

Consortium for the Computer Interchange of Museum Information

**Guide to Best Practice:
Dublin Core
Version 1.1**

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Consortium for the Computer Interchange of Museum Information (CIMI)
Guide to Best Practice: Dublin Core (DC 1.0 = RFC 2413)

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Introduction

Consortium for the Computer Interchange of Museum Information [<http://www.cimi.org>]

CIMI is a group of institutions and organizations that encourages an open standards-based approach to the management and delivery of digital museum information. We are committed to bringing museum information to the largest possible audience. Since forming in 1990, CIMI has made substantial progress in researching, for the museum community, standards for structuring its data and for enabling widespread search and retrieval capabilities. CIMI's work is largely carried out through collaborative demonstration projects that help us to learn how information can be standardized and therefore made accessible electronically.

The Dublin Core in The Museum Community

The importance of metadata and the Dublin Core standard for expressing it are at the center of the CIMI Dublin Core test bed. Metadata is important to the Museum community for many reasons. The most basic of which is that it helps us find what we're looking for. Any organization interested in describing resources so that they can effectively be discovered should seriously consider investing in the creation of metadata.

The Dublin Core standard provides a structure for expressing metadata. This structure provides us with the basis for a common vocabulary regardless of the environment within which we work. Through the use of a common structure (Dublin Core) the museum community can share information, collaborate and communicate with other resource providers and users.

While it is outside the scope of this document to explain the Dublin Core, readers of this document are directed first to the Dublin Core website and document repository maintained by the Online Computer Library Center, Inc. (OCLC) at <http://purl.org/dc/>. In addition to an introduction to DC and its status, OCLC provides links to the official DC specification and working group papers.

Other resources and articles of interest include:

- *The State of the Dublin Core Metadata Initiative*
<http://www.dlib.org/dlib/april99/04weibel.html>
- *Organizing the Web: an Update on the Metadata Movement*
<http://www.cs.ait.ac.th/~tbaker/Kyunghee.html>
- *Mostly Metadata: A Bit Smarter Technology*,
<http://www.dstc.edu.au/RDU/reports/VALA1998/>
- *Metadata: Enabling the Internet*
<http://www.dstc.edu.au/RDU/reports/CAUSE97/>
- Resource Description Framework (RDF) Model and Syntax Specification
<http://www.w3.org/TR/PR-rdf-syntax/>

- *An Idiot's Guide to the Resource Description Framework*
<http://www.dstc.edu.au/RDU/reports/RDF-Idiot/>
- *XML and the Second-Generation Web*
<http://www.sciam.com/1999/0599issue/0599bosak.html>

Given a fundamental understanding of the role of metadata in the discovery of networked information--to aid in resource discovery and to facilitate interoperability--we can identify readily several challenges in describing museum and cultural resources with 15 DC (unqualified) elements:

- Our unique emphasis on attributes of the physical object
- Our desire to associate the physical object with persons, places, and events
- Our need to account for collections
- Our need to account for surrogates such as photographs
- Our historical lack of content standards

In considering the best manner in which resources might be described to enable their long-term discovery, those involved in the Dublin Core process proposed the "1:1 principle." The 1:1 principle states that only one object, resource, or instantiation may be described within a single metadata record. Surrogates of resources, too, must be described separately from the original object, such that a metadata record for a photograph of a Greek sculpture should contain metadata about the PHOTOGRAPH, not about the SCULPTURE.

In many ways, this 1:1 rule makes describing resources easier, as the doubt about whether the photographer or sculptor should be recorded as "Creator" of the object is removed; in a record about the photograph, the creator could ONLY be the photographer, and in the (separate) record about the sculpture itself, the creator could ONLY be the sculptor.

More recently, Dublin Core's move towards embracing the Resource Description Framework (see <http://www.w3.org/TR/REC-rdf-syntax/>) has served to reinforce the 1:1 rule, which becomes inherent in resources described using RDF-based Dublin Core.

As of this writing, the 1:1 principle continues to be discussed by the Dublin Core community and has not been formally adopted. CIMI, however, believes strongly in the 1:1 principle and suggests that it be followed strictly until the issue is clarified by the larger DC community. Further discussion of the 1:1 principle can be found in Appendix A of this document.

Basis Of This Document

The authors, the CIMI Dublin Core (DC) Metadata Working Group, first convened in October 1997 to plan a project which became the DC test bed in mid-1998. Three underlying ideas were

articulated during project planning, and these testable assumptions served to focus the scope of work:

- DC is useful to describe artifacts and associated information resources in the museum community
- DC is simple to learn and easy to use
- Adequate technical infrastructure exists to support use of DC for resource discovery.

Eighteen member organizations, listed below, participated in Phase I or Phase II (or, both) of the DC test bed. The team comprised an ideal mix of access providers, software vendors and technical support personnel, and content providers. After creation of more than 300,000 records using the 15 unqualified DC elements, participants agreed that consensus on interpretation of the 15 element definitions and standardization of application guidelines ultimately would be more valuable for CIMI, the cultural heritage community, and other Dublin Core stakeholders than identifying the need for DC qualifiers and extensions. This document is one important result of the Dublin Core test bed, an on-going effort to explore the usability, simplicity, and technical feasibility of DC for museum information.

Context Of This Document

This CIMI *Guide to Best Practice* addresses only DC 1.0 as documented in RFC 2413—i.e., “unqualified DC.” As of this writing, a proposed update to RFC 2413 has been issued. The *Proposed Definitions for Dublin Core Version 1.1* can be found at <http://www.dstc.edu.au/RDU/DCTAC/version11.html> CIMI acknowledges that, if these revisions are accepted, some of the element interpretations contained in this document may be in conflict with the new element definitions.

Also known as DC:Simple, the 15 elements that are included in RFC 2413 were designed to enable cross-domain interoperability for networked resource discovery in a simple, unsophisticated manner. This carries with it the underlying assumption that communities will extend this “simple” set of elements to suit their specific needs. More sophisticated levels of interoperability will be addressed in qualified DC. This discussion is on-going and therefore, is referenced only briefly in this document, where relevant.

In addition, it provides direction on representing cultural heritage resources as currently captured and described in typical museum collection management systems—not the entire universe of all possible associated information resources.

Two circumstances should be borne in mind when applying the guidelines provided by this document. First, CIMI’s recommendations are based largely on experiences gained in the test bed environment -- a simulation, not a production environment. Several participants, however, have begun implementations of DC and brought real-life operational wisdom to the project. The creation of records for and, export of records to, a test bed carries the advantages of collegiate support with a relatively wide margin for trial and error and high tolerance for on-the-fly decision-

making. An example of this can be found in participants' agreement to use repeatability for multiple-value elements (e.g., more than one "creator").

Second, the Dublin Core data model and syntactical representation (with RDF) are still under development at this writing. For better or worse, the mutable "sphere of influence" upon the Dublin Core is pacing our work in terms of determining qualifiers of both the elements and the metadata, nesting formats for syntax, and defining museum best practice to create a consistent test bed for further research.

Within the wider Dublin Core community, the Data Model Working Group (<http://purl.org/dc/groups/datamodel.htm>) is working to express the structure of Dublin Core within an initiative known as the Resource Description Framework (RDF) (<http://www.w3.org/TR/REC-rdf-syntax/>). This work is approaching completion, and a proposal for expressing Dublin Core within RDF was recently issued (<http://www.ukoln.ac.uk/metadata/resources/dc/datamodel/WD-dc-rdf/>)

RDF is recognized as being of key importance to Dublin Core deployment, and future CIMI work might usefully explore its use within the cultural heritage community.

RDF represents one use of a second new development, the Extensible Mark-up Language (XML) (<http://www.w3.org/TR/REC-xml>). XML, a streamlined version of the more complex SGML, underpins much of the work of the World Wide Web Consortium (W3C) and other agencies, and is seen by many as the future of work on the Web. Indeed, work is underway to represent the basic 'language' of the web, currently HTML, within an XML framework.

A basic XML syntax for simple Dublin Core records was defined during the CIMI test bed as the easiest means for transferring data between project partners. The definition of this syntax may be seen in Appendix E, and examples of its use are available in the other appendices.

Intended Audience

This *Guide to Best Practice* is intended to be used by information managers, content experts and anyone in the museum community involved with creating and disseminating museum information. The recommendations are designed to assist the reader with several tasks including: how the Dublin Core standard can be applied to museum information; mapping existing data elements sets to the Dublin Core element set; the creation of Dublin Core records via manual or automated tools; implementing institutional policies regarding information access and retrieval. It may be used as a standalone product on the reader's desktop. The official standard definitions of the 15 DC elements are repeated throughout to provide the reader a basis for understanding and applying CIMI recommendations.

Organization of This Document

The body of this document provides an interpretation of each element's definition—in many cases showing the writing "between the lines"—as explicated by the CIMI DC test bed project. It

also presents a brief discussion of tricks, traps, and issues associated with each element along with a range of sample values.

It is important to remember several basic points about the use of Dublin Core elements:

- The order of elements is irrelevant in the Dublin Core.
- No two elements are dependent
- There is nothing to be inferred by the absence of data in an element. There is no rule that requires the use of all elements in every Dublin Core record.
- It is not possible to successfully imply hierarchy in Dublin Core Simple. Therefore, if values used to populate a Dublin Core record are taken from a pre-existing source in which a controlled vocabulary was used, neither the relationship of those terms nor the source of the terms, is carried over into the Dublin Core record.

In contrast to the convention of beginning with DC.TITLE, CIMI recommends beginning with DC.TYPE because knowing what you're describing helps clarify the values of other elements. An intellectual "anchor" of DC.TYPE is appropriate for the museum community for reasons introduced above. Likewise, always bear in mind that only the consistent interpretation and application of elements is meaningful—not the element labels themselves. "Subject" vs. "keywords" is an example of how one's prior training or worldview can affect the way an element is defined. DC.SUBJECT contains any words that are "key" to discovering the resource, not necessarily "subject terms" from a thesaurus.

We recommend the repetition of values across elements in certain circumstances. Some view this as a limitation to Dublin Core Simple. CIMI acknowledges that it is difficult to realize relationships between values in DC Simple, however, we would argue, that if the primary goal of Dublin Core is to aid in resource discovery, then, this practice is acceptable when it improves recall. As a result, we view repetition of data as acceptable when:

- the repetition allows relationships between records to be established without using the Relation element.
- the repetition aids in resource discovery

The three appendices present complete example DC records for different types of museum content: fine art, cultural, and natural history, representing both item- and collection-level resources, original and surrogate, as well as records for their associated information resources such as exhibition catalogs or artist biographies.

Reality Checking

Creation of DC records is easy provided that three criteria are kept in mind:

- Is the record itself, and each element within that record, *useful* for resource discovery? If not, leave it out.

- Is the value of the element known with certainty? Is it readily available from existing databases or information sources? If not, leave it out.
- Have you selected values from enumerated lists recommended to assist in cross-domain searching? If not, please recognize that interoperability will be degraded and records will be harder to maintain.

Conclusions

What have we learned by working with the 15 elements of the Dublin Core and applying them to museum information? Above all else, we've learned that Dublin Core, in its "simple" manifestation, is necessary for cross-domain searching. We recognize that there is a loss of richness in a DC Simple record. Without qualification, the necessary contextualization of values within an element, cannot occur. However, for the purposes of interoperability, this loss of richness is acceptable. As the Dublin Core standard continues to evolve, there is a need for element qualification and we are pleased to see the recommendation from the Data Model Working Group that proposes how this can be done.

We hope that the users of this Guide will find our interpretations concise and more importantly, focused on the issues that matter to the museum community. Finally, we encourage our museum colleagues to embrace metadata and the Dublin Core as important tools in the process of providing meaningful access to valuable resources.

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Note: Participants may have changed affiliation since this list was created. Affiliations listed reflect the individuals' organizational affiliation at the time of their participation in the test bed, from 1998 through the present.

RESOURCE TYPE

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“The category of the resource, such as home page, novel, poem, working paper, technical report, essay, dictionary. For the sake of interoperability, Type should be selected from an enumerated list that is currently under development in the workshop series.”

CIMI Interpretation

The nature of the resource, including such aspects as originality, aggregation and manifestation.

CIMI Guidelines

DC.TYPE helps to decide the values of other elements. To aid in searching across collections and across different disciplines among museums, specify DC.TYPE from:

1. The list of controlled values maintained by the DC management at http://purl.org/dc/documents/working_drafts/wd-typelist.htm, which is reproduced, as of this writing, as:
 - text
 - image
 - sound
 - dataset
 - software
 - interactive resource
 - service
 - collection
 - physical object
 - event
- 1a. Or, one of these proposed terms:
 - party
 - place

and the following list of museum-related values:

2. original *or* surrogate
3. natural *or* cultural

The current list of controlled values for this element is not adequate for addressing the needs of the museum community. For example, under the current Dublin Core standard, people,

organizations, and places are all classified as Physical Objects. CIMI finds this neither intuitive, nor aesthetically satisfying. As a result we created list 1a. (noted above) that includes two new terms: party and place. We realize that it is not possible to create an exhaustive list of values therefore, list 1a. contains museum specific terms that we feel are necessary to enable resource discovery.

As of this writing, the Dublin Core list of controlled values for DC.TYPE is under revision. The test bed has proposed the addition of our two terms to the controlled list of values for Type to the DC Type Working Group. It is our hope that these terms will be accepted to more adequately address the needs of the museum community.

In addition, we created two lists of museum-related values (lists 2 and 3) that aid in describing resources across diverse collections and disciplines.

CIMI does not recommend using this element for 'object name'. See DC.TITLE and DC.SUBJECT for further discussion of placement of 'object name'.

We recommend listing the minimal three values in the order shown above only because consistency breeds thoroughness. Order of elements and order of values is completely arbitrary and entirely meaningless in the Dublin Core scheme.

Example Values

For a painting:

- image
- physical object
- original
- cultural

For a photograph of a painting:

- image
- surrogate
- physical object
- cultural

For a virtual exhibit:

- text
- image
- sound
- interactive resource
- original
- collection
- cultural

For a natural specimen:

- physical object
- original
- natural

For a Grecian urn:

- physical object
- original
- cultural

For a live theater performance:

- event
- original
- cultural

For a person:

- party
- original
- natural

For an organization:

- party
- original
- cultural

For a mountain:

- place
- original
- natural

For a building:

- physical object
- original
- cultural

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

[Appendix D: Examples From the Natural History Community](#)

FORMAT

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“The data format, and optionally, dimensions (e.g., size, duration) of the resource. The format is used to identify the software and possibly hardware that might be needed to display or operate the resource. For the sake of interoperability, the format should be selected from an enumerated list that is currently under development in the workshop series.”

CIMI Interpretation

The properties of the resource that impose the use of tools for access, display, or operation; not the tools themselves. Do not use DC.FORMAT if no tools (beyond the five human senses) are required.

