. For the purposes of the model, entities at the aggregate or component level operate in the same way as entities at the integral unit level; they are defined in the same terms, they share the same characteristics, and they are related to one another in the same way as entities at the integral unit level. Sections 5.3.1.1., 5.3.2.1, 5.3.4.1, and 5.3.6.1 provide additional information on aggregate and component entities in the context of whole/part relationships.

Examples

- **w₁** Robertson Davies' *The Deptford trilogy*
 - **w_{1.1}** Robertson Davies' *Fifth business*
 - **w_{1.2}** Robertson Davies' *The manticore*
 - **w_{1.3}** Robertson Davies' *World of wonders*

- **w₁** *Visible speech*, edited by Howard Bibb
 - **w_{1.1}** Volume 1: *Segmentals*, introduced by Alex

Hanes-White

- **w_{1.2}** Volume 2: *Suprasegmentals*, by Mary Loftus
 - **e₁** the authors' texts edited for publication
 - **m₁** the electronic resource issued on 3 disks in 1994 by Partners in Speech
 - **m_{1.1}** volume 1 (1 electronic disk)
 - **m_{1.2}** volume 2 (2 electronic disks + a 104 page manual)
- **w₁** The Ordnance Survey's *1:50 000 Landranger series*
 - **w_{1.1}** Mansfield and the Dukeries
 - **e₁** revised map with major changes and metric contours
 - **m₁** the map printed in 1985
 - **w_{1.2}** Luton and Hertford
 - **e₁** revised map with major changes
 - **m₁** the map printed in 1984
 -

4. ATTRIBUTES

4.1 Attributes of Entities

Each of the entities defined in the model has associated with it a set of characteristics or attributes. The attributes of the entity serve as the means by which users formulate queries and interpret responses when seeking information about a particular entity.

Attributes, as they are defined in the model, generally fall into two broad categories. There are, on the one hand, attributes that are inherent in an entity, and on the other, those that are externally imputed. The first category includes not only physical characteristics (e.g., the physical medium and dimensions of an object) but also features that might be characterized as labeling information (e.g., statements appearing on the title page, cover, or container). The second category includes assigned identifiers for an entity (e.g., a thematic catalogue number for a musical composition), and contextual information (e.g., the political context in which a work was conceived). Attributes inherent in an entity can usually be determined by examining the entity itself; those that are imputed often require reference to an external source.

A given instance of an entity will generally exhibit only one value for each attribute (e.g., the value for the “physical medium” attribute of a particular object may be “plastic”). In some cases, however, a given instance of an entity may have multiple values for a single attribute (e.g., a book may contain more than one statement indicating the “title of the *manifestation*”). There are also cases where the value for an attribute of a given instance of an entity may change over time (e.g., the “extent of the carrier” for a serial will change as new volumes are issued). The value for an attribute (particularly an imputed attribute) of a given entity may sometimes be subject to variation, depending on the source that is used as a point of reference.

The attributes defined for each of the entities in the model will not necessarily be exhibited by all instances of that particular entity type. In the list of attributes for each entity, those that are generally applicable to the entity type as a whole are listed first. Those that are applicable only to a sub-type of the entity are listed after

those that are generally applicable, and are qualified by a term indicating the sub-type to which they apply (e.g., “musical work” as a sub-type of *work*). However, not every instance of an entity type nor every instance of an entity sub-type will exhibit all the attributes listed.

At first glance certain of the attributes defined in the model may appear to duplicate objects of interest that have been separately defined in the model as entities and linked to the entity in question through relationships. For example, the *manifestation* attribute “statement of responsibility” may appear to parallel the entities *person* and *corporate body* and the “responsibility” relationships that link those entities with the *work* and/or *expression* embodied in the *manifestation*. However, the attribute defined as “statement of responsibility” pertains directly to the labeling information appearing in the *manifestation* itself, as distinct from the relationship between the *work* contained in the *manifestation* and the *person* and/or *corporate body* responsible for the creation or realization of the *work*. In many cases the information presented in the “statement of responsibility” will be substantively the same as that which is reflected through the relationships between the *work* and/or *expression* and the *person* and/or *corporate body* responsible. However, the information may not always be the same. In drawing responsibility relationships to the entities *person* and *corporate body* it is possible to correct false or misleading information presented in a “statement of responsibility” or to expand on that information. Using the responsibility relationship to the entities *person* and *corporate body* also provides a means of identifying the *person* or *corporate body* in a consistent way irrespective of the way in which that *person* or *corporate body* is identified in the “statement of responsibility” in that particular *manifestation*.

The model does not, however, parallel entity relationships with attributes in all cases where such parallels could be drawn. For example, “place of publication/distribution” is defined as an attribute of the *manifestation* to reflect the statement appearing in the *manifestation* itself that indicates where it was published. Inasmuch as the model also defines *place* as an entity it would have been possible to define an additional relationship linking the entity *place* either directly to the *manifestation* or indirectly through the entities *person* and *corporate body* which in turn are linked through the production relationship to the *manifestation*. To produce a fully developed data model further definition of that kind would be appropriate. But for the purposes of this study it was deemed unnecessary to have the conceptual model reflect all such possibilities. In cases such as the place of publication example it was considered sufficient simply to define an attribute to reflect labeling information as such without taking the analysis further to delineate a parallel entity relationship. Parallel delineation was done only in cases where it seemed warranted by the need to provide for controlled or normalized access to the information reflected in the attribute.

The attributes defined for the study were derived from a logical analysis of the data that are typically reflected in bibliographic records. The principal sources used in

the analysis included the *International Standard Bibliographic Descriptions* (ISBDs), the *Guidelines for Authority and Reference Entries* (GARE), the *Guidelines for Subject Authority and Reference Entries* (GSARE), and the *UNIMARC Manual*. Additional data were culled from other sources such as the *AITF Categories for the Description of Works of Art*, from input provided by experts who were consulted as drafts of the report were being prepared, from an extensive review of published user studies, and from comments received as part of the world-wide review of the draft report. The scope of attributes included in the model is intended to be comprehensive but not exhaustive.

For the purposes of this study attributes have been defined at a logical level. That is to say that attributes have been expressed in terms of the characteristics of an entity as they might be viewed by a user, rather than as specific data elements defined by those responsible for compiling bibliographic data. In some cases the logical attribute parallels an individual data element (e.g., the logical attribute “*manifestation identifier*” has been defined in a way that parallels the definition of “standard number (or alternative)” in the ISBD(G)). But in most cases the logical attribute represents an aggregate of discrete data elements (e.g., the logical attribute defined as “title of the *manifestation*” encompasses several ISBD data elements: title proper (including number/name of part), parallel title, notes giving variant and transliterated titles, and key title). The descriptions of the logical attributes that are given in this chapter provide an indication of the scope of each logical attribute. Appendix A provides a detailed mapping of the logical attributes defined in the model to individual data elements in the ISBDs, the *Guidelines for Authority and Reference Entries* (GARE), the *Guidelines for Subject Authority and Reference Entries* (GSARE), and the *UNIMARC Manual*.

For the purposes of this study, the logical attributes for the entities *person*, *corporate body*, *concept*, *object*, *event*, and *place* include only those that are conventionally displayed as part of the bibliographic record *per se*. Additional logical attributes that might be reflected in an authority record are not included.

4.2 Attributes of a Work

The logical attributes of a *work* defined for this study are the following:

- title of the *work*
- form of *work*
- date of the *work*
- other distinguishing characteristic
- intended termination
- intended audience

context for the *work*
medium of performance (musical work)
numeric designation (musical work)
key (musical work)
coordinates (cartographic work)
equinox (cartographic work)

4.2.1 Title of the Work

The title of the *work* is the word, phrase, or group of characters naming the *work*. There may be one or more titles associated with a *work*. If the *work* has appeared under varying titles (differing in form, language, etc.), a bibliographic agency normally selects one of those titles as the basis of a “uniform title” for purposes of consistency in naming and referencing the *work*. Other titles under which the *work* has appeared may be treated as variant titles for the *work*, or in some cases as a parallel uniform title. The title of a *work* that forms part of a larger *work* may consist solely of a number or other generic designation that is dependent on the title of the larger *work*.

4.2.2 Form of Work

The form of *work* is the class to which the *work* belongs (e.g., novel, play, poem, essay, biography, symphony, concerto, sonata, map, drawing, painting, photograph, etc.).

4.2.3 Date of the Work

The date of the *work* is the date (normally the year) the *work* was originally created. The date may be a single date or a range of dates. In the absence of an ascertainable date of creation, the date of the *work* may be associated with the date of its first publication or release.

4.2.4 Other Distinguishing Characteristic

A distinguishing characteristic is any characteristic that serves to differentiate the *work* from another *work* with the same title (e.g., the area of origin that serves to differentiate the medieval miracle play known as *The Adoration of the Shepherds* originating in Coventry from the play known by the same name that originated in Chester).

4.2.5 Intended Termination

Intended termination of a *work* is a reflection of whether the work has been conceived as having a finite end or whether it is intended to continue indefinitely.

4.2.6 Intended Audience

The intended audience of the *work* is the class of user for which the work is intended, as defined by age group (e.g., children, young adults, adults, etc.), educational level (e.g., primary, secondary, etc.), or other categorization.

4.2.7 Context for the Work

Context is the historical, social, intellectual, artistic, or other context within which the *work* was originally conceived (e.g., the 17th century restoration of the monarchy in England, the aesthetic movement of the late 19th century, etc.).

4.2.8 Medium of Performance (Musical Work)

Medium of performance is the instrumental, vocal, and/or other medium of performance for which a musical *work* was originally intended (e.g., piano, violin, orchestra, men's voices, etc.).

4.2.9 Numeric Designation (Musical Work)

A numeric designation is a serial number, opus number, or thematic index number assigned to a musical *work* by the composer, publisher, or a musicologist (e.g., the numbers assigned to the works of Mozart by Ludwig Köchel).

4.2.10 Key (Musical Work)

Key, in tonal music, is the set of pitch relationships that establishes a single pitch class as a tonal centre (e.g., D major). The key for a musical *work* is the key in which the *work* is originally composed.

4.2.11 Coordinates (Cartographic Work)

Coordinates are the degrees, minutes, and seconds of longitude and latitude, or the angles of declination and ascension that form the outer boundaries for the area represented in the cartographic image or object.

4.2.12 Equinox (Cartographic Work)

Equinox is the year that serves as the point of reference for a celestial chart or model.

4.3 Attributes of an Expression

The logical attributes of an *expression* defined for this study are the following:

- title of the *expression*
- form of *expression*
- date of *expression*
- language of *expression*
- other distinguishing characteristic
- extensibility of *expression*
- revisability of *expression*
- extent of the *expression*
- summarization of content
- context for the *expression*
- critical response to the *expression*
- use restrictions on the *expression*
- sequencing pattern (serial)
- expected regularity of issue (serial)
- expected frequency of issue (serial)
- type of score (musical notation)
- medium of performance (musical notation or recorded sound)
- scale (cartographic image/object)
- projection (cartographic image/object)
- presentation technique (cartographic image/object)
- representation of relief (cartographic image/object)
- geodetic, grid, and vertical measurement (cartographic image/object)
- recording technique (remote sensing image)
- special characteristic (remote sensing image)
- technique (graphic or projected image)

4.3.1 Title of the Expression

Title of the *expression* is a word, phrase, or group of characters naming the expression. There may be one or more titles associated with an *expression*. The title of an *expression* that forms part of a larger *expression* may consist solely of a number or other generic designation that is dependent on the title of the larger *expression*.

4.3.2 Form of Expression

The form of *expression* is the means by which the *work* is realized (e.g., through alpha-numeric notation, musical notation, spoken word, musical sound, cartographic image, photographic image, sculpture, dance, mime, etc.).

4.3.3 Date of Expression

The date of *expression* is the date the *expression* was created (e.g., the date the particular text of a *work* was written or revised, the date a song was performed, etc.). The date may be a single date or a range of dates. In the absence of an ascertainable date of *expression*, the date of the *expression* may be associated with the date of its publication or release.

4.3.4 Language of Expression

The language of the *expression* is the language in which the *work* is expressed. The language of the *expression* may comprise a number of languages, each pertaining to an individual component of the *expression*.

4.3.5 Other Distinguishing Characteristic

A distinguishing characteristic is any characteristic of the *expression* that serves to differentiate the *expression* from another *expression* of the same *work* (e.g., the names used to differentiate the various versions of the English text of the Bible, or an “edition” or version designation relating to the intellectual content of the expression such as “2nd revision”).

4.3.6 Extensibility of Expression

Extensibility reflects the expectation that the *expression* will have additional intellectual or artistic content added to it (e.g., an *expression* that is completed one part at a time, segment by segment, issue by issue, etc.).

4.3.7 Revisability of Expression

Revisability reflects the expectation that the intellectual or artistic content of the *expression* will be revised (e.g., a draft or interim report, a directory that is expected to be updated periodically).

4.3.8 Extent of the Expression

The extent of an *expression* is a quantification of the intellectual content of the *expression* (e.g., number of words in a text, statements in a computer program, images in a comic strip, etc.). For *works* expressed as sound and/or motion the extent may be a measure of duration (e.g., playing time).

4.3.9 Summarization of Content

A summarization of the content of an *expression* is an abstract, summary, synopsis, etc., or a list of chapter headings, songs, parts, etc. included in the *expression*.

4.3.10 Context for the Expression

Context is the historical, social, intellectual, artistic, or other context within which the *expression* was realized (e.g., the Art Deco period, etc.).

4.3.11 Critical Response to the Expression

Critical response is the reception given to the *expression* by reviewers, critics, etc., as encapsulated in an annotation (e.g., “Critically acclaimed for its use of...”).

4.3.12 Use Restrictions on the Expression

Use restrictions are restrictions on access to and use of an *expression*. Use restrictions may be based in copyright, or they may extend beyond the protections guaranteed in law to the owner of the copyright.

4.3.13 Sequencing Pattern (Serial)

Sequencing pattern for an *expression* issued as a serial is the form anticipated to be used in designating volumes/issues, etc. and/or dates for the individual units of the serial (e.g. Volume ..., number ...).

4.3.14 Expected Regularity of Issue (Serial)

Expected regularity of issue of an *expression* issued as a serial is the anticipated regularity of release of individual issues (i.e., whether the release is expected to be regular or irregular).

4.3.15 Expected Frequency of Issue (Serial)

Expected frequency of issue for an *expression* issued as a serial is the interval at which individual issues of the serial are anticipated to be released (e.g., weekly, monthly, quarterly, annually, etc.).

4.3.16 Type of Score (Musical Notation)

Type of score is the format used to represent a musical composition (e.g., short score, full score, condensed score, close score, etc.).

4.3.17 Medium of Performance (Musical Notation or Recorded Sound)

Medium of performance is the instrumental and/or vocal medium of performance represented in the *expression* of a musical *work* (e.g., two pianos, soprano and alto, etc.). The instruments and/or voices represented in a particular *expression* of a *work* (e.g., in a transcription, in an arrangement, or in a performance) may differ from the medium of performance for which the *work* was originally intended. C.f., 4.2.8 Medium of Performance (Musical Work).

4.3.18 Scale (Cartographic Image/Object)

Scale is the ratio of distances in a cartographic *expression* to the actual distances they represent. Scale may apply to horizontal, vertical, angular, and/or other distances represented in the *expression*.

4.3.19 Projection (Cartographic Image/Object)

Projection is the method or system used to represent the surface of the Earth or of a celestial sphere on a plane (e.g., transverse Mercator, azimuthal equidistant, etc.).

4.3.20 Presentation Technique (Cartographic Image/Object)

Presentation technique is the method used to represent geographic or other features in a cartographic image (e.g., anaglyphic, diagrammatic, pictorial, etc.).

4.3.21 Representation of Relief (Cartographic Image/Object)

Representation of relief is the technique used to depict the elevations or the inequalities of a land surface or of the bed of a body of water in a cartographic image (e.g., contours, shading, hachures, spot heights, bathymetric tints, etc.).

4.3.22 Geodetic, Grid, and Vertical Measurement (Cartographic Image/Object)

Geodetic, grid, and vertical measurements include information on the spheroid used to construct the cartographic image, the grid or referencing systems used in the image, horizontal datum, vertical datum, mathematical data on contour intervals, bathymetric intervals, etc.

4.3.23 Recording Technique (Remote Sensing Image)

Recording technique is the technique used to capture an image through remote sensing (e.g., multispectral photography, infrared line scanning, SLAR, passive microwave mapping, etc.).

4.3.24 Special Characteristic (Remote Sensing Image)

A special characteristic of a remote sensing image or an image produced through aerial photography is the altitude and attitude of the sensor, the position of the platform, the category and name of the satellite, the number of spectral bands involved, the quality of the image, the extent of cloud cover, or the mean value of the ground resolution.

4.3.25 Technique (Graphic or Projected Image)

Technique is the method used to create a graphic image (e.g., engraving, etc.) or to realize motion in a projected image (e.g., animation, live action, computer generation, 3D, etc.).

4.4 Attributes of a Manifestation

The logical attributes of a *manifestation* defined for this study are the following:

- title of the *manifestation*
- statement of responsibility
- edition/issue designation
- place of publication/distribution
- publisher/distributor
- date of publication/distribution
- fabricator/manufacture
- series statement
- form of carrier
- extent of the carrier
- physical medium
- capture mode
- dimensions of the carrier
- manifestation* identifier
- source for acquisition/access authorization
- terms of availability
- access restrictions on the *manifestation*
- typeface (printed book)
- type size (printed book)
- foliation (hand-printed book)
- collation (hand-printed book)
- publication status (serial)
- numbering (serial)
- playing speed (sound recording)
- groove width (sound recording)

kind of cutting (sound recording)
tape configuration (sound recording)
kind of sound (sound recording)
special reproduction characteristic (sound recording)
colour (image)
reduction ratio (microform)
polarity (microform or visual projection)
generation (microform or visual projection)
presentation format (visual projection)
system requirements (electronic resource)
file characteristics (electronic resource)
mode of access (remote access electronic resource)
access address (remote access electronic resource)

4.4.1 Title of the Manifestation

The title of the *manifestation* is the word, phrase, or group of characters naming the *manifestation*. There may be one or more titles associated with a *manifestation*. Titles associated with a *manifestation* include all those that appear in the *manifestation* itself (e.g., the title on the title page, title frame, etc., a cover title, added title-page title, caption title, running title, spine title, etc., the title in a colophon, explicit, etc., the title on a container, on a microfiche header, etc.), as well as those that have been assigned to the *manifestation* for purposes of bibliographic control (e.g., key title, expanded title, translated title, supplied title, etc.).