CIMI Guidelines

DC.FORMAT of digital objects should be populated by MIME type/subtype combination as specified at <http://www.isi.edu/in-notes/iana/assignments/media-types/media-types>.

DC.FORMAT also may be used to describe the status or disposition of a resource (Is the resource viewable to the human eye or, is a device required through which to view it?)
DC.FORMAT should not be used to describe limitations to access or restrictions against usage; see DC.RIGHTS.

DC.FORMAT may be used to describe dimensions. For example, the dimensions of a work of art. Technique, material and medium, however, should not be described here; See DC.DESCRPTION.

DC.FORMAT is rarely relevant for natural specimens (use DC.DESCRPTION for preparation and mounting methods); however, values of “microscopic” and “telescopic” appear most useful.

NOTE: The CIMI Interpretation of this element may be in conflict with the DC version 1.1 element definitions as described in *Proposed Definitions for Dublin Core Version 1.1* (See: <http://www.dstc.edu.au/RDU/DCTAC/version11.html>)

Example Values

For a vinyl audio record album:

- 45 rpm vinyl record
- 37 minutes

For a videotape:

- VHS

For Leonardo da Vinci's Codex:

- Mirror

For the Walker Art Center's home page:

- html/text

For a digital image of a Martin Beck painting:

- jpeg

For a natural specimen on a microscope slide

- microscopic

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

[Appendix D: Examples From the Natural History Community](#)

TITLE

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“The name given to the resource, usually by the Creator or Publisher.”

CIMI Interpretation

Name(s) given to the resource, regardless of whose they are--as long as they are useful for resource discovery.

CIMI Guidelines

Repeat DC.TITLE as required.

We recognize that DC Simple does not adequately address the distinction between a known title and an object name. The combination of DC.TITLE and DC.SUBJECT may be used to address this issue. CIMI recommends the following convention:

- if a known title exists, place it in DC.TITLE
- if a known title does not exist and an object name does exist, use the object name in DC.TITLE
- if both a known title and an object name exist, use the known title in DC.TITLE and the object name in DC.SUBJECT

For untitled works of fine art, use whatever value you would use on the wall label copy, exhibition catalog, or other promotional material—i.e., if the work is known as “Untitled,” specify this in DC.TITLE.

DC.TITLE values do not have to be unique. However, because DC.TITLE is likely a display field on a result list, we recommend the convention of [“kind of surrogate” of “DC.TITLE”] for records describing surrogates (see example below) to distinguish them from originals, if not otherwise noted.

For cultural items, where an object name exists, we recommend repeating the value in both DC.TITLE and DC.SUBJECT. (See [Subject and Keywords](#))

For cultural items and collections with no known title or name, use a term or phrase that is sufficiently descriptive to permit a user to judge relevancy. If your existing database does not contain title information, concatenate other descriptive field values as appropriate to “name” the resource.

Often times the variety of collections that need to be addressed dictates the placement of the value. For example, for a cultural item that has a given name ‘ceremonial robe’. It may be

useful to repeat the value 'ceremonial robe' in both DC.TITLE and DC.SUBJECT. CIMI recognizes that each institution will need to decide their 'best practice' for placement of these values (in DC.TITLE or DC.SUBJECT) as this issue is not clearly addressed in DC Simple.

For natural specimens, specify the scientific name(s) and vernacular name(s) of the animal, plant or mineral as a Latin binomial (*Genus species*) or trinomial (*Genus species subspecies*). If there is more than one scientific name, as in cases of controversial, superceded, or disputed naming, use the <description> element to tie together the names with their respective values in the <creator> and <date> elements. Group concepts, terms likely to be drawn from a thesaurus or classification list, should be placed in the Subject Element (See Subject and Keywords).

Example Values

For a play:

- Macbeth
- The Scottish play

For a surrogate of a cultural artifact:

- Slide of the Liberty Bell

For a set of clothing:

- Ornate attire for coronation

For a natural specimen: [with multiple scientific names]

- *Ceratotherium simum cottoni*
- *Rhinoceros simus*
- white rhinoceros
- square-lipped rhinoceros

For a natural specimen: [with multiple vernacular names]

- *Scutisorex somereni congicus*
- armored shrew
- hero shrew
- tundua

For an unidentified object:

- Broken wooden pole (possible tool)

For (deliberately) an untitled work:

- Untitled

For a coin:

- Penny of Edward II

For variant titles (repeating element):

- Mona Lisa

- La Gioconda

For re-titled work (repeating element):

- Portrait of an unknown girl
- Portrait of Marie Curie as a Child

For an aircraft:

- B-52

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

[Appendix D: Examples From the Natural History Community](#)

DESCRIPTION

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“A textual description of the content of the resource, including abstracts in the case of document-like objects or content descriptions in the case of visual resources.”

CIMI Interpretation

A textual, narrative description of the resource, including abstracts for documents or content characterizations in the case of visual resources

CIMI Guidelines

Use this element whenever possible, as it is a rich source of indexable vocabulary. Emphasize the contextual information and popular associations (people, places, and events) of the resource.

Use this element to describe techniques, materials, and media used in the creation of the resource.

Natural language prose is preferred; however, if a single “description” field does not exist in your current database, values from other fields or, “tombstone” data, wall label copy, exhibition catalogs, didactic copy, etc. may be concatenated to populate DC.DESCRPTION. Use repeating elements if the concatenation cannot be achieved automatically or, “on the fly” by the metadata provider.

Since DC.DESCRPTION is likely a display field with the resource in the search result set, we recommend brevity but not so as to sacrifice richness. Normally a functional description can be accomplished in a few sentences or paragraphs. To contain DC.DESCRPTION, include only information that is relevant to discovery, and include pointers (via DC.RELATION) to more extensive reference material or background “stories.”

For natural specimens, specify the preparation method. For natural specimens with more than one scientific name, use this element to tie together the name, determiner and date for each in the form of a citation, using values from the DC.CREATOR, DC.TITLE, and DC.DATE elements. Where relevant use this element also to tie together the date of collection with the collector and/or the date(s) of observation with the observer(s).

Example Values

For a collection of photographs:

- Part of a series of 330 photos in the range 31891 to 34881 taken by Bartlett on a 1953 trip to the Sepik River with Armand and Michaela Dennis who were making the film

'Among the Headhunters' which was released by Arthur J Rank. The photos include an initiation ceremony held at Yanchan Village on the main river.

For a collection of copies of photographs:

- Part of a series of copies of 330 photos in the range 31891 to 34881.

For a boxing glove:

- The object consists of a left hand leather boxing glove. The leather is tan brown and is cracked in places due to age. The inside of the glove is lined with canvas. The back of the glove features holes for laces, but there are no laces.
- Where was it used: Sydney

For an original art collection:

- In 1990, the museum acquired the important Giuseppe Panza di Biumo collection of more than two hundred works of American Minimalist art from the 1960s and 1970s, further enriching the Guggenheim Museum's growing collection of the art of this century. In 1993, the Robert Mapplethorpe Foundation bequeathed nearly 200 photographs and objects by this seminal artist, formally introducing photography into the museum's collection and inaugurating a gallery, which bears Mapplethorpe's name, in the museum's fourth floor tower for photography exhibitions.

For a painting (metadata concatenated from various sources and existing database fields):

- Roy Lichtenstein, American (1920-1997) Interiors No. 2 1990 oil on canvas 48 inches X 68 inches gift of Magnanimous N. Pious

For a natural specimen:

- plant pressed and mounted on paper with seed samples

For a natural specimen:

- fixed in Berland's fluid and preserved in 80% alcohol

For a collection of natural specimens:

- 3 wet specimens of MORMYRUS CABALLUS collected 1915 by LANG-CHAPIN EXP., H. LANG, J.P. CHAPIN in Africa, Congo, Orientale province, STANLEYVILLE [Kisangani], (UPPER CONGO RIVER drainage) in fresh water. Identified by J.T. NICHOLS, L. GRISCOM; Cataloged 11/03/93 by B.A. BROWN.

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

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SUBJECT AND KEYWORDS

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“The topic of the resource. Typically, subject will be expressed as keywords or phrases that describe the subject or content of the resource. The use of controlled vocabularies and formal classification schemes is encouraged.”

CIMI Interpretation

Keywords about the theme and/or concept of the resource, as well as terms signifying significant associations of people, places, objects, events or other contextual information.

CIMI Guidelines

Do not strictly interpret the element name “Subject,” which tends to lock our thinking into formal “subject terms” such as those used in bibliographic metadata. “Keywords” is a more appropriate interpretation of the kind of values that are useful for this element—index terms, or descriptors, rather than specific-to-broad categorizations of intellectual content.

We recognize that terms used in DC.SUBJECT may be taken from controlled vocabularies and widely recognized schemes for other disciplines or domains, such as natural history or medicine. However, it must be understood that the source of the terms is not specified in DC Simple, therefore, no hierarchy is implied by their use.

We do recommend the use of controlled vocabularies such as Getty’s *Art & Architecture Thesaurus* at http://www.gii.getty.edu/aat_browser/titles.html to increase precision and recall. Use of widely recognized classification schemes for other disciplines or domains, such as natural history or medicine, also is encouraged.

The use of repeating elements is preferred. If this is not possible, concatenation of terms separated by semicolons is also acceptable. Use as many descriptors and equivalent terms or phrases as you feel are necessary for resource discovery, include broader terms and equivalent terms only when they aid in resource discovery. A hierarchy is not implied in this element.

To aid in resource discovery, we find it acceptable, in the case of surrogate resources, to restate DC.TITLE, DC.SUBJECT and DC.CREATOR values of the original resources as DC.SUBJECT values.

Example Values

For a street performance:

- street performance

- costume
- Soho
- London
- music
- dance

For a painting:

- painting
- smile
- landscape
- oil on canvas
- portrait
- Louvre

For a film:

- film
- movie
- Titanic
- iceberg
- ship
- ocean liner
- disaster
- shipwreck
- sinking
- North Atlantic
- Guggenheim *[this refers to the person, Solomon R. Guggenheim who was a passenger on the Titanic]*
- Astor
- historical drama
- U.S. film award
- Oscar
- special effects
- love story

For a natural specimen:

- Artiodactyla
- Suidae
- wart hogs

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

[Appendix D: Examples From the Natural History Community](#)

AUTHOR OR CREATOR

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“The person or organization primarily responsible for creating the intellectual content of the resource. For example, authors in the case of written documents, artists, photographers, or illustrators in the case of visual resources.”

CIMI Interpretation

The person(s) or organization that conceived or initiated the resource. For example, author of written document; artist, photographer, or illustrator of visual resource; or founder of an institution. For natural specimens, this element specifies the determiner(s), collector(s) and/or, observer(s). When more than one value is present, use the DC.DESCRPTION element to tie together the creators with their respective values from the DC.TITLE and DC.DATE elements.

CIMI Guidelines

List multiple creators separately in repeating elements.

List personal name elements in inverted order, i.e., index name (generally an individual's surname or the proper name in a title of nobility), first name(s), suffix, prefix. For corporate bodies, the entry element is the full name of the business or organization excluding initial articles.

Andre, Carl
Dyck, Anthony van, Sir
Stereolab

If a person's name consists of several parts, select as the entry element the part of the name under which the person would normally be listed in authoritative alphabetic lists in his or her language or country. Refer to the second edition of Anglo-American Cataloguing Rules (AACR2) sections 22.4-22.17 for guidelines for selecting the entry element in personal headings.

Do not specify role (e.g., engraver, illustrator, photographer, etc.) of the creator in unqualified DC. Roles cannot be addressed without qualification of this element.

Example Values

For an artist:

- Beuys, Joseph

Consortium for the Computer Interchange of Museum Information (CIMI)
Guide to Best Practice: Dublin Core (DC 1.0 = RFC 2413)

Version 1.1
21 April 2000

For a manufacturer:

- A.K. & Sons

For an institutional film series:

- Solomon R. Guggenheim Museum

For the director of a video:

- Murphy, Susan

For the creator of a painting known by means of a nurse's oral history:

- Mentally ill patient

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

[Appendix D: Examples From the Natural History Community](#)

OTHER CONTRIBUTOR

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“A person or organization not specified in a Creator element who has made significant intellectual contributions to the resource but whose contribution is secondary to any person or organization specified in a Creator element (for example, editor, transcriber, and illustrator).”

CIMI Interpretation

A person or organization not specified in a Creator element because their contributions to the resource are less direct or conceptual (for example, editor or translator). Also used for patrons, benefactors, and sponsors. For natural specimens, the preparator may be entered here.

CIMI Guidelines

List multiple contributors separately in repeating elements.

List personal name elements in inverted order, i.e., index name (generally an individual's surname or the proper name in a title of nobility), first name(s), suffix, prefix. For corporate bodies, the entry element is the full name of the business or organization excluding initial articles.

Ashbery, John
Devonshire, William Cavendish, 2nd duke of
Merrifield-Roberts, Inc.

If a person's name consists of several parts, select as the entry element the part of the name under which the person would normally be listed in authoritative alphabetic lists in his or her language or country. Refer to the second edition of Anglo-American Cataloguing Rules (AACR2) sections 22.4-22.17 for guidelines for selecting the entry element in personal headings.

Do not force a value into DC.CONTRIBUTOR—the element is optional, as is each DC element. Not all “contributing” individuals and organizations are useful for resource discovery.

Do not specify role (e.g., editor, translator, etc.) of the contributor in unqualified DC. Roles cannot be addressed without qualification of this element.

When describing an online catalog, use the name of the institution that holds the resource.

Example Values

For the fabricators of a large-scale sculpture:

- Paul E. Luke, Inc.

For the narrator of an audio guide:

- Maurer, Evan M., Dr.

For a restorer of photographs:

- Tuma, Dorothy, MFA

For the workshop in which a print is produced:

- Gemini, G.E.L.

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

[Appendix D: Examples From the Natural History Community](#)

PUBLISHER

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“The entity responsible for making the resource available in its present form, such as a publishing house, a university department, or a corporate entity.”

CIMI Interpretation

The person(s) or organizations responsible for making the resource available or for presenting it, such as a repository, an archive, or a museum.

Also includes major financial supporters and legislative entities without whose support the resource would not be continuously available, such as a municipal historical council or a board of trustees. (Note: benefactors of the actual resources are listed under DC.CONTRIBUTOR.)

In addition, list distributors and other important agents of delivery in DC.PUBLISHER.

CIMI Guidelines

List multiple publishers separately in repeating elements.

List personal name elements in inverted order, i.e., index name (generally an individual's surname or the proper name in a title of nobility), first name(s), suffix, prefix. For corporate bodies, the entry element is the full name of the business or organization excluding initial articles.

Natural History Museum, London
Walker Art Center

If a person's name consists of several parts, select as the entry element the part of the name under which the person would normally be listed in authoritative alphabetic lists in his or her language or country. Refer to the second edition of Anglo-American Cataloguing Rules (AACR2) sections 22.4-22.17 for guidelines for selecting the entry element in personal headings.

Example Values

For an exhibition catalogue:

- National Museum of American Art

For a commercial website hosting service of a virtual gallery:

- Algonquin Systems, Inc.

For an electronic gateway to collaborative heritage information resources:

- Department of Canadian Heritage
- Canadian Heritage Information Network

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

[Appendix D: Examples From the Natural History Community](#)

DATE

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“A date associated with the creation or availability of the resource. Recommended best practice is defined in a profile of ISO 8601 [3] that includes (among others) dates of the form YYYY and YYYY-MM-DD. In this scheme, for example, the date 1994-11-05 corresponds to November 5, 1994.”

CIMI Interpretation

The date associated with the creation or availability of the resource. This is not necessarily the same as the date in the Coverage element, which refers to the date or period of the resource’s intellectual content. For natural specimens, the value(s) will be those associated with determination(s), observations(s), and/or collection from the field. Where more than one value is present, use the DC.DESCRPTION element to tie together the dates with their respective values from the DC.CREATOR and DC.TITLE elements.

CIMI Guidelines

Recommended best practice is defined in a profile of ISO 8601 [Date and Time Formats (based on ISO8601), W3C Technical Note <http://www.w3.org/TR/NOTE-datetime>, which specifies the format YYYY-MM-DD. If the full date is unknown, month and year (YYYY-MM) or just year (YYYY) may be used. This profile also stipulates the use of a slash to separate dates expressing a range.

BC and BCE dates are not represented by the ISO 8601 profile. CIMI recommends using the ‘bce’ designation for these dates. See examples below.

We recognize that DC Simple does not adequately address the issue of defining what the date refers to. For example, does the date refer to the age of the geological rock or, when the rock sample was collected? Qualification of this element is required to express these concepts.

Repeat DC.DATE to express both the circa value and the range it represents according to your organization’s policy.

Repeat DC.DATE to express both the time period during which the resource was brought into being and the specific date when it was [thought to be] first cataloged or collected.

DC.DATE is not restricted to number values only. If a date requires text to express it, then do so. See examples below.

We recommend that implementors devise an interface for the presentation of dates in a format familiar to most users.

Example Values

For the identification date of a geological rock sample:

- 1823 *[this date expresses the date upon which the rock sample was collected]*

For a gallery opening:

- 1997-03-07

For a painting:

- Italian Renaissance
- 1250/1325

For a tapestry:

- 1210 ca
- 1190/1240

For the discovery of a bone specimen:

- 1550

For an Egyptian burial robe:

- 2354 bce

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

[Appendix D: Examples From the Natural History Community](#)

RESOURCE IDENTIFIER

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“A string or number used to uniquely identify the resource. Examples for networked resources include URLs and URNs (when implemented). Other globally-unique identifiers, such as International Standard Book Numbers (ISBN) or other formal names are also candidates for this element.”

CIMI Interpretation

A text and/or number string intended to be used to effectively identify the resource.

CIMI Guidelines

Use URLs, or URNs, or DOIs (when implemented) for Internet resources. For realia, use widely recognized means of identifying items and collections such as accession numbers, International Standard Book Numbers (ISBN), raisonné catalog numbers, and Koche numbers.

CIMI recommends that, for IDs that are unique within an organization, DC.IDENTIFIER value should be preceded by an ID for the institution itself. While museum assigned identification numbers (ID numbers) may not appear useful for resource discovery per se, they are valuable for identifying duplicate records, and they can be used to build relationships between records. See examples below.

If a DC record for the organization or institution is addressable, use the URL. Otherwise, use the name of the organization or institution.

The number assignment agency designation should always precede the number.

Example Values

For an virtual organization such as CIMI:

- <http://www.cimi.org>
- Consortium for the Computer Interchange of Museum Information

For an institution housed within physical buildings:

- Natural History Museum, London

For a web page:

- http://www.cimi.org/documents/meta_webliography.html#RDF

For a book:

- ISBN 0-87779-606-8

For a natural specimen held in the collection of the Natural History Museum, London:

- NHM 1996.4.24.1

For a compact disc player:

- Serial No. 1560801
- Model No. ICF-CD810
- Sony

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

[Appendix D: Examples From the Natural History Community](#)

SOURCE

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“Information about a second resource from which the present resource is derived. While it is generally recommended that elements contain information about the present resource only, this element may contain metadata for the second resource when it is considered important for discovery of the present resource.”

CIMI Interpretation

Information about a resource from which the present resource is directly derived.

CIMI Guidelines

DC.SOURCE is distinguished from a DC.RELATION value of IsBasedOn by degree or strength of the connection. The CIMI test bed group used DC.SOURCE as a “kludge” element pending clarification of the “IsBasedOn” definition by the DC Directorate. Recommended practice is to repeat the value in DC.RELATION and DC.SUBJECT.

Use a text value of the title or name of the parent resource, plus the identifier if known to isolate the immediate/direct parent of the resource being described.

Example Values

For a full-size fiberglass casting of a dinosaur skeleton:

- Original Diplodocus fossil skeleton at Carnegie Museum

For a re-enactment of a Druid ritual:

- Fire Festival
- 4000 BCE

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

[Appendix D: Examples From the Natural History Community](#)

RELATION

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“An identifier of a second resource and its relationship to the present resource. This element is used to express linkages among related resources. For the sake of interoperability, relationships should be selected from an enumerated list that is currently under development in the workshop series.”

CIMI Interpretation

Used to describe significant points in the hierarchy of surrogacy, including the immediate parent and the original item.

Associated resource(s) and/or pointer(s) to those resources. (Note: Direct derivational relationships, such as the relationship of a surrogate to an original, are specified in DC.SOURCE.) The following element qualifiers, are considered “acceptable” in DC Simple and are maintained by the DC.RELATION Working Group at http://purl.oclc.org/metadata/dublin_core/wrelationdraft.html. CIMI emphasizes that because the unqualified DC specification does not present these “qualifiers” as DC element qualifier syntax, the nature of relationships may not be discoverable.

Resource is a physical or logical part of another resource, expressed as:

- IsPartOf
- HasPart

Resource is an historical state or edition of another resource by the same creator, expressed as:

- IsVersionOf
- HasVersion

Resource is a reformatted or mechanically reproduced representation (not interpretation) of another resource, expressed as:

- IsFormatOf
- HasFormat

Resource is one for which the creator acknowledges, disputes or otherwise refers to another resource, expressed as:

- References
- IsReferencedBy

Resource is one that is a performance, production, derivation, translation, adaptation or interpretation of another resource, expressed as:

- IsBasedOn

- IsBasisFor

Resource is one that requires another resource for its functioning, delivery, or content and cannot be used without the related resource, expressed as:

- Requires
- IsRequiredBy

CIMI Guidelines

Repeat as necessary.

A relationship that is considered to be significant can be expressed by simply placing the value in the field without adding one of the accepted ‘qualifiers’ noted above. For example, to express the relationship that Leonardo da Vinci is related to the thumbnail image of a work that he originally created, simply include his name in the DC.RELATION element for the record that describes the thumbnail image. A qualifier is not required to clarify the relationship in DC Simple.

Use tags enumerated above as appropriate, bearing in mind that their functionality in searching is unproven.

Use a pointer to the rich catalog record as a “IsReferencedBy” value when the record is abstracted from it.

Values may point both ways. For unqualified DC, however, we recommend only pointing to the “more aggregated,” “less-derived,” or “more immediate” resource; in data modeling this is referred to as a child pointing to parent.

For natural specimens that are type specimens, specify the published description with “IsReferencedBy”. For parasites, specify the host with “Requires”.

Include as many significant relationships as necessary to aid in resource discovery.

Example Values

For a record describing a toy:

- IsPartOf Fairytale Dolls of the World Collection

For a record describing Jackie Onassis’ pink pill box hat:

- IsReferencedBy Assassination of John F. Kennedy

For a thumbnail image of an oil painting having accession number 12875.01:

- IsFormatOf 12875.01
- DaVinci, Leonardo

For an English translation of a song:

- IsVersionOf *Quelqu'un Que J'Aime, Quelqu'un Qui M'aime*

For a record describing a gall wasp specimen:

- Requires oak tree
- Requires quercus

For a record describing an exhibition catalog:

- References Chris Crandall, staff critic. "Martin Is Bigger Than Life," *Tyler News Gazette*, 20 July, 1996, page B-1.

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

[Appendix D: Examples From the Natural History Community](#)

LANGUAGE

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“The language of the intellectual content of the resource. Recommended best practice is defined in RFC 1766 [4].”

CIMI Interpretation

The language of the intellectual content of the resource, not the language of the DC record nor necessarily the language of the DC.TITLE value. “Intellectual content” may be represented as text or as vocal sound. CIMI’s interpretation of this element reflects a potential application of “scheme” in DC Qualified.

CIMI Guidelines

Recommended best practice is defined in RFC 1766 [4] at <ftp://ds.internic.net/rfc/rfc1766.txt>, which provides a term list of language abbreviations. If the language is not included in that reference, spell it out completely.

Use repeated elements to express multiple values.

DC.LANGUAGE is not applicable to natural objects.

Example Values

For a prayer book:

- en

For lyrics of a cabaret song:

- fr

For a U.S. nickel:

- en
- la

Example Records

See:

[Appendix B: Examples from the Art Community](#)
[Appendix C: Examples from the Cultural History Community](#)
[Appendix D: Examples From the Natural History Community](#)

COVERAGE

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“The spatial or temporal characteristics of the intellectual content of the resource. Spatial coverage refers to a physical region (e.g., celestial sector) using place names or coordinates (e.g., longitude and latitude). Temporal coverage refers to what the resource is about rather than when it was created or made available (the latter belonging in the Date element). Temporal coverage is typically specified using named time periods (e.g., neolithic) or the same date/time format [3] as recommended for the Date element.”

CIMI Interpretation

Requires no interpretation.

CIMI Guidelines

Repeat DC.COVERAGE values as appropriate in DC.SUBJECT—e.g., “colonial America” or “‘Baroque’ dance” as an intellectual access point or keyword.

Temporal characteristics:

Recommended best practice for dates is defined in a profile of ISO 8601 [Date and Time Formats (based on ISO8601), W3C Technical Note <http://www.w3.org/TR/NOTE-datetime>, which specifies the format YYYY-MM-DD. If the full date is unknown, month and year (YYYY-MM) or just year (YYYY) may be used. This profile also stipulates the use of a slash to separate dates expressing a range.

Repeat DC.COVERAGE to express both the circa value and the range it represents according to your organization’s policy.

We recommend that implementers devise an interface for the presentation of dates in a format familiar to most users.

For natural specimens, specify the location of collection and/or observation.

Spatial characteristics:

Use Getty’s *Thesaurus of Geographic Names* at http://www.gii.getty.edu/tgn_browser, specifying at a sufficient granularity to unambiguously identify the location.

The use of repeating elements is preferred. If this is not possible, concatenation of terms separated by semicolons is also acceptable. Use as many descriptors and equivalent terms or phrases as you feel are necessary for resource discovery; include broader terms and equivalent terms only when they aid in resource discovery. A hierarchy is not implied in this element.

Do not use latitude and longitude unless your audience is accustomed to associating resources to places in this manner (e.g., maritime items or events).

Example Values

For a painting of the signing of the Declaration of Independence:

- 1776-07-04
- North America
- Thirteen Colonies
- Pennsylvania
- Philadelphia
- Colonial America

For a travelogue of a train ride:

- 1996-01-18
- Europe
- Denmark
- Esbjerg
- Europe
- Germany
- Flensburg

For a present-day photograph of an historic cottage:

- ca 1640
- 1620/1660
- Europe
- United Kingdom
- England
- Bath

For a geologic rock sample:

- Jurassic

For a snake specimen:

- tropical

For a bone specimen:

- 1800 BCE/1700 BCE

For an historic event:

- 1998-01T11:15/1998-01-11T16:23
- Australia
- Perth

Example Records

See:

[Appendix B: Examples from the Art Community](#)

[Appendix C: Examples from the Cultural History Community](#)

[Appendix D: Examples From the Natural History Community](#)

RIGHTS MANAGEMENT

Standard Definition <<ftp://ftp.isi.edu/in-notes/rfc2413.txt>>

“A rights management statement, an identifier that links to a rights management statement, or an identifier that links to a service providing information about rights management for the resource.”

CIMI Interpretation

A rights management or a usage statement, an identifier that links to a rights management or usage statement, or an identifier that links to a service providing information about rights management for and/or usage of the resource.

A statement concerning accessibility, reproduction constraints, copyright holder, and/or inclusion of credit lines.

Absence of DC.RIGHTS in a record does not imply that the resource is not protected.

CIMI Guidelines

Use a pointer to Terms and Conditions or copyright statements for Internet resources.

Ensure proper agreement between the DC.RIGHTS value and the resource in hand—do not, for example, link reproduction notices for digital surrogates to analog objects.

Example Values

For a specimen collection:

- Must state “gift of Mrs. Arthur Dustin”

For a fragile scroll:

- Permanent archive not available to public

For a virtual museum:

<http://www.museum.org/copyright.html>

For a videotape:

- Licensed for private home exhibition only. Any public performance, copying, or other use is strictly prohibited.

Example Records

Consortium for the Computer Interchange of Museum Information (CIMI)
Guide to Best Practice: Dublin Core (DC 1.0 = RFC 2413)

Version 1.1
21 April 2000

See:

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[Appendix D: Examples From the Natural History Community](#)

APPENDIX A

EFFECTIVE HANDLING OF CONFLICTS IN DESCRIBING ORIGINALS AND SURROGATES

One proposal, currently under discussion by the larger Dublin Core community, states that one metadata record is created for each resource. This is referred to as the 1:1 principle. It was proposed as a means to give enormous flexibility and power in describing information resources. This seems simple enough but it isn't always so neat, because resources are often not so discreet. Should each photograph in an article have its own record and what do we do about describing originals and their surrogates?

The original/surrogate problem is particularly important for museums where original works, a sculpture for example, and surrogates of them, like photographs and digital images of the photographs, need to be described accurately but at the same time efficiently and usefully.

The problem is illustrated in Examples 1a-c and 2a-c below. Example 1a is a metadata record for the original item, a steel and aluminum sculpture. It has the expected values of *Spoonbridge and Cherry, Oldenburg, Claes, van Bruggen, Coosje* for <DC:Title> and <DC:Creator> as well as the expected <DC:subject> and <DC:Description> values.

For a photographic transparency of the sculpture, a second metadata record is created as shown in Example 1b. This record has different values for <DC:Title> and <DC:Creator> because it represents the surrogate of the sculpture. As a result, *Transparency of Spoonbridge and Cherry* is the title of the transparency and *Halvorson, Glenn* is the creator of the transparency (i.e., he is the photographer who took the picture of the sculpture). Note that descriptive information from the metadata record of the original item (the sculpture) appears in <DC:Subject> for the surrogate.