4.4.2 Statement of Responsibility

A statement of responsibility is a statement appearing in the *manifestation* (normally in conjunction with the title) that names one or more individuals or groups responsible for the creation or realization of the intellectual or artistic content embodied in the *manifestation*. An individual or group named may be directly responsible for the *work* embodied in the *manifestation* (e.g., the author, composer, etc.), or indirectly responsible (e.g., the author of a novel on which a film script is based). Other individuals or groups named in the statement may include those responsible for the *expression* of the *work* contained in the *manifestation* (e.g., translators, performers, etc.), or those responsible for the compilation of *works* contained in the *manifestation* (e.g., the editor, compiler, etc.). A statement of responsibility may name an organization responsible for sponsoring or issuing the *work* contained in the *manifestation*. The statement may also indicate the role or function performed by each of the individuals, groups, or organizations responsible. The names appearing in the statement of responsibility in the *manifestation* may or may not be those of the *persons* and *corporate bodies*

actually responsible for the creation or realization of the intellectual or artistic content embodied in the *manifestation*. Similarly, the stated functions may or may not reflect the actual relationship that exists between the individuals and groups named and the intellectual or artistic content.

4.4.3 Edition/Issue Designation

The edition or issue designation of the *manifestation* is a word or phrase appearing in the *manifestation* that normally indicates a difference in either content or form between the *manifestation* and a related *manifestation* previously issued by the same publisher/distributor (e.g., second edition, version 2.0, etc.), or simultaneously issued by either the same publisher/distributor or another publisher/distributor (e.g., large print edition, British edition, etc.). The edition/issue designation pertains to all copies of a *manifestation* produced from substantially the same master and issued by the same publisher/distributor or group of publishers/distributors.

4.4.4 Place of Publication/Distribution

The place of publication/distribution of the *manifestation* is the city, town, or other locality associated in the *manifestation* with the name of the publisher/distributor. The place of publication may comprise the name of the state, province, territory, and/or country as well as the local place name. A *manifestation* may be associated with one or more places of publication/distribution.

4.4.5 Publisher/Distributor

The publisher/distributor of the *manifestation* is the individual, group, or organization named in the *manifestation* as being responsible for the publication, distribution, issuing, or release of the *manifestation*. A *manifestation* may be associated with one or more publishers or distributors.

4.4.6 Date of Publication/Distribution

The date of publication/distribution of the *manifestation* is the date (normally a year) of public release of the *manifestation*. The date may be a single date of publication or release, or a range of dates (e.g., in the case of a serial publication). In the absence of a date designated as the date of publication or release, a copyright date or a date of printing or manufacture may serve as a substitute.

4.4.7 Fabricator/Manufacturer

The fabricator/manufacturer of the *manifestation* is the individual, group, or organization named in the *manifestation* as being responsible for the fabrication or manufacture of the *manifestation*. A *manifestation* may be associated with one or more fabricators or manufacturers.

4.4.8 Series Statement

A series statement is the word, phrase, or group of characters appearing in the *manifestation* naming the series to which the *manifestation* belongs. A series statement may also include a number designating the sequential position of the *manifestation* within the series. There may be one or more series and/or subseries named in the *manifestation*.

4.4.9 Form of Carrier

The form of carrier is the specific class of material to which the physical carrier of the *manifestation* belongs (e.g., sound cassette, videodisc, microfilm cartridge, transparency, etc.). The carrier for a *manifestation* comprising multiple physical components may include more than one form (e.g., a filmstrip with an accompanying booklet, a separate sound disc carrying the sound track for a film, etc.).

4.4.10 Extent of the Carrier

The extent of the carrier is a quantification of the number of physical units making up the carrier (e.g., number of sheets, discs, reels, etc.).

4.4.11 Physical Medium

Physical medium is the type of material from which the carrier is produced (e.g., paper, wood, plastic, metal, etc.). The physical medium may include in addition to the base material any material that is applied to the base (e.g., oil paint applied to canvas, a chemical emulsion applied to a film base, etc.). Each component of a *manifestation* comprising multiple physical components may be produced from a different type of material.

4.4.12 Capture mode

Capture mode is the means used to record notation, sound, or images in the production of a *manifestation* (e.g., analogue, acoustic, electric, digital, optical etc.).

4.4.13 Dimensions of the Carrier

The dimensions of the carrier are the measurements of the physical components and/or the container of the *manifestation*. The dimensions may comprise measurements of height (e.g., 18 cm bound volume), width (e.g., 8mm film), height x width (e.g., 5 x 5 cm slide), height x width x depth (e.g., 9 x 30 x 20 cm model), or diameter (e.g., 30 cm disc).

4.4.14 Manifestation Identifier

The *manifestation* identifier is a number or code uniquely associated with the *manifestation* that serves to differentiate that *manifestation* from any other *manifestation*. A *manifestation* may have one or more identifiers associated with it. The identifier may be assigned as part of an international numbering or coding system (e.g., ISBN, etc.), as part of a national system (e.g., legal deposit number), or it may be assigned independently by the publisher or distributor of the *manifestation* (e.g., government publication number, music publisher's number, clearinghouse inventory number, etc.). A *manifestation* identifier may also be assigned by a bibliographer, musicologist, etc. The *manifestation* identifier may comprise both a numeric component and a textual or coded component identifying the system under which it was assigned and/or the agency or individual that assigned the number, so as to render the identifier unique to the *manifestation*.

4.4.15 Source for Acquisition/Access Authorization

The source for acquisition or access authorization of a *manifestation* is the name of a publisher, distributor, etc. indicated in the *manifestation* as the source from which the *manifestation* may be acquired or through whom access may be authorized. The source for acquisition/access authorization will normally also include an address for the publisher, distributor, etc. A *manifestation* may be associated with one or more sources.

4.4.16 Terms of Availability

Terms of availability are the terms indicated in the *manifestation* under which the supplier (i.e., the source for acquisition/access authorization) will normally make the *manifestation* available (e.g., free to members of a particular association), or the price for which the *manifestation* sells.

4.4.17 Access Restrictions on the Manifestation

Access restrictions are restrictions on access to and use of a *manifestation*. Access restrictions may be based in copyright, or they may extend beyond the protections guaranteed in law to the owner of the copyright.

4.4.18 Typeface (Printed Book)

Typeface is the style of type used to print a book (e.g., Baskerville, Times New Roman, etc.)

4.4.19 Type Size (Printed Book)

Type size is the size of the characters in a printed book (e.g., 10 point).

4.4.20 Foliation (Hand-Printed Book)

The foliation of a hand-printed book reflects the number of folds made in a printed sheet to form a gathering of leaves (e.g., a sheet folded twice to form a quarto, three times to form an octavo, etc.)

4.4.21 Collation (Hand-Printed Book)

Collation reflects the sequence of gatherings in a book as indicated by signatures on each gathering (e.g., four gatherings bearing signatures A through D).

4.4.22 Publication Status (Serial)

Publication status for a *manifestation* issued as a serial is the status of the serial with respect to its continuing publication (i.e., whether it is currently published or has ceased publication).

4.4.23 Numbering (Serial)

Numbering for a *manifestation* issued as a serial is the designation of volume/issue, etc. and/or date appearing in the *manifestation*. The numbering may comprise a numeric, alphabetic and/or a date component (e.g., Volume 1, number 1 (January 1971)).

4.4.24 Playing Speed (Sound Recording)

Playing speed for a sound recording is the speed at which the carrier must be operated to produce the sound intended (e.g., 33 1/3 rpm, 19 cm/s, etc.)

4.4.25 Groove Width (Sound Recording)

Groove width is indicative of the number of grooves per inch cut on a disc or cylinder (e.g., microgroove--i.e., 200 grooves per inch).

4.4.26 Kind of Cutting (Sound Recording)

Kind of cutting is the direction in which the grooves are cut on a disc or cylinder (e.g., lateral, vertical, etc.).

4.4.27 Tape Configuration (Sound Recording)

Tape configuration is the number of tracks on a sound tape (e.g., eight track, twelve track).

4.4.28 Kind of Sound (Sound Recording)

The kind of sound reflects the number of sound channels used to make the recording (monaural, stereophonic, quadraphonic, etc.).

4.4.29 Special Reproduction Characteristic (Sound Recording)

A special reproduction characteristic is the equalization system, noise reduction system, etc. used in making the recording (e.g., NAB, DBX, Dolby, etc.).

4.4.30 Colour (Image)

Colour is the colour(s), tone(s), etc. (including black and white) used in the production of an image.

4.4.31 Reduction Ratio (Microform)

Reduction ratio is the degree to which a text or image has been reduced in the process of microfilming (e.g., 42x, etc.). Reduction ratio may also be indicated as a range (e.g., very high reduction indicates a reduction in the range of 61x to 90x).

4.4.32 Polarity (Microform or Visual Projection)

Polarity is the relationship of the colours and tones in an image on film to the colours and tones of the object filmed. When the colours and tones in the film image reflect directly the colour and tones of the object filmed, the polarity is positive. When they are the reverse of the object the polarity is negative. The polarity of images in a *manifestation* comprising more than one image may be mixed.

4.4.33 Generation (Microform or Visual Projection)

Generation is a reflection of the number of times an image on film has been transferred from one carrier to another (e.g., a first generation camera master, a second generation printing master, a third generation service copy, etc.).

4.4.34 Presentation Format (Visual Projection)

Presentation format is the format used in the production of a projected image (e.g., wide screen, Beta, VHS, etc.).

4.4.35 System Requirements (Electronic Resource)

System requirements for an electronic resource include requirements related to hardware (e.g. machine make and model, RAM capacity, etc.), software (e.g., operating systems, programming language, supporting software, etc.), and peripherals (monitor, printer, mouse, etc.)

4.4.36 File Characteristics (Electronic Resource)

File characteristics for an electronic resource include standards or schemes used to encode the file (e.g., ASCII, SGML, etc.), physical characteristics of the file (e.g., recording density, parity, blocking, etc.), and other characteristics that have a bearing on how the file can be processed.

4.4.37 Mode of Access (Remote Access Electronic Resource)

Mode of access is the means of accessing a remote electronic resource (e.g., Internet, World Wide Web, etc.).