A similar change of metadata occurs in Example 1c for a JPEG of the transparency of the sculpture. CIMI uses <DC:Source>, <DC:Relation> and <DC:Subject> to show the relationship between the metadata records. While many relations are explicitly known in this example, in practice, the describer of the surrogate may not know, or have access to, information about all of these relationships. Because the Dublin Core community is still trying to clarify <DC:Source> and <DC:Relation>, CIMI suggests very specific uses of these elements. For details, see the <DC:Source> and <DC:Relation> element discussions.

The 1:1 rule can create problems both for creators of metadata and searchers. If one was creating a record for the transparency of the sculpture, the inclination might be to use the value *Oldenburg, Claes and van Bruggen, Coosje* in <DC:Creator> since that information might be deemed to be of far greater utility for retrieval than the unknown photographer. It also makes life much more simple to create a single record rather than two linked together via <DC:Source> and <DC:Relation > values as is shown here in Examples 1b and 1c.

Some in the DC community now believe that the 1:1 principle should be revisited, and there is a working group that will address these issues and recommend guidelines that will promote consistent application. However, as of this writing, CIMI strongly believes in the 1:1 principle and suggests that it be followed strictly until the issue is clarified by the larger DC community.

This set of three metadata records illustrates the use of the 1:1 principle to describe 1. a sculpture, 2. the transparency of the photograph of the sculpture, 3. a digitized image of the transparency.

Example 1a - Record Describing an Art Object

```
<?xml version="1.0" ?>
<dc-record>
<type>image</type>
<type>physical object</type>
<type>original</type>
<type>cultural</type>
<format>overall 354 x 618 x 162"</format>
<title>Spoonbridge and Cherry</title>
<description>Claes Oldenburg and Coosje van Bruggen, SPOONBRIDGE AND CHERRY
(1985-1988), stainless steel, painted aluminum, Collection Walker Art Center, Gift of Frederick
R. Weisman in honor of his parents, William and Mary Weisman, 1988</description>
<subject>sculpture</subject>
<subject >Pop art</subject>
<creator>Oldenburg, Claes</creator>
<creator>van Bruggen, Coosje</creator>
<contributor>Lippincott, Inc.</contributor>
<contributor>Merrifield-Roberts, Inc.</contributor>
<contributor>Paul E. Luke, Inc.</contributor>
<publisher>Walker Art Center</publisher>
<date>1985/1988</date>
<identifier>wac88.385</identifier>
<relation>IsPartOf Walker Art Center, Minneapolis, Minnesota, USA</relation>
<relation>IsReferencedBy http://www.artsconnected.org/uia-
bin/uia\_doc.cgi/framed\_art/xwac88.385</relation>
<rights>Walker Art Center</rights>
</dc-record>
```

Example 1b - Record Describing an Art Object Surrogate (transparency)

```
<?xml version="1.0" ?>
<dc-record>
<type>image</type>
<type>physical object</type>
<type>surrogate</type>
<type>cultural</type>
<format>4 x 5 color transparency</format>
<title>Transparency of Spoonbridge and Cherry</title>
<subject>Spoonbridge and Cherry</subject>
<subject>sculpture</subject>
<subject>Pop art</subject>
<subject>Oldenburg, Claes</subject>
<subject>van Bruggen, Coosje</subject>
<creator>Halvorson, Glenn</creator>
<publisher>Walker Art Center</publisher>
<identifier>wac88.385 transparency</identifier>
<source>Spoonbridge and Cherry</source>
<source>wac88.385</source>
<relation>IsFormatOf wac88.385</relation>
<rights>Walker Art Center</rights>
<rights>Copyright retained by the artist</rights>
</dc-record>
```


Example 1c - Record Describing an Art Object Surrogate (digital image)

```
<?xml version="1.0" ?>
<dc-record>
<type>image</type>
<type>physical object</type>
<type>surrogate</type>
<type>cultural</type>
<format>image/jpeg</format>
<title>Digital Image of Spoonbridge and Cherry</title>
<subject>Spoonbridge and Cherry</subject>
<subject>sculpture</subject>
<subject>Pop art</subject>
<subject>Oldenburg, Claes</subject>
<subject>van Bruggen, Coosje</subject>
<creator>Economon, Barb</creator>
<publisher>Walker Art Center</publisher>
<date>1998</date>
<identifier>wac_786g.jpg</identifier>
<source>Transparency of Spoonbridge and Cherry</source>
<source>wac88.385 transparency</source>
<relation>IsFormatOf wac88.385</relation>
<relation>IsFormatOf wac88.385 transparency</relation>
<rights>Walker Art Center</rights>
<rights>Copyright retained by the artist</rights>
<rights>http://www.walkerart.org/resources/res\_pc\_frame\_restrictions.html</rights>
</dc-record>
```

Example 2

This set of three metadata records illustrates the use of the 1:1 principle to describe three items. The first is the lecture by an artist about an artistic experience where he takes a companion on a drive in his sports car along Mulholland Drive in Los Angeles to the accompaniment of a cassette tape of operatic extracts selected to complement the changing scenery as the drive progresses. The second is the archival master videotape of the event and the third is an edited version of the master tape.

Example 2a –Record Describing an Event

```
<?xml version="1.0" ?>
<dc-record>
<type>event</type>
<type>original</type>
<type>cultural</type>
<title>Experiencing Mulholland Drive</title>
<subject>artist's lecture</subject>
<subject>Los Angeles</subject>
<subject>opera</subject>
<subject>scenic vistas</subject>
<creator>Hockney, David</creator>
<date>1998-09-09</date>
<identifier>ABC123</identifier>
<language>en</language>
<coverage>USA</coverage>
<coverage>Los Angeles</coverage>
<coverage>Mullholland Drive</coverage>
</dc-record>
```

Example 2b - Record Describing an Event Surrogate (videotape)

```
<?xml version="1.0" ?>
<dc-record>
<type>sound</type>
<type>image</type>
<type>surrogate</type>
<type>cultural</type>
<format>betacam sp</format>
<title>Video of Experiencing Mulholland Drive</title>
<subject>Experiencing Mulholland Drive</subject>
<subject>artist's lecture</subject>
<subject>Los Angeles</subject>
<subject>opera</subject>
<subject>scenic vistas</subject>
<subject>Hockney, David</subject>
<creator>Smith, John</creator>
<publisher>Los Angeles County Museum of Art</publisher>
<date>1998-10-10</date>
<identifier>DEF456</identifier>
<source>Experiencing Mullholland Drive</source>
<source>ABC123</source>
<relation>IsFormatOf ABC123</relation>
<language>en</language>
<coverage>USA</coverage>
<coverage>Los Angeles</coverage>
<coverage>Mullholland Drive</coverage>
</dc-record>
```

Example 2c –Record Describing an Event Surrogate (edited version of master tape)

```
<?xml version="1.0" ?>
<dc-record>
<type>sound</type>
<type>image</type>
<type>surrogate</type>
<type>cultural</type>
<format>VHS</format>
<title>Experiencing Mulholland Drive with David Hockney</title>
<subject>Experiencing Mulholland Drive</subject>
<subject>artist's lecture</subject>
<subject>Los Angeles</subject>
<subject>opera</subject>
<subject>scenic vistas</subject>
<subject>Hockney, David</subject>
<creator>Parsons, Matthew</creator>
<contributor>Smith, John</contributor>
<publisher>Lecture Videos International, Inc.</publisher>
<date>1998-11-11</date>
<identifier>GHI789</identifier>
<source>Video of Experiencing Mullholland Drive</source>
<source>DEF456</source>
<relation>IsFormatOf ABC123</relation>
<relation>IsBasedOn DEF456</relation>
<language>en</language>
<coverage>USA</coverage>
<coverage>Los Angeles</coverage>
<coverage>Mullholland Drive</coverage>
</dc-record>
```

APPENDIX B

EXAMPLE RECORDS FROM THE ART COMMUNITY

Example B.1 - Record Describing an Event

```
<?xml version="1.0" ?>
<dc-record>
<type>event</type>
<type>original</type>
<type>cultural</type>
<title>Martin Friedman interviews Claes Oldenburg</title>
<description>Walker Art Center Director Martin Friedman interviews Claes Oldenburg in
preparation for the Walker Art Center's 1975 exhibition "Oldenburg: Six Themes."</description>
<subject>Exhibitions; Oldenburg: Six Themes</subject>
<subject>sculpture</subject>
<subject>Oldenburg, Claes</subject>
<creator>Oldenburg, Claes</creator>
<creator>Friedman, Martin</creator>
<contributor>Walker Art Center</contributor>
<publisher>Walker Art Center</publisher>
<date>1974-08-25/1974-08-26</date>
<identifier>wac Oldenburg interview 1974-08-25/1974-08-26</identifier>
<relation>IsBasisFor wac Claes Oldenburg with director Martin Friedman: interview, 08/25-
26/74, tape 1A and 1B</relation>
<language>en</language>
<rights>Walker Art Center</rights>
</dc-record>
```

Example B.2 - Record Describing an Event Surrogate (cd)

```
<?xml version="1.0" ?>
<dc-record>
<type>sound</type>
<type>physical object</type>
<type>surrogate</type>
<type>cultural</type>
<format>CD-R Gold</format>
<format>37:44 minutes</format>
<title>Claes Oldenburg with director Martin Friedman: interview, 08/25-26/74, pt. 1</title>
<description>Location: Los Angeles, Chateau Marmart. Martin Friedman interviews Claes Oldenburg in preparation for the Walker Art Center's exhibition "Oldenburg: Six Themes," 1975. This CD is a transfer of tape 1A and 1B. Track 1: Origins of the "fagend" in Hyde Park, London 1966. Track 2: Discussion of enlarging themes and use of materials, steel and aluminum. Track 3: Are fagends best in sylvan or urban setting? Track 4: Discussion of ashtray. Track 5: Discussion of form and composition.</description>
<subject>Martin Friedman interviews Claes Oldenburg</subject>
<subject>Exhibitions; Oldenburg: Six Themes</subject>
<subject>sculpture</subject>
<subject>Oldenburg, Claes</subject>
<subject>Friedman, Martin</subject>
<creator>Walker Art Center</creator>
<publisher>Walker Art Center</publisher>
<date>1998</date>
<identifier>74.07 (1)</identifier>
<source>wac Claes Oldenburg with director Martin Friedman: interview, 08/25-26/74, tape 1A and 1B</source>
<relation>IsFormatOf wac Oldenburg interview 1974-08-25/1974-08-26</relation>
<relation>IsFormatOf wac Claes Oldenburg with director Martin Friedman: interview, 08/25-26/74, tape 1A and 1B</relation>
<language>en</language>
<rights>Walker Art Center</rights>
</dc-record>
```

Example B.3 - Record Describing an Event Surrogate (digital recording)

```
<?xml version="1.0" ?>
<dc-record>
<type>sound</type>
<type>physical object</type>
<type>surrogate</type>
<type>cultural</type>
<format>audio/ra</format>
<format>37:44 minutes</format>
<title>RealAudio recording of Claes Oldenburg with director Martin Friedman: interview, 08/25-26/74, pt. 1</title>
<description>Location: Los Angeles, Chateau Marmart. Martin Friedman interviews Claes Oldenburg in preparation for the Walker Art Center's exhibition "Oldenburg: Six Themes," 1975. Track 1: Origins of the "fagend" in Hyde Park, London 1966. Track 2: Discussion of enlarging themes and use of materials, steel and aluminum. Track 3: Are fagends best in sylvan or urban setting? Track 4: Discussion of ashtray. Track 5: Discussion of form and composition.</description>
<subject>Claes Oldenburg with director Martin Friedman: interview, 08/25-26/74, pt.</subject>
<subject>Martin Friedman interviews Claes Oldenburg</subject>
<subject>Exhibitions; Oldenburg: Six Themes</subject>
<subject>sculpture</subject>
<subject>Oldenburg, Claes</subject>
<subject>Friedman, Martin</subject>
<subject>Walker Art Center</subject>
<creator>Walker Art Center</creator>
<publisher>Walker Art Center</publisher>
<date>1998</date>
<identifier>wac oldenburg74_07_1.ram</identifier>
<source>wac Claes Oldenburg with director Martin Friedman: interview, 08/25-26/74, pt. 1</source>
<source>wac 74.07 (1)</source>
<relation>IsFormatOf wac Oldenburg interview 1974-08-25/1974-08-26</relation>
<relation>IsFormatOf wac 74.07 (1)</relation>
<relation>IsReferencedBy http://www.walkerart.org/ace/audio/oldenburg1.html</relation>
<language>en</language>
<rights>Walker Art Center</rights>
</dc-record>
```


Example B.4 - Record Describing the Sound Archive Collection (within which the event surrogates are held)

```
<?xml version="1.0" ?>
<dc-record>
<type>collection</type>
<type>cultural</type>
<title>Walker Art Center Archives, Audio Recordings</title>
<description>The Walker Art Center Archives includes 340 reel-to-reel audio tapes. These
tapes contain remarks by hundreds of contemporary artists from a wide range of disciplines who
were active at the Walker between 1956 and 1977. The majority of the recordings are interviews
with artists, most often conducted by a curator or the director of the Walker Art Center in
conjunction with a major exhibition. Also contained in this collection are panel discussions
involving critics and audiences; single-artist lectures addressing important topics of the day; and
musical and literary performances by some of the 20th century's leading voices.</description>
<subject>20th century art</subject>
<subject>Walker Art Center Archives</subject>
<subject>audio recordings</subject>
<creator>Walker Art Center</creator>
<publisher>Walker Art Center</publisher>
<date>1956/1977</date>
<identifier>Walker Art Center Archives, Audio Recordings, Minneapolis, Minnesota,
USA</identifier>
<relation>IsPartOf Walker Art Center, Minneapolis, Minnesota, USA</relation>
<relation>IsPartOf Walker Art Center Archives, Minneapolis, Minnesota, USA</relation>
<relation>IsReferencedBy http://www.walkerart.org/resources/res\_arch\_frame.html</relation>
<relation>IsReferencedBy http://www.walkerart.org/resources/wc\_audio.html</relation>
<rights>Walker Art Center</rights></dc-record>
```

Example B.5 –Record Describing the Art Center (within which the sound archive is held)

```
<?xml version="1.0" ?>
<dc-record>
<type>party</type>
<type>original</type>
<type>cultural</type>
<title>Walker Art Center</title>
<description>Established in 1879, the Walker Art Center began as the first public art gallery in
the Upper Midwest, originating as the personal art collection of lumber magnate Thomas Barlow
Walker. Today, the Walker is a unique multidisciplinary arts organization with an international
reputation. Each year, the Walker organizes an artistic program that both champions the new
and initiates groundbreaking historical research. Programs in the visual, performing, and media
arts support and present some of the most influential artists and ideas of our time, efforts that
have earned the institution wide acclaim and scholarly respect. Walker's annual attendance of
nearly 930,000 is in the top ten of all art museums nationally. In 1993 the Walker Art Center
adopted a Long Range Plan with the following Mission Statement: The Walker Art Center is a
catalyst for the creative expression of artists and the active engagement of audiences.
Focusing on the visual, performing, and media arts of our time, the Walker takes a
multidisciplinary approach to the creation, presentation, interpretation, collection, and
preservation of art. The Walker's programs examine the questions that shape and inspire us as
individuals, communities, and cultures.
</description>
<subject>art center</subject>
<subject>art museum</subject>
<subject>contemporary art</subject>
<subject>film/video</subject>
<subject>media arts</subject>
<subject>performing arts</subject>
<subject>20th century art</subject>
<subject>visual arts</subject>
<creator>Walker, Thomas Barlow</creator>
<publisher>Walker Art Center</publisher>
<date>1879</date>
<identifier>Walker Art Center, Minneapolis, Minnesota, USA</identifier>
<relation>IsReferencedBy http://www.walkerart.org</relation>
<rights>Walker Art Center</rights>
</dc-record>
```

Example B.6 –Record describing a Conceptual Artwork

```
<?xml version="1.0" ?>
<dc-record>
<type>image</type>
<type>physical object</type>
<type>original</type>
<type>cultural</type>
<title>Double Closed Copper Wall</title>
<description>A conceptual artwork that must be constructed to be realized.</description>
<description>dimensions variable</description>
<subject>visual works</subject>
<subject>sculpture</subject>
<subject>Panza Collection</subject>
<subject>minimalism</subject>
<subject>Judd, Donald</subject>
<creator>Judd, Donald</creator>
<contributor>Panza di Biumo, Giuseppe</contributor>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1974</date>
<identifier>SRG 91.3726</identifier>
<relation>IsPartOf Panza Collection</relation>
<rights>Solomon R. Guggenheim Museum</rights>
<rights>Panza Collection, 1991</rights>
</dc-record>
```

Example B.7 –Record describing the Fabrication of a Conceptual Artwork

```
<?xml version="1.0" ?>
<dc-record>
<type>image</type>
<type>physical object</type>
<type>original</type>
<type>cultural</type>
<format>49 x 875 x 50 inches</format>
<title>Double Closed Copper Wall, Hamburg, Germany February 4, 1999 to May 18,1999</title>
<description>A conceptual artwork that must be constructed to be realized.</description>
<subject>visual works</subject>
<subject>sculpture</subject>
<subject>Panza Collection</subject>
<subject>minimalism</subject>
<subject>Judd, Donald</subject>
<creator>Judd, Donald</creator>
<contributor>Art Fabrications, Inc.</contributor>
<publisher>Guggenheim Museum, Solomon R.</publisher>
<date>1999-02-04/1999-05-18</date>
<identifier>SRG 91.3726 1999-02-04/1999-05-18</identifier>
<relation>IsVersionOf Double Closed Copper Wall</relation>
<relation>IsVersionOf SRG 91.3726</relation>
<relation>IsPartOf Panza Collection</relation>
<rights>Solomon R. Guggenheim Museum</rights>
<rights>Panza Collection, 1991</rights>
</dc-record>
```

APPENDIX C

**EXAMPLE RECORDS FROM
THE CULTURAL HISTORY COMMUNITY**

Example C-1: Record Describing A Museum

```
<?xml version="1.0" ?>
<dc-record>
<type>party</type>
<type>original </type>
<type>cultural1</type>
<title>Museum of Victoria</title>
<description>The Museum of Victoria houses that state's natural sciences, social history and indigenous studies collections. The Museum seeks to explore and express the origins, development and diversity of culture of the Australian people, and the natural environment in which we function. Exhibitions include some of the finest Aboriginal collections in Australia. The great dinosaurs, Australia's national icon, Phar Lap, the Children's museum and the Koorie Heritage Trust share space with regular changing and touring exhibitions. The H.V. McKay Planetarium is another fascinating venue housed within the Museum. It enables the viewer to explore the far reaches of space from the comfort of a chair.</description>
<subject>Social History</subject>
<subject>Crafts; Decorative arts</subject>
<subject>Design; Drawings and prints</subject>
<subject>Furniture; Glass; Industrial design</subject>
<subject>Jewellery; Leatherwork; Metalwork</subject>
<subject>Painting; Paper; Pottery and ceramics</subject>
<subject>Sculpture; Textiles, spinning, weaving; Woodwork</subject>
<subject>History and society; Local history</subject>
<creator>State Government of Victoria</creator>
<identifier>AMOL-V125</identifier>
<relation>IsReferencedBy http://amol.org.au/directory/instn/v125.htm</relation>
<rights>http://amol.org.au/about\_amol/copy.asp</rights>
</dc-record>
```

¹ – museums and collections are considered to be ‘cultural’ constructs, regardless of whether the content of the collection is ‘cultural’ or ‘natural’ in form.

Example C-2: Record Describing An Original Cultural Object¹

```
<?xml version="1.0" ?>
<dc-record>
<type>physical object</type>
<type>original</type>
<type>cultural</type>
<format>Dimension: L:245mm, W:105mm, H:125mm</format>
<title>Box</title>
<description>Material: Wood</description>
<subject>Utensils; Inuit</subject>
<publisher>The National Museum – Denmark; Ethnographic Collection</publisher>
<identifier>NMD L19.246a</identifier>
<relation>IsPartOf NMD L19.246a-NMD L19.246k</relation>
*<coverage>1900/1940</coverage>
*<coverage>Ammassalik distrikt; Tasiilak</coverage>
*<coverage>East Greenland</coverage>
<rights>http://www.natmus.dk/skatkamre/intro.htm</rights>
</dc-record>
```

¹ Coverage regarding, geographical and temporal information about the object is, in this example, related to information about the LastUsage of the object.

Example C-3: Record Describing A Social History Collection

```
<?xml version="1.0" ?>
<dc-record>
<type>collection</type>
<type>original</type>
<type>cultural</type>
<title>Social History Collection</title>
<description>The Social History collection is part of the History & Technology Collections
Department formed in 1997. The collection has approximately 120,000 objects. Areas of
specialisation in this collection include Popular Culture, Social & Domestic Life, Engineering &
Trades, Image Sound & Document, Migration and Settlement, Information & Communications,
Measurement, Primary Production, Sciences, Transport Technologies, Domestic and
Community Life, Numismatics and Philately, Arms & Military Memorabilia, Public and
Institutional Life, Working Life, Melbourne, and Human Mind & Body. The collection is used to
support the Australian Society, Technology and Human Mind & Body Programs.</description>
<subject>Social History</subject>
<subject>Crafts; Decorative arts</subject>
<subject>Design; Drawings and prints</subject>
<subject>Furniture; Glass; Industrial design</subject>
<subject>Jewellery; Leatherwork; Metalwork</subject>
<subject>Painting; Paper; Pottery and ceramics</subject>
<subject>Sculpture; Textiles, spinning, weaving; Woodwork</subject>
<subject>History and society; Local history</subject>
<subject>Popular Culture; Social & Domestic Life; Engineering & Trades; Image Sound &
Document; Migration and Settlement; Information & Communications; Measurement; Primary
Production; Sciences; Transport Technologies; Domestic and Community Life; Numismatics
and Philately; Arms & Military Memorabilia; Public and Institutional Life; Working Life;
Melbourne; Human Mind & Body</subject>
<creator>Museum of Victoria</creator>
<contributor>State Government of Victoria</contributor>
<identifier>AMOL-V125</identifier>
<relation>IsReferencedBy http://www.mov.vic.gov.au/collections/history/</relation>
<rights>http://amol.org.au/about\_amol/copy.asp</rights>
</dc-record>
```


Example C-4: Record Describing An Original Cultural Object

```
<?xml version="1.0" ?>
<dc-record>
<type>cultural</type>
<type>physical object</type>
<type>original</type>
<title>Box with Bird Figure and Human Figure</title>
<description>Wooden box with ornamental figure worked in bone, horn and shell.</description>
<subject>Utensils; Inuit</subject>
<subject>Bone; Horn; Shell; Wood</subject>
<publisher>The National Museum – Denmark; Ethnographic Collection </publisher>
<identifier>NMD L19.246a-NMD L19.246k</identifier>
<coverage>1900/1940</coverage>
<coverage>Ammassalik distrikt; Tasiilak</coverage>
<coverage>Inuit</coverage>
<rights>http://www.natmus.dk/skatkamre/intro.htm</rights>
</dc-record>
```

Example C-5: Record Describing An Original Cultural Object

```
<?xml version="1.0" ?>
<dc-record>
<type>physical object</type>
<type>original</type>
<type>cultural</type>
<format>Dimension: W:375mm, H:400mm</format>
<title>Phar Lap Collage</title>
<description>Phar Lap. Photograph no.1 shows Phar Lap, leaving a stable, covered in a blanket
with a strapper. Photograph no.2 shows Phar Lap rolling in the sand with the same person
standing next to him, holding the strap. No.3 is a photograph of a stud, looking towards some
hills. No.4 is a portrait of Phar Lap's head, wearing a blanket on his neck, which is only just
visible.No.5 is the portrait of a jockey's head. He is wearing his jockey's cap and outfit.
Photograph no.6 is another portrait of Phar Lap, taken from the side. He is standing in a sandy
area on a field, with a tree in the background. The back of the cardboard has a lot of writing and
scribble on it. It has a stamp on it, which has been circled with a blue pencil, a torn label and
the handwritten word "save", plus some initials (handwritten), have also been crossed out with
blue pencil. The photographs are mounted on brown cardboard, and have been trimmed,
probably for printing purposes.</description>
<description> Material: paper; Specific materials: cardboard</description>
<subject>Social History</subject>
<subject>Photograph</subject>
<subject>Animal</subject>
<creator>unknown</creator>
<contributor>Phar Lap</contributor>
<contributor> Woodcock, Tommy</contributor>
<publisher>Museum of Victoria</publisher>
<identifier>MOV 92.1955</identifier>
<relation>IsReferencedBy http://pioneer.mov.vic.gov.au/cgi-bin/texhtml?
form=catlog.updated&kregno\_1=92&kregno\_2=1955&kregno\_3=</relation>
</dc-record>
```

Example C-6: Record Describing A Surrogate Cultural Object

```
<?xml version="1.0" ?>
<dc-record>
<type>image</type>
<type>cultural</type>
<type>surrogate</type>
<format>image/jpeg</format>
<title>Image of Box with figures from East Greenland</title>
<description>Dimension: L:245mm, W:105mm, H:125mm</description>
<description>1900/1940</description>
<description>Ammassalik distrikt; Tasiilak</description>
<description>East Greenland</description>
<subject>Utensils</subject>
<creator>Mikkelsen, A</creator>
<publisher>The National Museum – Denmark; Ethnographic Collection</publisher>
<date>1996-06-12</date>
<identifier>4000844.jpg</identifier>
<relation>IsFormatOf NMD L19.246a </relation>
<rights>Mikkelsen, A</rights>
</dc-record>
```

APPENDIX D

EXAMPLE RECORDS FROM THE NATURAL HISTORY COMMUNITY

Example D-1: Record Describing a Natural History Database

```
<?xml version="1.0" ?>
<dc-record>
<type>dataset</type>
<type>item</type>
<type>cultural</type>
<format>Microsoft Access</format>
<title>Host / Parasite Database</title>
<description>Database of records for parasites and their hosts. Part of the collections
management system for the Department of Zoology at The Natural History Museum,
London</description>
<subject>parasites</subject>
<subject>specimen records</subject>
<creator>Hussey, Charles</creator>
<publisher>The Natural History Museum, London</publisher>
<date>1998</date>
<language>en</language>
<rights>http://www.nhm.ac.uk/generic/copy.html</rights>
</dc-record>
```

Example D-2: Record Describing a Collection of Natural History Items

```
<?xml version="1.0" ?>
<dc-record>
<type>original</type>
<type>collection</type>
<type>natural</type>
<title>H D King Natural Science Collection held at Norwich Castle Museum, UK</title>
<description>H D King natural science collection held at Norwich Castle Museum. Collection
contains: Cretaceous (Chalk) fossils (all groups) from Norwich and district,
Norfolk.</description>
<subject>natural science</subject>
<subject>palaeontology</subject>
<subject>fossil</subject>
<subject>Mesozoic</subject>
<subject>Cretaceous</subject>
<creator>South East Collections Research Unit</creator>
<contributor>Lawrence, P J</contributor>
<contributor>Museum Documentation Association, UK</contributor>
<publisher>mda, UK</publisher>
<date>1998</date>
<identifier>fenscore 7109se</identifier>
<coverage>Europe</coverage>
<coverage>British Isles</coverage>
<coverage>United Kingdom</coverage>
<coverage>England</coverage>
<coverage>Norfolk</coverage>
<rights>All Information Copyright SECRU, MDA, and institution holding the collection.</rights>
</dc-record>
```

Example D-3: Record Describing A Natural History Museum

```
<?xml version="1.0" ?>
<dc-record>
<type>party</type>
<type>original</type>
<type>cultural</type>
<title>The Natural History Museum, London</title>
<description>Museum of natural history, with exhibitions about the life and earth sciences open
to the public for a charge. Scientific research institute specialising in taxonomic research based
on the collection of 68 million specimens, and with six research themes. The Museum's mission
is to "maintain and develop its collections and use them to promote the discovery,
understanding, responsible use and enjoyment of the natural world".</description>
<subject>natural history</subject>
<subject>science</subject>
<subject>exhibitions</subject>
<subject>education</subject>
<publisher>The Natural History Museum, London</publisher>
<date>1881</date>
<identifier>NHM</identifier>
<rights>http://www.nhm.ac.uk/generic/copy.html</rights>
</dc-record>
```

Example D-4 Record Describing a Natural History Specimen

```
<?xml version="1.0" ?>
<dc-record>
<type>physical object</type>
<type>original</type>
<type>natural</type>
<title>Prosorhynchoides pusilla</title>
<description>Specimen fixed in Berland's fluid and preserved in 80% alcohol.</description>
<description>Prepared by: Taskinen, J.</description>
<description>Determiner: Gibson, D.I. </description>
<description>Determination date: 1993-08-21</description>
<subject>parasite</subject>
<subject>fluke</subject>
<subject>animal</subject>
<creator>Gibson D.I.</creator>
<contributor>Taskinen, J.</contributor>
<publisher>The Natural History Museum, London</publisher>
<date>1993-08-21</date>
<identifier>NHM 1994.1.19.1.</identifier>
<relation>IsPartOf Bucephalidae</relation>
<relation>Requires Esox lucius</relation>
<coverage>Battle River</coverage>
<coverage>Fabyan</coverage>
<coverage>Alberta</coverage>
<coverage>Canada</coverage>
<rights>http://www.nhm.ac.uk/generic/copy.html</rights>
</dc-record>
```


Example D-5: Record describing a plaster bust of a pygmy

```
<?xml version="1.0" ?>
<dc-record>
<type>Physical object</type>
<type>original</type>
<type>cultural</type>
<title>Ota Benga, pygmy</title>
<description>Plaster bust made from a live face mask of Ota Benga, a pygmy from the Congo,
bust made in New York in 1904 by Caspar Mayer (1871-1931).</description>
<description >Plaster bust</description>
<subject>Benga, Ota</subject>
<subject>Pygmies</subject>
<subject>Congo (Democratic Republic)</subject>
<subject>Casts (sculpture)</subject>
<subject>Life masks</subject>
<creator>Mayer, Caspar</creator>
<contributor>Benga, Ota</contributor>
<publisher>American Museum of Natural History Division of Anthropology</publisher>
<date>1904</date>
<identifier>AMNH-ANT 99/4404</identifier>
<relation>IsPartOf AMNH-ANT 1904-48</relation>
<relation>HasFormat AMNH-LIB 2A18787</relation>
<rights>American Museum of Natural History Division of Anthropology</rights>
</dc-record>
```

NOTES:

1. SUBJECT terms in this case are drawn from the Art & Architecture Thesaurus and the Library of Congress Subject Headings.
2. The individual who participated in the creation of the original face mask (that is, the person on whom the cast was made) is listed as a CONTRIBUTOR.
3. IDENTIFIER schemes at the American Museum of Natural History are not integrated. "AMNH 99/4404" could refer to a specimen in each of several departments; therefore, an additional prefix, in this case "-ANT," has been added to the institutional prefix in order to create a truly unique identifier. This scheme has been used wherever an identifier is referenced in these examples: in IDENTIFIER, RELATION, and SOURCE.