4.4.38 Access Address (Remote Access Electronic Resource)

Access address is an alpha-numeric code (e.g., universal resource locator - URL) used to facilitate remote access to an electronic resource.

4.5 Attributes of an Item

The logical attributes of an *item* defined for this study are the following:

- item* identifier
- fingerprint
- provenance of the *item*
- marks/inscriptions

exhibition history
condition of the *item*
treatment history
scheduled treatment
access restrictions on the *item*

Note: The attributes defined for the purposes of this study do not include those associated with transactions of an ephemeral nature such as the circulation or processing of an *item*.

4.5.1 Item Identifier

The *item* identifier is a number or code that is uniquely associated with the *item*, and serves to differentiate that *item* from any other *item* in the same collection and/or institution (e.g., call number, accession number, bar code, etc.). The number is normally assigned by the institution that holds the *item*. The *item* identifier may also include a name or code identifying the institution or repository in which the *item* is housed, and a name or code identifying a particular collection or sub-unit within the institution (e.g., a rare book collection, a branch library, etc.).

4.5.2 Fingerprint

A fingerprint is an identifier constructed by combining groups of characters transcribed from specified pages of a printed *item*. The technique is used primarily to signal differences between individual copies of early printed books. There are various formulae for constructing the fingerprint (e.g., the one specified in *Fingerprints = Empreintes = Impronte*, published by the Institut de Recherche et d'Histoire des Textes in Paris).

4.5.3 Provenance of the Item

The provenance of an *item* is a record of previous ownership or custodianship of the *item*.

4.5.4 Marks/inscriptions

Marks/inscriptions on an *item* include any signatures, numbering, annotations, etc. that have been applied uniquely to the *item* by the artist, fabricator, owner, etc.

4.5.5 Exhibition History

Exhibition history is a record of public exhibitions of an *item*, including dates, venues, etc.

4.5.6 Condition of the Item

Condition of an *item* is the physical condition of the *item*, particularly any variances between the physical makeup of the *item* and that of the *manifestation* it exemplifies (e.g., missing pages, plates, etc.). Condition may reflect other aspects of the physical condition of the *item* as well (e.g., brittleness, faded images, etc.).

4.5.7 Treatment History

The treatment history of an *item* is a record of the treatment the *item* has undergone (e.g., deacidification, restoration, etc.) Treatment history may also comprise details of the treatment process (e.g., chemical solutions used, techniques applied, etc.), the date the treatment was applied, etc.

4.5.8 Scheduled Treatment

The scheduled treatment of an *item* is a plan for future treatment of the *item* (e.g., chemical wash). Scheduled treatment may also comprise details of the planned treatment process and the scheduled date of application.

4.5.9 Access Restrictions on the Item

Access restrictions on an *item* are any limitations placed on physical access to the *item* (e.g., restricted to supervised on-site use, etc.).

4.6 Attributes of a Person

The logical attributes of a *person* defined for this study are the following:

name of *person*
dates of *person*
title of *person*

other designation associated with the *person*

4.6.1 Name of Person

The name of a *person* is the word, character, or group of words and/or characters by which the *person* is known (e.g., Donald Horne, A. A. Milne, Ellery Queen, etc.). A name may include one or more forenames (or given names), matronymics, patronymics, family names (or surnames), soubriquets, dynastic names, etc. A *person* may be known by more than one name, or by more than one form of the same name. A bibliographic agency normally selects one of those names as the uniform heading for purposes of consistency in naming and referencing the *person*. The other names or forms of name may be treated as variant names for the *person*. In some cases (e.g., in the case of a *person* who writes under more than one pseudonym, or a *person* who writes both in an official capacity and as an individual) the bibliographic agency may establish more than one uniform heading for the *person*.

4.6.2 Dates of Person

The dates associated with a *person* may include the precise or approximate date of the *person's* birth and/or death, or dates indicating the period in which the *person* was known to be active in a given field of endeavour.

4.6.3 Title of Person

The title of a *person* is a word or phrase indicative of rank, office, nobility, honour, etc. (e.g., Major, Premier, Duke, etc.), or a term of address (Sir, Mrs., etc.) associated with the *person*.

4.6.4 Other Designation Associated with the Person

A designation associated with a *person* is a numeral, word, or abbreviation indicating succession within a family or dynasty (e.g., III, Jr., etc.), or an epithet or other word or phrase associated with the *person* (e.g., the Brave, Professional Engineer, etc.).

4.7 Attributes of a Corporate Body

The logical attributes of a *corporate body* defined for this study are the following:

- name of the *corporate body*
- number associated with the *corporate body*
- place associated with the *corporate body*
- date associated with the *corporate body*
- other designation associated with the *corporate body*

4.7.1 Name of the Corporate Body

The name of a *corporate body* is the word, phrase, character, or group of words and/or characters by which the body is known (e.g., Royal Aeronautical Society, IBM, Séminaire européen sur la recherche en éducation, Friedrich Witte, etc.). A *corporate body* may be known by more than one name, or more than one form of the same name. A bibliographic agency normally selects one of those names as the uniform heading for purposes of consistency in naming and referencing the *corporate body*. The other names or forms of name may be treated as variant names for the *corporate body*. In some cases (e.g., in the case where a *corporate body* is known by different names at different periods in its history) the bibliographic agency may establish more than one uniform heading for the *corporate body*.

4.7.2 Number Associated with the Corporate Body

Number associated with the *corporate body* is the numerical designation sequencing a meeting, conference, exhibition, fair, etc. that constitutes one of a series of related meetings, conferences, exhibitions, fairs, etc., or any other numerical designation associated with a *corporate body*.

4.7.3 Place Associated with the Corporate Body

Place associated with the *corporate body* is the city, town, or other designation of location in which a meeting, conference, exhibition, fair, etc. was held, or the location with which the *corporate body* is otherwise associated (e.g., Los Angeles, Bretton Woods, Oxford University, etc.). The place may comprise the name of the state, province, territory, and/or country as well as the local place name.

4.7.4 Date Associated with the Corporate Body

Date associated with the *corporate body* is the date or range of dates on which a meeting, conference, exhibition, fair, etc. was held, or a date with which the *corporate body* is otherwise associated (e.g., the date of its incorporation).

4.7.5 Other Designation Associated with the Corporate Body

A designation associated with the name of a *corporate body* is a word, phrase, or abbreviation indicating incorporation or legal status of the body (e.g., Inc., Ltd., etc.), or any term serving to differentiate the body from other *corporate bodies*, *persons*, etc. (e.g., firm, musical group, etc.).

4.8 Attributes of a Concept

The logical attributes of a *concept* defined for this study are the following:

term for the *concept*

4.8.1 Term for the Concept

The term for the *concept* is the word, phrase, or group of characters used to name or designate the *concept* (e.g., economics, existentialism, radioactivity, etc.). A *concept* may be designated by more than one term, or by more than one form of the term. A bibliographic agency normally selects one of those terms as the uniform heading for purposes of consistency in naming and referencing the *concept*. The other terms or forms of term may be treated as variant terms for the *concept*.

4.9 Attributes of an Object

The logical attributes of an *object* defined for this study are the following:

term for the *object*

4.9.1 Term for the Object

The term for the *object* is the word, phrase, or group of characters used to name or designate the *object* (e.g., a building, a ship, etc.). An *object* may be designated by more than one term, or by more than one form of the term. A bibliographic agency normally selects one of those terms as the uniform heading for purposes of consistency in naming and referencing the *object*. The other terms or forms of term may be treated as variant terms for the *object*.

4.10 Attributes of an Event

The logical attributes of an *event* defined for this study are the following:

term for the *event*

4.10.1 Term for the Event

The term for the *event* is the word, phrase, or group of characters used to name or designate the *event* (e.g., Battle of Hastings, Tour de France, etc.). An *event* may be designated by more than one term, or by more than one form of the term. A bibliographic agency normally selects one of those terms as the uniform heading for purposes of consistency in naming and referencing the *event*. The other terms or forms of term may be treated as variant terms for the *event*.

4.11 Attributes of a Place

The logical attributes of a *place* defined for this study are the following:

term for the *place*

4.11.1 Term for the Place

The term for the *place* is the word, phrase, or group of characters used to name or designate the *place* (e.g., London, St. Lawrence River, etc.). A *place* may be designated by more than one term, or by more than one form of the term. A bibliographic agency normally selects one of those terms as the uniform heading

for purposes of consistency in naming and referencing the *place*. The other terms or forms of term may be treated as variant terms for the *place*.

5. RELATIONSHIPS

5.1 Bibliographic Relationships in the Context of the Model

Various terms are used by creators and publishers of intellectual and artistic entities to signal relationships between those entities. Terms such as "edition" and "version" are frequently encountered on publications and other materials, as are statements such as "based on ..." or "translated from ...". In many cases such terms or statements serve as a signal to the cataloguer that a relationship should be reflected in the bibliographic record. The problem with relying on commonly applied terms as a starting point for analyzing bibliographic relationships is that those terms are neither clearly defined nor uniformly applied. In this study relationships are examined in the context of the entities defined for the model, i.e., they are analysed specifically as relationships that operate between one *work* and another, between one *expression* and another, between a *manifestation* and an *item*, etc.

In the context of the model, relationships serve as the vehicle for depicting the link between one entity and another, and thus as the means of assisting the user to "navigate" the universe that is represented in a bibliography, catalogue, or bibliographic database. Typically the user will formulate a search query using one or more attributes of the entity for which he or she is searching, and it is through the attribute that the user finds the entity sought. The relationships reflected in the bibliographic record provide additional information that assists the user in making connections between the entity found and other entities that are related to that entity.