Example D-6: Record describing a black and white photo of a plaster bust of a pygmy

```
<?xml version="1.0" ?>
<dc-record>
<type>Image</type>
<type>surrogate</type>
<type>cultural</type>
<format>4x5</format>
<format>black and white negative</format>
<format>safety film</format>
<title>Photograph of Plaster cast of bust [sic] of Ota Benga, Pygmy</title>
<description>Photo of plaster bust made from a live face mask of Ota Benga, a pygmy from the
Congo, bust made in New York in 1904 by Caspar Mayer.</description>
<subject>Benga, Ota</subject>
<subject>Pygmies</subject>
<subject>Congo (Democratic Republic)</subject>
<subject>Casts (sculpture)</subject>
<subject>Life masks</subject>
<creator>Beckett, Jackie</creator>
<contributor>Mayer, Caspar</contributor>
<contributor>Benga, Ota</contributor>
<publisher>American Museum of Natural History Library Special Collections</publisher>
<date>1991</date>
<identifier>AMNH-LIB 2A18787</identifier>
<source>AMNH-ANT 99/4404</source>
<source>American Museum of Natural History Division of Anthropology</source>
<relation>IsFormatOf AMNH-ANT 99/4404</relation>
<rights>American Museum of Natural History Library Special Collections</rights>
</dc-record>
```

NOTES:

1. SUBJECT terms in this case are drawn from the Art & Architecture Thesaurus and the Library of Congress Subject Headings.
 2. The photographer is listed as the CREATOR and the sculptor is listed as a CONTRIBUTOR, as is the individual who participated in the creation of the original face mask.
- SOURCE and RELATION: see IDENTIFIER note under example D-5.

Example D-7: Record describing a natural specimen

```
<?xml version="1.0" ?>
<dc-record>
<type>Physical object</type>
<type>original</type>
<type>natural</type>
<title>Heterochromis multidens</title>
<description>1 cleared and stained wet skeleton of adult Heterochromis multidens collected
1913 by Lang-Chapin Exp. (1909-1915) [American Museum Congo Expedition 1909-1915], H.
Lang, J.P. Chapin, in Africa, Congo, Orientale [Haut Zaire] province, Poko (Ubangi River -
Congo River drainage). Identified M.L.J. Stiassny; cataloged 01/14/97 by M.N.
Feinberg.</description>
<description>Cleared and stained wet skeleton</description>
<subject>Cichlids</subject>
<subject>Cichlidae</subject>
<subject>Perciformes</subject>
<subject>Fish</subject>
<subject>Ubangi River</subject>
<subject>Ubangi River - Congo River drainage</subject>
<subject>Congo (Democratic Republic) – Haut Zaire -- Poko</subject>
<contributor>Lang, Herbert</contributor>
<contributor>Chapin, James Paul</contributor>
<contributor>American Museum Congo Expedition</contributor>
<contributor>Stiassny, Melanie L. J. </contributor>
<contributor>Feinberg, M. Norma</contributor>
<publisher>American Museum of Natural History Division of Vertebrate Zoology, Department of
Ichthyology</publisher>
<date>1913</date>
<date>1997-01-14</date>
<identifier>AMNH-ICH 216062</identifier>
<coverage>3.133</coverage>
<coverage>26.867</coverage>
<rights>American Museum of Natural History Division of Vertebrate Zoology, Department of
Ichthyology</rights>
</dc-record>
```

NOTES:

1. TITLE: The Latin names of species are usually italicized; in this example, as in the rest of the CIMI examples, italics are not indicated.
2. Under DC Simple, the preparation type of a natural specimen (e.g. cleared and stained, in solution, study skin, herbarium sheet) is a DESCRIPTION value.
3. SUBJECT terms are in this case drawn from the Library of Congress Subject Headings and the Department of Ichthyology database. It has been suggested by ichthyologists that the body of water and drainage information be included as subject terms for fish specimens. While certain cataloging rules specify that only the next higher hierarchical

term be used when assigning subject terms, it has been suggested that, for resource discovery of biological specimens, broader taxonomic terms "up to order, at a minimum" be included. Hence, this item, of genus *Heterochromis* and species *multidens*, is assigned a subject term for its family, *Cichlidae*, and also its order, *Perciformes*. This will differ across discipline. Library of Congress uses the term "Cichlids" while the source database for this record uses "cichlidae". Given the CIMI preference for common names for natural specimens, both are included here. It may not be possible to add common names such as this when working with large numbers of records. The term "Fish" is included here per the directive under Subject to use the "next broader common name, or, as a minimum, 'plant,' 'animal,' or 'mineral.'"

4. The two COVERAGE values in this example express latitude and longitude in digital notation. COVERAGE in DC Simple permits neither cardinal direction (North, South, East or West), axis (latitude or longitude), or units (degrees, minutes, seconds). Without these qualifications, digital latitude/longitude notation communicates geographic coordinates with less possibility for confusion. In digital notation, the "English" notation of degrees minutes seconds is translated into one integer, and cardinal direction is indicated by the presence or absence of a - (minus sign).

Example D-8: Record describing a type specimen

```
<?xml version="1.0" ?>
<dc-record>
<type>Physical object</type>
<type>original</type>
<type>natural</type>
<title>Alestes carmesinus</title>
<description>1 specimen (Nichols and Griscom holotype) of Alestes carmesinus collected 1915
by Lang-Chapin Exp. (1909-1915) [American Museum Congo Expedition 1909-1915], H. Lang,
J.P. Chapin, in Africa, Congo, Orientale [Haut Zaire] province, Leopoldville [Kinshasa], Zambi,
mouth of Congo River (lower Congo River drainage). Identified J.T. Nichols, b. 1883, L. Griscom
(1890-1959); cataloged 10/27/93 by B.A. Brown.</description>
<subject>characidae</subject>
<subject>Cypriniformes</subject>
<subject>Type specimens</subject>
<subject>Congo River</subject>
<subject>Lower Congo River drainage</subject>
<subject>Congo (Democratic Republic) – Haut Zaire -- Kinshasa -- Zambi</subject>
<subject>Fish</subject>
<contributor>Lang, Herbert</contributor>
<contributor>Chapin, James Paul</contributor>
<contributor>American Museum Congo Expedition</contributor>
<contributor>Nichols, John T. (John Treadwell)</contributor>
<contributor>Griscom, Ludlow</contributor>
<contributor>Brown, Barbara A. </contributor>
<publisher>American Museum of Natural History Division of Vertebrate Zoology, Department of
Ichthyology</publisher>
<date>1915</date>
<date>1993-10-27</date>
<identifier>AMNH-ICH 6330</identifier>
<relation>IsReferencedBy Nichols, John T. (John Treadwell), b. 1883. "Fresh-water fishes of the
Congo Basin obtained by the American Museum Congo Expedition, 1909-1915; with field notes
by the collectors, Herbert Lang and James P. Chapin." Bulletin of the American Museum of
Natural History v. 37, article 25. New York: American Museum of Natural History,
1917.</relation>
<coverage>04.30</coverage>
<coverage>015.30</coverage>
<rights>American Museum of Natural History Division of Vertebrate Zoology, Department of
Ichthyology</rights>
</dc-record>
```

NOTES:

1. SUBJECT terms are in this case drawn from the Library of Congress Subject Headings and the AMNH Department of Ichthyology database. See notes under example D-7.

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Version 1.1
21 April 2000

2. This specimen is the "type specimen" for the entire species. Its first published reference appears in RELATION.
See example D-7 for note on COVERAGE.

Example D-9: Record describing a collection ("lot") of 22 fish specimens

```
<?xml version="1.0" ?>
<dc-record>
<type>collection</type>
<type>original</type>
<type>natural</type>
<title>Ctenopoma uelense</title>
<description>22 wet specimens, 21-46 mm, of Ctenopoma uelense collected 1913 by Lang-
Chapin Exp. (1909-1915) [American Museum Congo Expedition 1909-1915], H. Lang, J.P.
Chapin, in Africa, Congo, Orientale [Haut Zaire] province, Faradje, Uele River, (Ubangi River -
Congo River drainage). Identified 04/15/96 by S. M. Norris; Cataloged 04/30/97 by M.N.
Feinberg.</description>
<subject>Anabantidae</subject>
<subject>Labyrinth fishes</subject>
<subject>Perciformes</subject>
<subject>Uele River</subject>
<subject>Ubangi River - Congo River drainage</subject>
<subject>Congo (Democratic Republic) -- Haut Zaire -- Faradje</subject>
<subject>Fish</subject>
<contributor>Lang, Herbert</contributor>
<contributor>Chapin, James Paul</contributor>
<contributor>American Museum Congo Expedition</contributor>
<contributor>Norris, S. M. </contributor>
<contributor>Feinberg, M. Norma</contributor>
<publisher>American Museum of Natural History Division of Vertebrate Zoology, Department of
Ichthyology</publisher>
<date>1913</date>
<date>1996-04-15</date>
<date>1997-30-04</date>
<identifier>AMNH-ICH 6248</identifier>
<coverage>03 45</coverage>
<coverage>29 43</coverage>
<rights>American Museum of Natural History Division of Vertebrate Zoology, Department of
Ichthyology</rights>
</dc-record>
```

NOTES:

1. SUBJECT terms are in this case drawn from the Library of Congress Subject Headings.
2. See example D-7 for note on COVERAGE. This example illustrates the ambiguity of using degrees, minutes and seconds to indicate latitude and longitude in DC Simple. These two coordinates, taken together, could indicate four separate points on the globe.

Example D-10: Record describing a specimen with multiple common names

```
<?xml version="1.0" ?>
<dc-record>
<title>Scutisorex somereni congicus</title>
<title>armored shrew</title>
<title>hero shrew</title>
<title>tundua</title>
<contributor>Chapin, James Paul</contributor>
<contributor>Lang, Herbert</contributor>
<subject>Insectivora</subject>
<subject>Soricidae</subject>
<subject>shrews</subject>
<publisher>American Museum of Natural History Division of Vertebrate Zoology Department of
Mammalogy</publisher>
<date>1914-07-20</date>
<type>physical object</type>
<type>original</type>
<type>natural</type>
<description>One specimen of Scutisorex somereni congicus (Thomas, 1913). English names:
armored shrew or hero shrew. Zande name: tundua, collected 7/20/1914 at Medje, Congo
(Democratic Republic) by the American Museum Congo Expedition.</description>
<identifier>AMNH-MAM 48451</identifier>
<coverage>Congo (Democratic Republic) -- Haut Zaire -- Medje</coverage>
<coverage>2.4166667</coverage>
<coverage>27.3</coverage>
<rights>American Museum of Natural History</rights>
</dc-record>
```


Example D-11: Record describing a specimen with multiple scientific names

```
<?xml version="1.0" ?>
<dc-record>
<title>Ceratotherium simum cottoni </title>
<title>Rhinoceros simus </title>
<title>white rhinoceros </title>
<title>square-lipped rhinoceros </title>
<contributor>Chapin, James Paul</contributor>
<contributor>Lang, Herbert</contributor>
<subject>Perissodactyla </subject>
<subject>Rhinocerotidae </subject>
<subject>rhinoceroses</subject>
<publisher>American Museum of Natural History Division of Vertebrate Zoology Department of
Mammalogy</publisher>
<date>1912-08-13</date>
<type>physical object</type>
<type>original</type>
<type>natural</type>
<description> One specimen of Ceratotherium simum cottoni (Gray, 1868), white rhinoceros,
or square-lipped rhinoceros, collected 8/13/1912 at Faradje, Congo (Democratic Republic) by
the American Museum Congo Expedition. Mistakenly identified in field notes as Rhinoceros
simus.</description>
<description>Herbert Lang's field notes: Skull and the two horns only; killed by Chief Marutha
[?]. Ant. horn 590; post horn 228 mm.</description>
<identifier>AMNH-MAM 51913</identifier>
<coverage>Congo (Democratic Republic) -- Haut Zaire -- Faradje</coverage>
<coverage>3.7333333</coverage>
<coverage>29.7166667</coverage>
<rights>American Museum of Natural History</rights>
</dc-record>
```

Example D-12: Record describing a black and white photo of a natural specimen

```
<?xml version="1.0" ?>
<dc-record>
<type>Image</type>
<type>surrogate</type>
<type>natural</type>
<format>4x5</format>
<format>black and white negative</format>
<title>Mormyrus caballus</title>
<description>Black and white field photo of fish, Mormyrus, 48 cm long [Mormyrus caballus].
Captioned: Back dark greenish, with golden reflections on sides. Ventral surface purplish gray;
sides of head light gray; mouth grayish; fins bluish gray. Taken by Herbert Lang (1879-1957).
Date: 11/1912. Locality: Faradje, Congo Belge [Congo (Democratic Republic)]. Expedition:
Congo Expedition 1909-1915 [American Museum Congo Expedition 1909-1915]. Cat. No.
463.</description>
<description>Black and white glass photonegative</description>
<subject>mormyridae</subject>
<subject>Mormyriiformes</subject>
<subject>Congo (Democratic Republic) – Haut Zaire -- Faradje</subject>
<subject>Fish</subject>
<creator>Lang, Herbert</creator>
<publisher>American Museum of Natural History Library Special Collections</publisher>
<date>1912-11</date>
<identifier>AMNH-LIB 227370</identifier>
<source>AMNH-ICH 6649 </source>
<relation>IsFormatOf AMNH-ICH 6649</relation>
<rights>American Museum of Natural History Library Special Collections</rights>
</dc-record>
```

NOTES:

1. SUBJECT terms are in this case drawn from the Library of Congress Subject Headings and the AMNH Department of Ichthyology database.
2. IDENTIFIER, SOURCE and RELATION: see IDENTIFIER note under example D-5.

Example D-13: Record describing an ethnographic object

```
<?xml version="1.0" ?>
<dc-record>
<type>Physical object</type>
<type>original</type>
<type>cultural</type>
<format>L:81 W:52 H:2</format>
<title>Kite, insect, fly ? </title>
<description>Kite, L:81 W:52 H:2, collected in China by Berthold Laufer (1874-1934) in 1903,
depicting an insect, possibly a fly. Materials: paper, bamboo, pigment, string, masking tape
(modern), metal (modern). Native term: Ts'ang Yin [Shang-Yin?].</description>
<subject>Kites</subject>
<subject>Insect</subject>
<subject>Fly</subject>
<contributor>Laufer, Berthold</contributor>
<publisher>American Museum of Natural History Division of Anthropology</publisher>
<date>1903</date>
<identifier>AMNH-ANT 70/10596</identifier>
<relation>HasFormat CD269/CD269/70/10596.PCD</relation>
<relation>HasFormat http://anthro.amnh.org/images/full/70/10596.jpg</relation>
<relation>HasFormat http://anthro.amnh.org/images/preview/70/10596.jpg</relation>
<relation>HasFormat http://anthro.amnh.org/images/thumbnails/70/10596.jpg</relation>
<relation>HasFormat AMNH-LIB 7683</relation>
<relation>HasFormat AMNH-LIB 338999</relation>
<rights>American Museum of Natural History Division of Anthropology</rights>
</dc-record>
```

NOTES:

1. The object's dimensions appear as a FORMAT.
2. DESCRIPTION text, including "Native term" are from the collector's original notes.
3. SUBJECT terms in this case from the Library of Congress Subject Headings.
4. Collector is listed as a CONTRIBUTOR.
5. IDENTIFIER and RELATION: see IDENTIFIER note under example D-5.

The first four RELATION fields describe digital surrogates of this object; the last two RELATION fields describe analog surrogates (color and b/w photographs) of the object.

Example D-14: Record describing a digital surrogate of ethnographic object

```
<?xml version="1.0" ?>
<dc-record>
<type>Image</type>
<type>surrogate</type>
<type>cultural</type>
<format>PCD ; Kodak Photo CD Image PAC</format>
<format>base 16</format>
<format>YCC color space</format>
<format>24-bit color</format>
<title>Digitized image of Kite, collected in China by Berthold Laufer in 1903, depicting an insect,
possibly a fly. </title>
<description>PhotoCD file format base 16, YCC color space, 24-bit color, ISO9660 CD-ROM.
Kite, collected in China by Berthold Laufer (1874-1934) in 1903, depicting an insect, possibly a
fly. Materials: paper, bamboo, pigment, string, masking tape (modern), metal (modern). Native
term: Ts'ang Yin [Shang-Yin?].</description>
<subject>Kites</subject>
<subject>Insect</subject>
<subject>Fly</subject>
<publisher>American Museum of Natural History Division of Anthropology Digital Imaging
Project</publisher>
<contributor>Laufer, Berthold</contributor>
<contributor>American Museum of Natural History Division of Anthropology</contributor>
<date>1997-12-05</date>
<date>1903</date>
<identifier>AMNH-ANT CD269/CD269/70/10596.PCD</identifier>
<relation>IsFormatOf AMNH-ANT 70/10596</relation>
<rights>American Museum of Natural History Division of Anthropology</rights>
</dc-record>
```

NOTES:

1. Technical metadata relating to image capture appears in FORMAT.
2. SUBJECT terms in this case from the Library of Congress Subject Headings.
3. Collector is listed as a CONTRIBUTOR.
4. RELATION in this case lists only the original object, and not the other surrogates of the object. The object record (Example D-12) lists all surrogates.

IDENTIFIER and RELATION: see IDENTIFIER note under example D-5.

Example D-15: Record describing a digital surrogate (full resolution JPEG image) of an ethnographic object

```
<?xml version="1.0" ?>
<dc-record>
<type>Image</type>
<type>surrogate</type>
<type>cultural</type>
<format>JPEG</format>
<format>RGB color space</format>
<format>24-bit color</format>
<format>512x768 pixels</format>
<title>Digitized image of Kite, collected in China by Berthold Laufer in 1903, depicting an insect, possibly a fly. </title>
<description>JPEG file format, RGB color space, 24-bit color, 512x768 pixels. Kite, collected in China by Berthold Laufer (1874-1934) in 1903, depicting an insect, possibly a fly. Materials: paper, bamboo, pigment, string, masking tape (modern), metal (modern). Native term: Ts'ang Yin [Shang-Yin?].</description>
<subject>Kites</subject>
<subject>Insect</subject>
<subject>Fly</subject>
<publisher>American Museum of Natural History Division of Anthropology Digital Imaging Project</publisher>
<contributor>Laufer, Berthold</contributor>
<contributor>American Museum of Natural History Division of Anthropology</contributor>
<date>1997-12-05</date>
<date>1903</date>
<identifier>AMNH-ANT 10596.JPG</identifier>
<identifier>http://anthro.amnh.org/images/full/70/AMNH\_10596.jpg</identifier>
<relation>IsFormatOf AMNH-ANT 70/10596</relation>
<rights>American Museum of Natural History Division of Anthropology</rights>
</dc-record>
```

NOTES:

1. Technical metadata relating to image capture appears in FORMAT.
2. SUBJECT terms in this case from the Library of Congress Subject Headings.
3. Collector is listed as a CONTRIBUTOR.
4. The Web address at which this digital image can be viewed is under IDENTIFIER. IDENTIFIER and RELATION: see IDENTIFIER note under example D-5.

APPENDIX E

XML DTD USED IN CIMI DC TEST BED

Consortium for the Computer Interchange of Museum Information (CIMI)
Guide to Best Practice: Dublin Core (DC 1.0 = RFC 2413)

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```
<?xml version="1.0" ?>
<!-- Dublin Core Metadata Element Set Version 1.1
[http://purl.org/dc/documents/rec-dces-19990702.htm] -->
<!-- Based on CIMI Guide to Best Practice Version 1.1 2000-04-21
[http://www.cimi.org/documents/meta_bestprac_final_ann_v1_1.html] -->
<!ELEMENT record-list (dc-record*) >
<!ELEMENT dc-record (title | creator | subject | description | publisher |
contributor | date | type | format | identifier | source |
language | relation | coverage | rights)* >
<!ELEMENT title (#PCDATA) >
<!ELEMENT creator (#PCDATA) >
<!ELEMENT subject (#PCDATA) >
<!ELEMENT description (#PCDATA) >
<!ELEMENT publisher (#PCDATA) >
<!ELEMENT contributor (#PCDATA) >
<!ELEMENT date (#PCDATA) >
<!ELEMENT type (#PCDATA) >
<!ELEMENT format (#PCDATA) >
<!ELEMENT identifier (#PCDATA) >
<!ELEMENT source (#PCDATA) >
<!ELEMENT language (#PCDATA) >
<!ELEMENT relation (#PCDATA) >
<!ELEMENT coverage (#PCDATA) >
<!ELEMENT rights (#PCDATA) >
```

Statement of use:

XML syntax is case sensitive. Please refer to the syntax guidelines located at the W3C web site <<http://www.w3.org/TR/1999/PR-rdf-syntax-19990105/#usage>>. CIMI has chosen to use lower case for all XML representations in this document.

APPENDIX F

DC Record Relationships

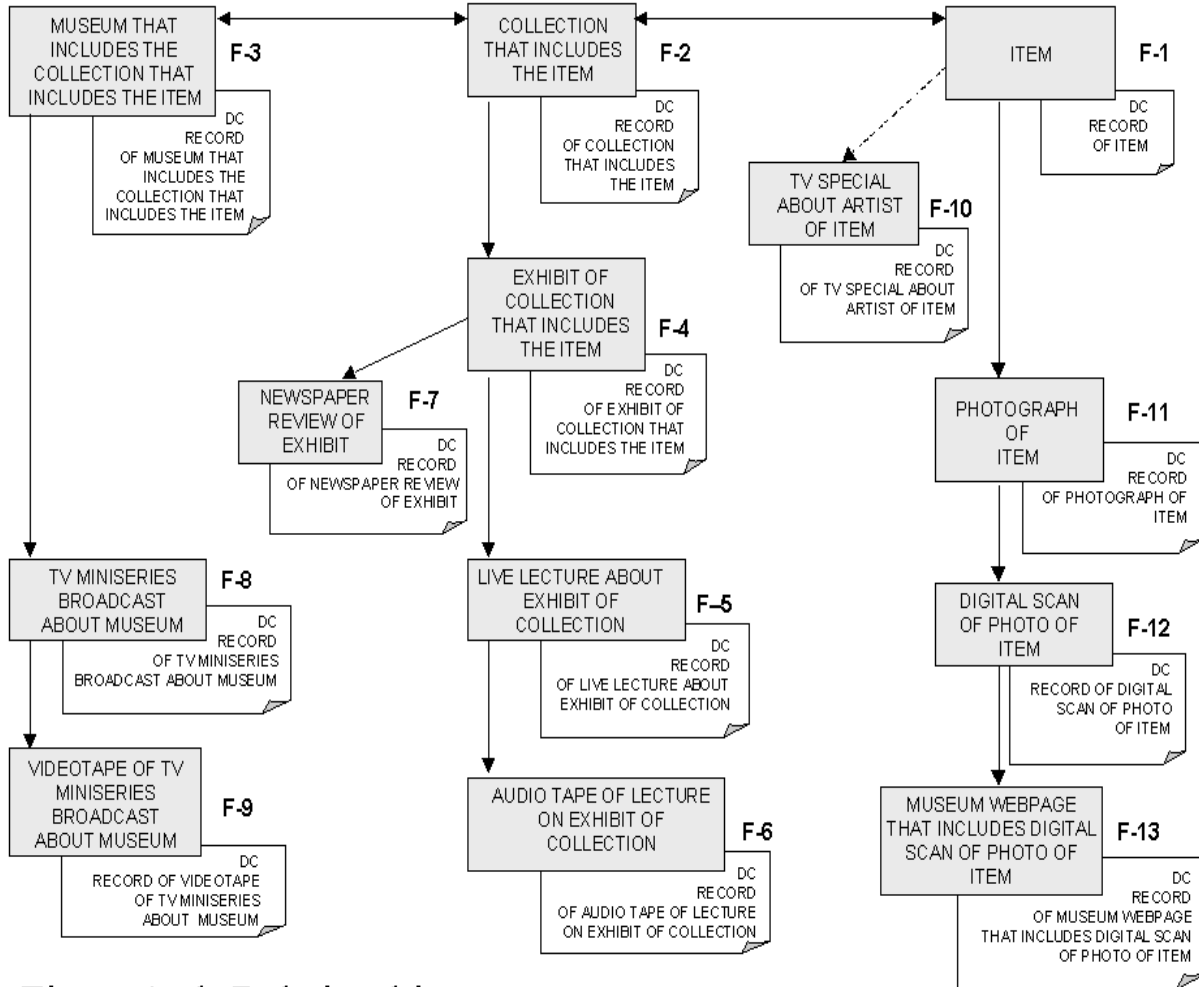


Figure 1: dc Relationships

FIG1.PPT

**DC RECORD RELATIONSHIPS - FIGURE F-1
ITEM**

```
<?xml version="1.0" ?>
<dc-record>
<type>image</type>
<type>physical object</type>
<type>original</type>
<type>cultural</type>
<format>174 x 175.3 cm (66 1/8 x 69 inches)</format>
<title>No. 86 (Violet, black, violet)</title>
<description>Bob Law, No. 86 (Violet, black, violet), (1970), monochrome dark painting, 174 x
175.3 cm (66 1/8 x 69 inches)</description>
<subject>visual works</subject>
<subject>paintings</subject>
<subject>Panza Collection</subject>
<subject>Law, Bob</subject>
<subject>minimalism</subject>
<creator>Law, Bob</creator>
<contributor>Panza di Biumo, Giuseppe</contributor>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1970</date>
<identifier>SRG 91.3737</identifier>
<relation>IsPartOf Panza Collection</relation>
<rights>Solomon R. Guggenheim Museum</rights>
<rights>Panza Collection, 1991</rights>
</dc-record>
```

**DC RECORD RELATIONSHIPS - FIGURE F-2
COLLECTION THAT INCLUDES THE ITEM**

```
<?xml version="1.0" ?>
<dc-record>
<type>collection</type>
<type>original</type>
<type>cultural</type>
<title>Panza Collection</title>
<description>In 1990 the Solomon R. Guggenheim Museum acquired the important Giuseppe
Panza di Biumo collection of more than seven hundred works of American Minimalist art from
the 1960s and 1970s.</description>
<subject>installations</subject>
<subject>sculpture</subject>
<subject>visual works</subject>
<subject>Panza di Biumo, Giuseppe</subject>
<subject>Art and Language</subject>
<subject>Andre, Carl</subject>
<subject>Barry, Robert</subject>
<subject>Bell, Larry</subject>
<subject>Beuys, Joseph</subject>
<subject>Brewster, Michael</subject>
<subject>Brouwn, Stanley</subject>
<subject>Burgin, Victor</subject>
<subject>De Maria, Walter</subject>
<subject>Dibbets, Jan</subject>
<subject>Charlton, Alan</subject>
<subject>Darboven, Hanne</subject>
<subject>Flavin, Dan</subject>
<subject>Fulton, Hamish</subject>
<subject>Heighstein, Jene</subject>
<subject>Heubler, Douglas</subject>
<subject>Irwin, Robert</subject>
<subject>Joseph, Peter</subject>
<subject>Judd, Donald</subject>
<subject>Kosuth, Joseph</subject>
<subject>Law, Bob</subject>
<subject>LeWitt, Sol</subject>
<subject>Long, Richard</subject>
<subject>Mangold, Robert</subject>
<subject>Marden, Brice</subject>
<subject>Mochetti, Maurizio</subject>
<subject>Morris, Robert</subject>
<subject>Nauman, Bruce</subject>
<subject>Nonas, Richard</subject>
<subject>Nordman, Maria</subject>
```

<subject>On Kawara</subject>
<subject>Opalka, Roman</subject>
<subject>Orr, Eric</subject>
<subject>Ryman, Robert</subject>
<subject>Serra, Richard</subject>
<subject>Shapiro, Joel</subject>
<subject>Tavernari, Vittorio</subject>
<subject>Tivey, Hap</subject>
<subject>Tremlett, David</subject>
<subject>Turrell, James</subject>
<subject>Vogel, Susan Kaiser</subject>
<subject>Webster, Meg</subject>
<subject>Weiner, Lawrence</subject>
<subject>Wheeler, Doug</subject>
<subject>Wilson, Ian</subject>
<subject>collections</subject>
<subject>painting</subject>
<subject>photography</subject>
<subject>Abstract Expressionism</subject>
<subject>art, modern</subject>
<subject>environmental art</subject>
<subject>art and technology</subject>
<subject>conceptual art</subject>
<subject>Minimalism</subject>
<subject>Post-Painterly Abstraction</subject>
<subject>20th Century</subject>
<creator>Panza di Biumo, Giuseppe</creator>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1960/1970</date>
<identifier>Panza Collection</identifier>
<relation>IsPartOf Solomon R. Guggenheim Museum, New York, New York, USA</relation>
<rights>Solomon R. Guggenheim Museum</rights>
<rights>Panza Collection</rights>
</dc-record>

DC RECORD RELATIONSHIPS - FIGURE F-3
MUSEUM THAT INCLUDES COLLECTION THAT INCLUDES THE ITEM