Relationships may be reflected in bibliographic records in a number of ways. Some relationships, especially those depicted in the entity-relationship diagrams in Chapter 3 (Figures 3.1 through 3.3), are often reflected simply by concatenating attributes of one entity with attributes of the related entity in a single record. For example, a record will normally couple the attributes of a particular *manifestation* with the attributes of the *expression* that is embodied in that *manifestation* and with the attributes of the *work* that is realized through that *expression*. Relationships are also frequently reflected implicitly by appending to the record a heading identifying a related entity. The relationship of the *work* to the *person* or

corporate body, for example, is normally reflected implicitly by appending to the record a heading identifying the *person* or *corporate body* responsible for the work. Relationships are sometimes reflected by “layering” attributes of one entity with those of related entities (e.g., in a multi-level record describing both an aggregate entity and its individual component entities). Relationships are also frequently made explicit through the use of a note or similar device that indicates not only that a relationship exists between the entity described in the record and another entity, but also states specifically the nature of the relationship (e.g., “Translated from the English text of the 1891 edition”).

It is important to bear in mind that for the purposes of this study a relationship is not operative unless the entities on each side of the relationship are explicitly identified. For example, "based on a play by Henrik Ibsen" does not operatively state a *work-to-work* relationship; "based on *Ghosts* by Henrik Ibsen" does.

It is also important to note that within the entity-relationship model relationships can be depicted either at the level at which they actually operate, or at a more general level when the precise relationship cannot be easily determined. For example, a concordance to Joyce's *Finnegans Wake* in reality will have been based on a particular embodiment (i.e., *manifestation*) of a particular text (i.e., *expression*); it may not be possible, if the precise edition of the base text is unknown, to state the relationship of the concordance to the particular *expression* and/or *manifestation* on which it is based. In that case it is possible only to state the relationship of the concordance to *Finnegans Wake* (i.e., *work*). The model therefore provides an option for certain kinds of relationships to be expressed at either one of two levels.

The sections that follow describe the relationships used in the model and how they function.

Sections 5.2 through 5.2.3 describe the logical relationships between entity types that are shown on the high level entity-relationship diagrams in Chapter 3 (Figures 3.1 through 3.3). In the entity-relationship diagrams those relationships are shown simply to indicate how at a generalized level the entities are connected with one another (i.e., how *works* are connected with *expressions*, how they are connected with *persons* and *corporate bodies*, how they are connected with *concepts*, *objects*, *events*, etc.; how *expressions* are connected with *manifestations*, how they are connected with *persons* and *corporate bodies*; etc.). At a more specific level, the same relationships are used to link a particular *expression* with the *work* it realizes, a particular *manifestation* with the *expression* it embodies, etc.

Sections 5.3 through 5.3.6.1 describe another set of relationships associated with the four primary entities (*work*, *expression*, *manifestation*, and *item*) that operate more specifically between designated instances of entities (e.g., between one *work*

and another, between two *expressions* of the same *work*, between an *expression* of one *work* and an *expression* of another *work*, etc.).

5.2 Relationships Depicted in the High Level Diagrams

The entity-relationship diagrams in Chapter 3 (Figures 3.1 through 3.3) show logical relationships between entities at the highest level of generalization in the model. The relationships depicted in the diagrams indicate simply how at a logical level the different types of entities in the model are connected with one another (i.e., how *works* are connected with *expressions*, how they are connected with *persons* and *corporate bodies*, etc.). For example, the line labeled “realized through” that links *work* with *expression* indicates in generalized terms that a *work* is realized through an *expression*.

As noted in Chapter 3 (sections 3.1.1 through 3.1.3), the entities in the model fall into three groups. The primary group comprises the products of intellectual or artistic endeavour: *work*, *expression*, *manifestation*, and *item*. The second group comprises those entities responsible for the intellectual or artistic content, the production and dissemination, or the custodianship of such products: *person* and *corporate body*. The third group comprises an additional set of entities that together with the entities in the first and second groups may serve as the subject of a *work*: *concept*, *object*, *event*, and *place*.

5.2.1 Relationships Between Work, Expression, Manifestation, and Item

The relationships depicted in Figure 3.1 that link *work* to *expression*, *expression* to *manifestation*, and *manifestation* to *item* are central to the structure of the entity-relationship model. Each of the three primary relationships (i.e., the “realized through” relationship connecting *work* and *expression*, the “embodied in” relationship connecting *expression* and *manifestation*, and the “exemplified by” relationship connecting *manifestation* and *item*) is unique and operates between only one pair of entities in the model. In all three cases, in fact, the relationships reflected in the link are integral to the definition of the entities involved in the relationship.

The first of those relationships indicates that a *work* is “realized through” *expression*. Viewed from the reverse direction, the relationship indicates that an *expression* “is a realization of” a *work*, which is in fact how *expression* is defined as an entity (“the intellectual or artistic realization of a *work*...”). The logical connection between *work* and *expression*, as reflected in the model through the relationship link, serves as the basis both for identifying the *work* represented by an

The reproduction relationship states that one particular *item* has been derived in some way from another *item*. As with *manifestation*, there can be varying levels of fidelity of the reproduction to the original *item*. Unlike the replication of *manifestations*, however, which in some cases will result in a change in the type of carrier, the replication of one *item* from another always results in an *item* of the same physical characteristics as the original.

The reconfiguration relationship is one in which one or more *items* are changed in such a way that a new *item* or *items* result. Most commonly, an *item* of one *manifestation* is bound with an *item* of a different *manifestation* to make a new *item*. For monographs, this is the typical "bound with" situation. For serials, reconfiguration happens when several unbound copies representing different issues are bound together to make a single new *item*. Less frequently, a single physical *item* may be split and rebound as two separate *items*.

Examples

- **i₁** a copy of Adam Lillie’s *Canada--physical, economic, and social* published in 1855 by MacLear & Company
 is bound with →
 ← is bound with
- **i₂** a copy of Alexander Morris’ *Canada and her resources*
 published in 1855 by John Lovell

5.3.6.1 Whole/Part Relationships at the Item Level

Table 5.11 shows whole/part relationships at the *item* level.

Table 5.11 Whole/Part Item-to-Item Relationships

| Relationship Type | Item |
|--|---|
| Whole/Part has part → ← is part of | Physical component of copy Binding of a book |

Parts of *items* can be discrete components or integral parts. A discrete component is a separable physical piece constituting part of the whole *item*. For example, copy 1 of a particular *manifestation* might consist of two separate volumes; each

Table 6.1 Attributes and Relationships of Works

| | Find | | | | Identify | | | | Select | | | | Obtain | | | |
|--|------|------------|---------------|------|----------|------------|---------------|------|--------|------------|---------------|------|--------|------------|---------------|------|
| | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item |
| Attributes of a Work | | | | | | | | | | | | | | | | |
| Title of the work | ■ | | | | ■ | | | | ■ | | | | | | | |
| Form of work | □ | | | | □ | | | | ■ | | | | | | | |
| Date of the work | ○ | | | | ○ | | | | ○ | | | | | | | |
| Other distinguishing characteristic | ○ | | | | ○ | | | | ○ | | | | | | | |
| Intended termination | □ | | | | ■ | | | | □ | | | | | | | |
| Intended audience | ○ | | | | ○ | | | | □ | | | | | | | |
| Context for the work | | | | | | | | | ○ | | | | | | | |
| Medium of performance (musical work) <i>(note 1)</i> | □ | | | | □ | | | | □ | | | | | | | |
| Numeric designation (musical work) <i>(note 1)</i> | ○ | | | | □ | | | | | | | | | | | |
| Key (musical work) <i>(note 1)</i> | ○ | | | | □ | | | | | | | | | | | |
| Coordinates (cartographic work) | □ | | | | ■ | | | | ■ | | | | | | | |
| Equinox (cartographic work) | □ | | | | □ | | | | □ | | | | | | | |

1 Medium of performance, numeric designation, and key have a higher value for identifying musical works with non-distinctive titles indicative only of the musical form

(e.g., Symphony, Concerto, etc.)

■ = high value

□ = moderate value

○ = low value

Table 6.1 Attributes and Relationships of Works (cont'd)

| | Find | | | | Identify | | | | Select | | | | Obtain | | | |
|---|------|------------|---------------|------|----------|------------|---------------|------|--------|------------|---------------|------|--------|------------|---------------|------|
| | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item |
| Relationships Between a Work | | | | | | | | | | | | | | | | |
| And other works: | | | | | | | | | | | | | | | | |
| Referential successor | □ | | | | □ | | | | ■ | | | | | | | |
| Referential supplement | □ | | | | □ | | | | ■ | | | | | | | |
| Referential complement | □ | | | | □ | | | | ■ | | | | | | | |
| Autonomous successor | □ | | | | □ | | | | □ | | | | | | | |
| Autonomous supplement | □ | | | | □ | | | | □ | | | | | | | |
| Autonomous complement | □ | | | | □ | | | | □ | | | | | | | |
| Summarization | | | | | ○ | | | | ○ | | | | | | | |
| Adaptation | | | | | ○ | | | | ○ | | | | | | | |
| Transformation | | | | | ○ | | | | ○ | | | | | | | |
| Imitation | | | | | ○ | | | | ○ | | | | | | | |
| Dependent component | ■ | | | | ■ | | | | □ | | | | | | | |
| Independent component | ■ | | | | □ | | | | □ | | | | | | | |
| Integral intellectual aspect | | | | | | | | | □ | | | | | | | |
| And persons/corporate bodies responsible for the work | ■ | | | | ■ | | | | ■ | | | | | | | |
| And entities treated as subject of the work | ■ | | | | | | | | ■ | | | | | | | |

■ = high value

□ = moderate value

○ = low value

Table 6.2 Attributes and Relationships of Expressions

| | Find | | | | Identify | | | | Select | | | | Obtain | | | |
|--|------|------------|---------------|------|----------|------------|---------------|------|--------|------------|---------------|------|--------|------------|---------------|------|
| | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item |
| Attributes of an Expression | | | | | | | | | | | | | | | | |
| Title of the expression | | □ | | | | □ | | | | □ | | | | | | |
| Form of expression | | | | | | ■ | | | | ■ | | | | | | |
| Date of expression | | | | | | □ | | | | □ | | | | | | |
| Language of expression <i>(note 1)</i> | | □ | | | | ■ | | | | ■ | | | | | | |
| Other distinguishing characteristic | | □ | | | | ■ | | | | ■ | | | | | | |
| Extensibility of expression | | | | | | ○ | | | | | | | | | | |
| Revisability of expression | | | | | | ○ | | | | □ | | | | | | |
| Extent of the expression <i>(note 2)</i> | | | | | | ○ | | | | ○ | | | | | | |
| Summarization of content | | | | | | ○ | | | | □ | | | | | | |
| Context for the expression | | | | | | | | | | ○ | | | | | | |
| Critical response to the expression | | | | | | | | | | ○ | | | | | | |
| Use restrictions on the expression | | | | | | | | | | ■ | | | | | | |

1 Language of expression has value only if the linguistic content of the expression is significant.

2 Extent of the expression may have a prime value for audio and visual materials (i.e., when expressed as duration).

■ = high value

□ = moderate value

○ = low value

Table 6.2 Attributes and Relationships of Expressions (cont'd)

| | Find | | | | Identify | | | | Select | | | | Obtain | | | |
|--|------|------------|---------------|------|----------|------------|---------------|------|--------|------------|---------------|------|--------|------------|---------------|------|
| | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item |
| Attributes of an Expression (continued) | | | | | | | | | | | | | | | | |
| Sequencing pattern (serial) | | | | | | | | | | | | | | | ○ | |
| Expected regularity of issue (serial) | | | | | | | | | | | | | | | □ | |
| Expected frequency of issue (serial) | | | | | | ■ | | | | ■ | | | | | ■ | |
| Type of score (musical notation) | | | | | | ■ | | | | ■ | | | | | | |
| Medium of performance (musical notation or recorded sound) | | | | | | ■ | | | | ■ | | | | | | |
| Scale (cartographic image/object) | | | | | | □ | | | | ■ | | | | | | |
| Projection (cartographic image/object) | | | | | | □ | | | | ○ | | | | | | |
| Presentation technique (cartographic image/object) | | | | | | ○ | | | | ○ | | | | | | |
| Representation of relief (cartographic image/object) | | | | | | ○ | | | | ○ | | | | | | |
| Geodetic, grid, and vertical measurement (cartographic image/object) | | | | | | ○ | | | | ○ | | | | | | |
| Recording technique (remote sensing image) | | | | | | ○ | | | | ○ | | | | | | |
| Special characteristic (remote sensing image) | | | | | | ○ | | | | ○ | | | | | | |
| Technique (graphic or projected image) | | | | | | ○ | | | | ○ | | | | | | |

■ = high value

□ = moderate value

○ = low value

Table 6.2 Attributes and Relationships of Expressions (cont'd)

| | Find | | | | Identify | | | | Select | | | | Obtain | | | |
|--|------|------------|---------------|------|----------|------------|---------------|------|--------|------------|---------------|------|--------|------------|---------------|------|
| | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item |
| Relationships Between an Expression | | | | | | | | | | | | | | | | |
| And other expressions/works | | | | | | | | | | | | | | | | |
| Abridgement | | | | | | ○ | | | | □ | | | | | | |
| Revision | | □ | | | | ○ | | | | ■ | | | | | | |
| Arrangement (music) | | □ | | | | ○ | | | | ■ | | | | | | |
| Translation | | □ | | | | □ | | | | ■ | | | | | | |
| Referential successor | | □ | | | | □ | | | | ■ | | | | | | |
| Referential supplement | | □ | | | | □ | | | | ■ | | | | | | |
| Referential complement | | □ | | | | □ | | | | □ | | | | | | |
| Autonomous successor | | □ | | | | □ | | | | □ | | | | | | |
| Autonomous supplement | | □ | | | | □ | | | | □ | | | | | | |
| Autonomous complement | | | | | | ○ | | | | ○ | | | | | | |
| Summarization | | | | | | ○ | | | | ○ | | | | | | |
| Adaptation | | | | | | ○ | | | | ○ | | | | | | |
| Transformation | | | | | | ○ | | | | ○ | | | | | | |
| Imitation | | ■ | | | | ■ | | | | □ | | | | | | |
| Dependent component | | ■ | | | | □ | | | | □ | | | | | | |
| Independent component | | | | | | | | | | □ | | | | | | |
| Integral aspect | | | | | | | | | | | | | | | | |
| And persons/corporate bodies responsible for content | | ■ | | | | ■ | | | | ■ | | | | | | |

■ = high value

□ = moderate value

○ = low value

Table 6.3 Attributes and Relationships of Manifestations

| | Find | | | | Identify | | | | Select | | | | Obtain | | | |
|---|------|------------|---------------|------|----------|------------|---------------|------|--------|------------|---------------|------|--------|------------|---------------|------|
| | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item |
| Attributes of a Manifestation | | | | | | | | | | | | | | | | |
| Title of the manifestation | ■ | ■ | ■ | | ■ | ■ | ■ | | □ | □ | □ | | | | ■ | |
| Statement of responsibility | □ | □ | □ | | □ | ■ | ■ | | □ | ■ | ■ | | | | ■ | |
| Edition/issue designation | | | | | | ■ | ■ | | | ■ | ■ | | | | ■ | |
| Place of publication/distribution | | | | | | | ○ | | ○ | ○ | ○ | | | | ■ | |
| Publisher/distributor | | | ○ | | | □ | ■ | | ○ | ○ | □ | | | | ■ | |
| Date of publication/distribution | □ | □ | ○ | | □ | □ | ■ | | □ | □ | ■ | | | | ■ | |
| Fabricator/manufacturer <i>(note 1)</i> | | | ○ | | | | ○ | | | | ○ | | | | | |
| Series statement | | | □ | | | | ■ | | | | □ | | | | ■ | |
| Form of carrier | | | □ | | | | ■ | | | | ■ | | | | ■ | |
| Extent of the carrier <i>(note 2)</i> | | | | | | | □ | | □ | | □ | | | | | |
| Physical medium <i>(note 3)</i> | | | | | | | □ | | | | ○ | | | | | |
| Capture mode | | | | | | | ○ | | | | □ | | | | | |
| Dimensions of the carrier <i>(note 4)</i> | | | | | | | ○ | | | | □ | | | | □ | |
| Manifestation identifier | | | ■ | | | □ | ■ | | | | | | | | ■ | |
| Source for acquisition/access authorization <i>(note 5)</i> | | | | | | | | | | | ○ | | | | ○ | |
| Terms of availability | | | | | | | | | | | ○ | | | | ○ | |
| Access restrictions on the manifestation | | | | | | | | | | | □ | | | | ■ | |

1 Fabricator/manufacturer may have a higher value for early printed books, limited production graphics, castings, etc.

2 Extent of the carrier may have a higher value in cases where the extent may signal differences between one manifestation and another.

3 Physical medium may have a higher value in cases where the medium is potentially important to users (e.g. nitrate-based film).

4 Dimensions of the carrier may have a higher value in cases where the dimensions are significant for playback equipment, etc.

5 Source for acquisition/access authorization may have a higher value if the manifestation is likely to be difficult to obtain through normal trade sources.

■ = high value

□ = moderate value

○ = low value

Table 6.3 Attributes and Relationships of Manifestations (cont'd)

| | Find | | | | Identify | | | | Select | | | | Obtain | | | |
|---|------|------------|---------------|------|----------|------------|---------------|------|--------|------------|---------------|------|--------|------------|---------------|------|
| | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item |
| Attributes of a Manifestation (continued) | | | | | | | | | | | | | | | | |
| Typeface (printed book) <i>(note 1)</i> | | | | | | | ○ | | | | ○ | | | | | |
| Type size (printed book) <i>(note 1)</i> | | | | | | | ○ | | | | ○ | | | | | |
| Foliation (hand-printed book) | | | | | | | ■ | | | | | | | | ■ | |
| Collation (hand-printed book) | | | | | | | ■ | | | | | | | | ■ | |
| Publication status (serial) | | | | | | | | | | | | | | | | |
| Numbering (serial) | □ | □ | □ | | ■ | ■ | ■ | | | | | | | | ■ | |
| Playing speed (sound recording) <i>(note 2)</i> | | | | | | | | | | | ○ | | | | | |
| Groove width (sound recording) | | | | | | | | | | | ○ | | | | | |
| Kind of cutting (sound recording) | | | | | | | | | | | ○ | | | | | |
| Tape configuration (sound recording) | | | | | | | | | | | ○ | | | | | |
| Kind of sound (sound recording) | | | | | | | | | | | ○ | | | | | |
| Special reproduction characteristic (sound recording) | | | | | | | | | | | ○ | | | | | |
| Colour (image) | | | | | | | □ | | | | □ | | | | | |
| Reduction ratio (microform) | | | | | | | □ | | | | ■ | | | | □ | |
| Polarity (microform or visual projection) | | | | | | | □ | | | | □ | | | | □ | |
| Generation (microform or visual projection) | | | | | | | □ | | | | □ | | | | □ | |
| Presentation format (visual projection) | | | | | | | □ | | | | ■ | | | | □ | |
| System requirements (electronic resource) | | | | | | | □ | | | | ■ | | | | □ | |
| File characteristics (electronic resource) | | | | | | | □ | | | | ○ | | | | □ | |
| Mode of access (remote access electronic resource) | | | | | | | | | | | □ | | | | ■ | |
| Access address (remote access electronic resource) | | | | | | | | | | | | | | | ■ | |

1 Typeface and type size may have a higher value for differentiating between issues of early books and also for helping users choose materials for the visually impaired.

2 Playing speed may have a higher value for historic recordings that require special playback equipment.

■ = high value

□ = moderate value

○ = low value

Table 6.3 Attributes and Relationships of Manifestations (cont'd)

| | Find | | | | Identify | | | | Select | | | | Obtain | | | |
|---|------|------------|---------------|------|----------|------------|---------------|------|--------|------------|---------------|------|--------|------------|---------------|------|
| | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item |
| Relationships Between a Manifestation | | | | | | | | | | | | | | | | |
| And other manifestations | | | | | | | | | | | | | | | | |
| Reproduction | | | □ | | | | □ | | | | □ | | | | □ | |
| Alternate | | | ○ | | | | ○ | | | | ○ | | | | ○ | |
| Component | | | | | | | ○ | | | | ○ | | | | | |
| Integral part | | | | | | | | | | | ○ | | | | | |
| And items | | | | | | | | | | | | | | | | |
| Reproduction | | | □ | | | | □ | | | | ○ | | | | | |
| And persons/corporate bodies responsible for production/dissemination | | | □ | | | | | | | | | | | | | |

■ = high value

□ = moderate value

○ = low value

Table 6.4 Attributes and Relationships of Items

| | Find | | | | Identify | | | | Select | | | | Obtain | | | |
|--|------|------------|---------------|------|----------|------------|---------------|------|--------|------------|---------------|------|--------|------------|---------------|------|
| | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item | Work | Expression | Manifestation | Item |
| Attributes of an Item | | | | | | | | | | | | | | | | |
| Item identifier | | | | ■ | | | | ■ | | | | | | | | ■ |
| Fingerprint | | | | | | | □ | □ | | | | | | | | |
| Provenance of the item | | | | | | | | □ | | | | ○ | | | | |
| Marks/inscriptions | | | | | | | | □ | | | | ○ | | | | |
| Exhibition history | | | | | | | | ○ | | | | | | | | |
| Condition of the item | | | | | | | | | | | | □ | | | | |
| Treatment history | | | | | | | | | | | | □ | | | | |
| Scheduled treatment | | | | | | | | | | | | □ | | | | |
| Access restrictions on the item | | | | | | | | | | | | □ | | | | ■ |
| Relationships Between an Item | | | | | | | | | | | | | | | | |
| And other items | | | | | | | | | | | | | | | | |
| Reconfiguration | | | | | | | | □ | | | | □ | | | | □ |
| Reproduction | | | | | | | | □ | | | | □ | | | | □ |
| Physical component of copy | | | | | | | | | | | | | | | | |
| Integral part | | | | | | | | | | | | | | | | |
| And persons/corporate bodies responsible for ownership/custodianship | | | | ○ | | | | | | | | | | | | |

■ = high value

□ = moderate value

○ = low value

Table 7.1 Find Manifestations

| To enable the user to -- | the basic level national bibliographic record should reflect these logical attributes and relationships -- | and should include these specific data elements -- |
|--|--|---|
| 7.1 Find all <i>manifestations</i> embodying: | | |
| 7.1.1 the <i>works</i> for which a given <i>person</i> or <i>corporate body</i> is responsible | <ul style="list-style-type: none"> ■ relationship(s) between the <i>person(s)</i> or <i>corporate body(ies)</i> responsible and the <i>work(s)</i> embodied in the <i>manifestation</i> | <ul style="list-style-type: none"> ■ name heading(s) for <i>person(s)</i> and/or <i>corporate body(ies)</i> with principal responsibility for the <i>work(s)</i> |
| 7.1.2 the various <i>expressions</i> of a given <i>work</i> | <ul style="list-style-type: none"> ■ relationship(s) between the <i>work</i> and the <i>expression(s)</i> embodied in the <i>manifestation</i> | <ul style="list-style-type: none"> ■ title heading(s) for the <i>work(s)</i> |
| 7.1.3 <i>works</i> on a given subject | <ul style="list-style-type: none"> ■ relationship(s) between the <i>concept(s)</i>, etc. that is (are) the subject and the <i>work(s)</i> embodied in the <i>manifestation</i> | <ul style="list-style-type: none"> ■ subject heading(s) and/or classification number(s) for the principal subject(s) of the <i>work(s)</i> |
| 7.1.4 <i>works</i> in a given series | <ul style="list-style-type: none"> ■ relationship between the series and the <i>work</i> | <ul style="list-style-type: none"> ■ heading for the series ■ numbering within series |

Table 7.2 Find A Particular Manifestation

| To enable the user to -- | the basic level national bibliographic record should reflect these logical attributes and relationships -- | and should include these specific data elements -- |
|---|--|---|
| 7.2 Find a particular <i>manifestation</i> : | | |
| 7.2.1 when the name(s) of the <i>person(s)</i> and/or <i>corporate body(ies)</i> responsible for the <i>work(s)</i> embodied in the <i>manifestation</i> is (are) known | <ul style="list-style-type: none"> ■ relationship(s) between the <i>person(s)</i> and/or <i>corporate body(ies)</i> responsible and the <i>work(s)</i> embodied in the <i>manifestation</i> | <ul style="list-style-type: none"> ■ name heading(s) for <i>person(s)</i> and/or <i>corporate body(ies)</i> with principal responsibility for the <i>work(s)</i> |
| 7.2.2 when the title of the <i>manifestation</i> _{IS} known | <ul style="list-style-type: none"> ■ title of the <i>manifestation</i> | <ul style="list-style-type: none"> ■ title proper (including number/name of part) ■ parallel title(s)¹ |
| 7.2.3 when the <i>manifestation</i> identifier is known | <ul style="list-style-type: none"> ■ <i>manifestation</i> identifier | <ul style="list-style-type: none"> ■ standard number (or alternative) |

Notes:

1. Parallel titles should be included in the basic record to the extent that the national bibliographic agency considers them important to users.

Table 7.3 Identify a Work

| To enable the user to -- | the basic level national bibliographic record should reflect these logical attributes and relationships -- | and should include these specific data elements -- |
|----------------------------|--|---|
| 7.3 Identify a <i>work</i> | <ul style="list-style-type: none"> ■ title of the <i>work</i> ■ relationship(s) between the <i>person(s)</i> and/or <i>corporate body(ies)</i> responsible and the <i>work</i> ■ intended termination ■ medium of performance (musical work)¹ ■ numeric designation (musical work)¹ ■ key (musical work)¹ ■ coordinates (cartographic work) ■ relationship between the <i>work</i> and the parent <i>work</i>² | <ul style="list-style-type: none"> ■ title heading for the <i>work</i> ■ name heading(s) for <i>person(s)</i> and/or <i>corporate body(ies)</i> with principal responsibility for the <i>work</i> ■ frequency statement, numbering, [etc.] ■ addition to uniform title - medium of performance (music) ■ addition to uniform title - numeric designation (music) ■ addition to uniform title - key (music) ■ mathematical data statement - coordinates ■ note on ... bibliographic history - parent <i>work</i> |

Notes:

1. Medium of performance, numeric designation, and key are considered a basic requirement only for musical works with non-distinctive titles indicative only of the musical form (e.g., Symphony, Concerto, etc.).
2. The relationship between the work and the parent work is considered a basic requirement only in cases where the work is a dependent component of the parent.

Table 7.4 Identify an Expression

| To enable the user to -- | the basic level national bibliographic record should reflect these logical attributes and relationships -- | and should include these specific data elements -- |
|---|---|---|
| 7.4 Identify an <i>expression</i> of a work | <ul style="list-style-type: none"> ■ relationship(s) between the <i>person(s)</i> and/or <i>corporate body(ies)</i> responsible and the <i>expression</i> ■ form of <i>expression</i>¹ ■ language of <i>expression</i>² ■ other distinguishing characteristic ■ extent of the <i>expression</i>³ ■ expected frequency of issue (serial) ■ type of score (musical notation) ■ medium of performance of the <i>expression</i> (musical notation) | <ul style="list-style-type: none"> ■ name heading(s) for <i>person(s)</i> and/or <i>corporate body(ies)</i> with principal responsibility for the <i>expression</i> ■ note on form of <i>expression</i>¹ ■ addition to uniform title - language ■ note on language ■ addition to uniform title - other distinguishing characteristic ■ note on other distinguishing characteristic ■ extent - playing time/duration ■ frequency statement ■ musical presentation statement - type of score ■ addition to uniform title - statement of arrangement ■ note on medium of performance |

Notes:

1. A note on form of expression is considered a basic requirement only if the form of expression cannot be inferred from other data in the record.
2. Language of expression is considered a basic requirement only if the linguistic content of the expression is significant.
3. Extent of the expression is considered a basic requirement only for audio and visual materials.

Table 7.5 Identify a Manifestation

| To enable the user to -- | the basic level national bibliographic record should reflect these logical attributes and relationships -- | and should include these specific data elements -- |
|-------------------------------------|--|---|
| 7.5 Identify a <i>manifestation</i> | <ul style="list-style-type: none"> ■ title of the <i>manifestation</i> ■ statement of responsibility ■ edition/issue designation ■ publisher/distributor ■ date of publication/distribution ■ series statement | <ul style="list-style-type: none"> ■ title proper (including number/name of part) ■ statement(s) of responsibility identifying the individual(s) and/or group(s) with principal responsibility for the content ■ first statement of responsibility relating to the edition ■ first statement of responsibility relating to the additional edition statement ■ edition statement ■ additional edition statement ■ name of publisher, distributor, etc. ■ date of publication, distribution, etc. ■ title proper of series ■ parallel title(s) of series¹ ■ first statement of responsibility relating to the series² ■ numbering within series |

Notes:

1. Parallel titles of series should be included in the basic record to the extent that the national bibliographic agency considers them important to users.
2. Statement of responsibility for the series is considered a basic requirement only in cases where the series title alone is insufficient to identify the series.

Table 7.5 Identify a Manifestation (cont'd)

| To enable the user to -- | the basic level national bibliographic record should reflect these logical attributes and relationships -- | and should include these specific data elements -- |
|--|---|--|
| 7.5 Identify a <i>manifestation</i> (cont'd) | <ul style="list-style-type: none"> ■ form of carrier ■ extent of carrier¹ ■ <i>manifestation</i> identifier ■ foliation (hand-printed book) ■ collation (hand-printed book) ■ numbering (serial) | <ul style="list-style-type: none"> ■ specific material designation ■ extent ■ standard number (or alternative) ■ note on physical description - foliation ■ note on physical description - collation ■ numbering |

Notes:

1. Extent of the carrier is considered a basic requirement only in cases where it has the potential to signal differences between one manifestation and another (e.g., number of pages).

Table 7.6 Select a Work

| To enable the user to -- | the basic level national bibliographic record should reflect these logical attributes and relationships -- | and should include these specific data elements -- |
|--------------------------|--|--|
| 7.6 Select a <i>work</i> | <ul style="list-style-type: none"> ■ title of the <i>work</i> ■ relationship(s) between the <i>person(s)</i> and/or <i>corporate body(ies)</i> responsible and the <i>work</i> ■ relationship(s) between the <i>concept(s)</i>, etc. that is (are) the subject and the <i>work(s)</i> embodied in the <i>manifestation</i> ■ form of work ■ coordinates (cartographic work) ■ relationship between the <i>work</i> and the preceding and/or succeeding <i>work</i> ■ relationship between the <i>work</i> and the <i>work</i> it supplements ■ relationship between the <i>work</i> and the <i>work</i> it complements | <ul style="list-style-type: none"> ■ title heading for the <i>work</i> ■ name heading(s) for <i>person(s)</i> and/or <i>corporate body(ies)</i> with principal responsibility for the <i>work</i> ■ subject heading(s) and/or classification number(s) for the principal subject(s) of the <i>work(s)</i> ■ note on the form of the <i>work</i> ■ mathematical data statement - coordinates ■ note on ... bibliographic history - preceding/succeeding <i>work</i> ■ note on ... bibliographic history - supplement ■ note on ... bibliographic history - complement |

Notes:

1. The relationship between the work and its predecessor, successor, supplement, or complement is considered a basic requirement only if the relationship between the entities is referential.

Table 7.7 Select an Expression

| To enable the user to -- | the basic level national bibliographic record should reflect these logical attributes and relationships -- | and should include these specific data elements -- |
|---------------------------------|--|---|
| 7.7 Select an <i>expression</i> | <ul style="list-style-type: none"> ■ relationship(s) between the <i>person(s)</i> and/or <i>corporate body(ies)</i> responsible and the <i>expression</i> ■ form of <i>expression</i> ■ language of <i>expression</i>² ■ other distinguishing characteristic ■ use restrictions on the <i>expression</i> ■ expected frequency of issue (serial) ■ type of score (musical notation) ■ medium of performance of the <i>expression</i> (musical notation) ■ scale (cartographic image/object) | <ul style="list-style-type: none"> ■ name heading(s) for <i>person(s)</i> and/or <i>corporate body(ies)</i> with principal responsibility for the <i>expression</i> ■ note on the form of <i>expression</i>¹ ■ note on language ■ note on distinguishing characteristic of <i>expression</i> ■ note on use restrictions ■ frequency statement ■ musical presentation statement - type of score ■ note on medium of performance of the <i>expression</i> ■ mathematical data statement - scale |

Notes:

1. A note on form of expression is considered a basic requirement only if the form of expression cannot be inferred from other data in the record.
2. Language of expression is considered a basic requirement only if the expression has significant linguistic content.

Table 7.7 Select an Expression (cont'd)

| To enable the user to -- | the basic level national bibliographic record should reflect these logical attributes and relationships -- | and should include these specific data elements -- |
|--|--|--|
| 7.7 Select an <i>expression</i> (cont'd) | <ul style="list-style-type: none"> ■ relationship between the <i>expression</i> and the preceding and/or succeeding <i>expression</i>¹ ■ relationship between the <i>expression</i> and the <i>expression</i> it supplements¹ ■ relationship between the <i>expression</i> and the <i>expression</i> it complements¹ ■ relationship between the revision and the <i>expression</i> on which the revision is based¹ ■ relationship between the arrangement and the <i>expression</i> on which the arrangement is based¹ ■ relationship between the translation and the <i>expression</i> on which the translation is based¹ | <ul style="list-style-type: none"> ■ note on ... bibliographic history - preceding/succeeding <i>expression</i> ■ note on ... bibliographic history - supplement ■ note on ... bibliographic history - complement ■ note on ... bibliographic history - revision ■ note on ... bibliographic history - arrangement ■ note on ... bibliographic history - translation |

Notes:

1. The relationship between an expression and its predecessor/successor, supplement, or complement is considered a basic requirement only if the relationship is referential. If the expression cannot be related to the specific expression it precedes, succeeds, supplements or complements, or to the specific expression on which a revision, arrangement, or translation is based, or if identification of the specific expression on which it is based is not considered to be important, the expression may simply be related to the relevant work.

Table 7.8 Select a Manifestation

| To enable the user to -- | the basic level national bibliographic record should reflect these logical attributes and relationships -- | and should include these specific data elements -- |
|-----------------------------------|--|--|
| 7.8 Select a <i>manifestation</i> | <ul style="list-style-type: none"> ■ statement of responsibility ■ edition/issue designation ■ date of publication/distribution ■ form of carrier ■ physical medium¹ ■ dimensions of carrier² ■ reduction ratio (microform) ■ presentation format (visual projection) ■ system requirements (electronic resource) | <ul style="list-style-type: none"> ■ statement of responsibility identifying the individual(s) and/or group(s) with principal responsibility for the content ■ edition statement ■ additional edition statement ■ date of publication, distribution, etc. ■ specific material designation ■ note on physical description - medium ■ dimensions ■ note on physical description - reduction ratio ■ note on physical description - presentation format ■ note on system requirements |

Notes:

1. Physical medium is considered a basic requirement only in cases where the medium is potentially important to users (e.g., nitrate-based film).
2. Dimensions of the carrier are considered a basic requirement only in cases where the dimensions may be significant in terms of the equipment required for playback, etc. (e.g., diskettes, cassettes, etc.).

Table 7.9 Obtain a Manifestation

| To enable the user to -- | the basic level national bibliographic record should reflect these logical attributes and relationships -- | and should include these specific data elements -- |
|-----------------------------------|--|--|
| 7.9 Obtain a <i>manifestation</i> | <ul style="list-style-type: none"> ■ title of the manifestation ■ statement of responsibility ■ edition/issue designation ■ place of publication/distribution ■ publisher/distributor ■ date of publication/distribution ■ series statement ■ form of carrier ■ <i>manifestation</i> identifier | <ul style="list-style-type: none"> ■ title proper ■ statement(s) of responsibility identifying the individual(s) and/or group(s) with principal responsibility for the content ■ edition statement ■ additional edition statement ■ place of publication, distribution, etc. ■ name of publisher, distributor, etc. ■ date of publication, distribution, etc. ■ title proper of series ■ first statement of responsibility relating to the series¹ ■ numbering within series ■ specific material designation ■ standard number (or alternative) |

Notes:

1. Statement of responsibility for the series is considered a basic requirement only in cases where the series title alone is insufficient to identify the series.

Table 7.9 Obtain a Manifestation (cont'd)

| To enable the user to -- | the basic level national bibliographic record should reflect these logical attributes and relationships -- | and should include these specific data elements -- |
|--|---|--|
| 7.9 Obtain a <i>manifestation</i> (cont'd) | <ul style="list-style-type: none"> ■ source for acquisition/access authorization¹ ■ access restrictions on the manifestation ■ foliation (hand-printed book) ■ collation (hand-printed book) ■ expected frequency of issue (serial) ■ numbering (serial) ■ mode of access (remote access electronic resource) ■ access address (remote access electronic resource) | <ul style="list-style-type: none"> ■ note relating to ... availability ■ note relating to access restrictions ■ note on physical description - foliation ■ note on physical description - collation ■ frequency statement ■ numbering (serial) ■ note on mode of access - mode of access ■ note on mode of access - access address |

Notes:

1. Source for acquisition/access authorization is considered a basic requirement only in cases where the manifestation is likely to be difficult to obtain through normal trade sources.

Other designation associated with the person

Additions to the name - other additions

6. ATTRIBUTES OF A CORPORATE BODY

Name of corporate body

Corporate name heading - name subelements

Number associated with the corporate body

Qualifier - number [of meeting, etc.]

Place associated with the corporate body

Qualifier - geographic name [place of meeting, etc.]

Date associated with the corporate body

Qualifier - date [of meeting, etc.]

Other designation associated with the corporate body

Qualifier - type of body [etc.]

7. ATTRIBUTES OF A CONCEPT

Term for the concept

Topical subject heading - subject term [concept]

Classification number

8. ATTRIBUTES OF AN OBJECT

Term for the object

Topical subject heading - subject term [object]

Classification number