```
<?xml version="1.0" ?>
<dc-record>
<type>party</type>
<type>original</type>
<type>cultural</type>
<title>Solomon R. Guggenheim Museum, 1071 Fifth Avenue, New York City, New York,
10028</title>
<description>The Solomon R. Guggenheim Museum, designed by Frank Lloyd Wright, is home
to one of the world's finest collections of modern and contemporary art. The Wright building, the
youngest to be designated a New York City landmark, is itself one of the greatest works of the
Guggenheim Collection. In 1943, Solomon R. Guggenheim commissioned Wright to design a
unique building to house his collection of avant-garde art. During the subsequent years of
planning and design, Wright applied his vision of fluid and organic architecture to the museum.
Construction began in 1957 and was completed in 1959, six months after Wright's death. The
museum has acquired several important collections, Justin K. Thannhauser, Peggy
Guggenheim, Giuseppe Panza di Biumo and works from the Robert Mapplethorpe
Foundation.</description>
<description>1071 Fifth Avenue, New York, NY, 10028</description>
<description>Sunday to Wednesday 10 a.m. - 6 p.m., Friday - Saturday 10 a.m., closed
Thursday</description>
<subject>New York, New York, USA</subject>
<subject>art museums</subject>
<subject>artworks</subject>
<subject>collections</subject>
<subject>galleries and museums</subject>
<subject>Museum of Nonobjective Painting</subject>
<subject>museums</subject>
<subject>organizations, nonprofit</subject>
<subject>Guggenheim, Peggy</subject>
<subject>Guggenheim, Solomon R.</subject>
<subject>Krens, Thomas</subject>
<subject>Brancusi, Constantin</subject>
<subject>Calder, Alexander</subject>
<subject>Chagall, Marc</subject>
<subject>Delaunay, Robert</subject>
<subject>Hilla von Rebay Foundation</subject>
<subject>Kandinsky, Wassily</subject>
<subject>Klee, Paul</subject>
<subject>Mapplethorpe, Robert</subject>
<subject>Messer, Thomas M.</subject>
<subject>Miro, Joan</subject>
<subject>Panza di Biumo, Giuseppe</subject>
<subject>Picasso, Pablo</subject>
```

Consortium for the Computer Interchange of Museum Information (CIMI)
Guide to Best Practice: Dublin Core (DC 1.0 = RFC 2413)

Version 1.1
21 April 2000

```
<subject>Thannhauser collection</subject>
<subject>Thannhauser, Hilde</subject>
<subject>Thannhauser, Justin K.</subject>
<subject>Wright, Frank Lloyd</subject>
<subject>conceptual art</subject>
<subject>post-1945 fine arts styles and movements</subject>
<subject>nonobjective art</subject>
<subject>20th century</subject>
<creator>Guggenheim, Solomon R.</creator>
<contributor>Wright, Frank Lloyd</contributor>
<contributor>Thannhauser, Justin K.</contributor>
<contributor>Thannhauser, Hilde</contributor>
<contributor>Guggenheim, Peggy</contributor>
<contributor>Panza di Biumo, Giuseppe</contributor>
<contributor>Mapplethorpe Foundation, Robert</contributor>
<contributor>Guggenheim, Solomon R.</contributor>
<contributor>Messer, Thomas M.</contributor>
<contributor>Krens, Thomas</contributor>
<contributor>Rebay, Hilla Von</contributor>
<contributor>Sweeney, James Johnson</contributor>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1937</date>
<identifier>Solomon R. Guggenheim Museum, New York, New York, USA</identifier>
<relation>IsPartOf Solomon R. Guggenheim Museum</relation>
<relation>IsPartOf Solomon R. Guggenheim Foundation</relation>
<relation>References http://www.guggenheim.org</relation>
<rights>Solomon R. Guggenheim Museum</rights>
</dc-record>
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DC RECORD RELATIONSHIPS - FIGURE F-3
MUSEUM THAT INCLUDES COLLECTION THAT INCLUDES ITEM (alternate record)

```
<?xml version="1.0" ?>
<dc-record>
<type>place</type>
<type>original</type>
<type>cultural</type>
<title>Solomon R. Guggenheim Museum</title>
<description>The Solomon R. Guggenheim Museum is comprised of five related museums. In
addition to the New York City Fifth Avenue location, there is also Guggenheim SoHo, NYC,
Guggenheim Bilbao, Spain, Deutsche Guggenheim, Berlin, and the Peggy Guggenheim
Collection, Italy</description>
<subject>Bilbao, Spain</subject>
<subject>Berlin, Germany</subject>
<subject>New York, New York, USA</subject>
<subject>Venice, Italy</subject>
<subject>art museums</subject>
<subject>artworks</subject>
<subject>collections</subject>
<subject>galleries and museums</subject>
<subject>Museum of Nonobjective Painting</subject>
<subject>museums</subject>
<subject>organizations, nonprofit</subject>
<subject>Guggenheim, Peggy</subject>
<subject>Guggenheim, Solomon R.</subject>
<subject>Krens, Thomas</subject>
<subject>Brancusi, Constantin</subject>
<subject>Calder, Alexander</subject>
<subject>Chagall, Marc</subject>
<subject>Delaunay, Robert</subject>
<subject>Hilla von Rebay Foundation</subject>
<subject>Kandinsky, Wassily</subject>
<subject>Klee, Paul</subject>
<subject>Mapplethorpe, Robert</subject>
<subject>Messer, Thomas M.</subject>
<subject>Miro, Joan</subject>
<subject>Panza di Biumo, Giuseppe</subject>
<subject>Picasso, Pablo</subject>
<subject>Thannhauser collection</subject>
<subject>Thannhauser, Hilde</subject>
<subject>Thannhauser, Justin K.</subject>
<subject>Wright, Frank Lloyd</subject>
<subject>concept art</subject>
<subject>post-1945 fine arts styles and movements</subject>
<subject>nonobjective art</subject>
```

```
<subject>20th century</subject>
<creator>Guggenheim, Solomon R.</creator>
<contributor>Wright, Frank Lloyd</contributor>
<contributor>Thannhauser, Justin K.</contributor>
<contributor>Thannhauser, Hilde</contributor>
<contributor>Guggenheim, Peggy</contributor>
<contributor>Panza di Biumo, Giuseppe</contributor>
<contributor>Mapplethorpe Foundation, Robert</contributor>
<contributor>Guggenheim, Solomon R.</contributor>
<contributor>Messer, Thomas M.</contributor>
<contributor>Krens, Thomas</contributor>
<contributor>Rebay, Hilla Von</contributor>
<contributor>Sweeney, James Johnson</contributor>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1920</date>
<identifier>Solomon R. Guggenheim Museum</identifier>
<relation>IsPartOf Solomon R. Guggenheim Foundation</relation>
<relation>References http://www.guggenheim.org</relation>
<rights>Solomon R. Guggenheim Museum</rights>
</dc-record>
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DC RECORD RELATIONSHIPS - FIGURE F-4
EXHIBIT OF COLLECTION THAT INCLUDES ITEM

```
<?xml version="1.0" ?>
<dc-record>
<type>event</type>
<type>original</type>
<type>cultural</type>
<title>The Panza Collection: Motorcycle Myth</title>
<description>The Panza Collection: Motorcycle Myth presents motorcycle imagery in the
Giuseppe Panza di Biumo collection. The abstract themes of rebellion, progress, freedom, sex,
and danger, are explored.</description>
<description>An exhibition created by the Solomon R. Guggenheim Museum on exhibition at
the Solomon R. Guggenheim Museum, New York with accompanying film series, tours, and
catalogue.</description>
<subject>motorcycles</subject>
<subject>exhibitions</subject>
<subject>Panza Collection</subject>
<subject>Panza di Biumo, Giuseppe</subject>
<subject>Charlton, Alan</subject>
<subject>Flavin, Dan</subject>
<subject>Judd, Donald</subject>
<subject>Law, Bob</subject>
<subject>Nauman, Bruce</subject>
<subject>Wheeler, Doug</subject>
<subject>Art and Language</subject>
<subject>art and technology</subject>
<subject>art, modern</subject>
<subject>minimal art</subject>
<subject>post-painterly abstraction</subject>
<subject>painting</subject>
<subject>photography</subject>
<subject>sculpture</subject>
<subject>20th century</subject>
<subject>1960/1979</subject>
<subject>collections</subject>
<creator>Solomon R. Guggenheim Museum</creator>
<contributor>Krens, Thomas</contributor>
<contributor>BMW</contributor>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1998/2000</date>
<identifier>The Panza Collection: Motorcycle Myth</identifier>
<relation>References http://www.guggenheim.org/motorcycle.html</relation>
<rights>Solomon R. Guggenheim Museum</rights>
</dc-record>
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DC RECORD RELATIONSHIPS - FIGURE F-5
LIVE LECTURE ABOUT EXHIBIT OF COLLECTION

```
<?xml version="1.0" ?>
<dc-record>
<type>event</type>
<type>original</type>
<type>cultural</type>
<format>2 hours</format>
<title>An Evening with Giuseppe Panza di Biumo, Solomon R. Guggenheim Museum, New
York</title>
<description>Art collector Giuseppe Panza di Biumo discuss art of the 1960's and
1970's.</description>
<subject>The Panza Collection: Motorcycle Myth</subject>
<subject>conceptual art</subject>
<subject>exhibitions</subject>
<subject>lectures</subject>
<subject>minimalism</subject>
<subject>motorcycles</subject>
<subject>popular culture</subject>
<subject>20th century</subject>
<creator>Panza di Biumo, Giuseppe</creator>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1998-05-16</date>
<identifier>SRG Panza di Biumo lecture 1998-05-16</identifier>
<relation>References http://www.guggenheim.org/events.html</relation>
<relation>References The Panza Collection: Motorcycle Myth</relation>
<language>en</language>
<rights>Solomon R. Guggenheim Museum</rights>
</dc-record>
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DC RECORD RELATIONSHIPS - FIGURE F-6
AUDIO TAPE OF LECTURE ON EXHIBIT OF COLLECTION

```
<?xml version="1.0" ?>
<dc-record>
<type>sound</type>
<type>physical object</type>
<type>surrogate</type>
<type>cultural</type>
<format>audio tape</format>
<format>2 hours</format>
<title>Audio tape of an Evening with Giuseppe Panza di Biumo, Solomon R. Guggenheim
Museum, New York</title>
<description>Art collector, Giuseppe Panza di Biumo discuss art of the 1960's and
1970's.</description>
<subject>An Evening with Giuseppe Panza di Biumo, Solomon R. Guggenheim Museum, New
York</subject>
<subject>The Panza Collection: Motorcycle Myth</subject>
<subject>conceptual art</subject>
<subject>Panza di Biumo, Giuseppe</subject>
<subject>exhibitions</subject>
<subject>lectures</subject>
<subject>minimalism</subject>
<subject>motorcycles</subject>
<subject>popular culture</subject>
<subject>20th century</subject>
<creator>Farm, Maxwell</creator>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1998-05-16</date>
<identifier>SRG audio tape 1198-05-16</identifier>
<source>SRG Panza di Biumo lecture 1998-05-16</source>
<relation>IsFormatOf SRG Panza di Biumo lecture 1998-05-16</relation>
<relation>References http://www.guggenheim.org/events.html</relation>
<language>en</language>
<rights>Solomon R. Guggenheim Museum</rights>
</dc-record>
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**DC RECORD RELATIONSHIPS - FIGURE F-7
NEWSPAPER REVIEW OF EXHIBIT**

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<?xml version="1.0" ?>
<dc-record>
<type>text</type>
<type>physical object</type>
<type>original</type>
<type>cultural</type>
<title>Review of The Panza Collection: Motorcycle Myth Exhibition</title>
<description>Sam Augustus, art critic for the Times reviews the Solomon R. Guggenheim
Museum's exhibition The Panza Collection: Motorcycle Myth</description>
<subject>The Panza Collection: Motorcycle Myth</subject>
<subject>conceptual art</subject>
<subject>exhibitions</subject>
<subject>minimalism</subject>
<subject>motorcycles</subject>
<subject>reviews</subject>
<subject>20th century</subject>
<creator>Augustus, Sam</creator>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1998-05-18</date>
<identifier>NYT Panza 1998-05-18</identifier>
<relation>References The Panza Collection: Motorcycle Myth</relation>
<language>en</language>
<rights>copyright New York Times</rights>
</dc-record>
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DC RECORD RELATIONSHIPS - FIGURE F-8
TV MINISERIES BROADCAST ABOUT MUSEUM

```
<?xml version="1.0" ?>
<dc-record>
<type>image</type>
<type>sound</type>
<type>event</type>
<type>original</type>
<type>cultural</type>
<format>60 minutes</format>
<title>TV Miniseries Broadcast of the Making of the Guggenheim Museums</title>
<description>A five part series that traces the growth of the Solomon R. Guggenheim Museum
from its founding in 1937 to its present five locations. Each segment features one of the five
Guggenheim museums; New York on Fifth, New York, SoHo, Guggenheim Bilbao in Spain,
Deutsche Guggenheim in Berlin, and the Peggy Guggenheim Collection in
Venice.</description>
<subject>television broadcast</subject>
<subject>Guggenheim, Solomon R.</subject>
<subject>Guggenheim Foundation, Solomon R.</subject>
<subject>Guggenheim Museum, Solomon R.</subject>
<subject>Bilbao, Spain</subject>
<subject>Berlin, Germany</subject>
<subject>New York, New York, USA</subject>
<subject>Venice, Italy</subject>
<subject>art museums</subject>
<subject>organizations, nonprofit</subject>
<subject>artworks</subject>
<subject>conceptual art</subject>
<subject>Museum of Nonobjective Painting</subject>
<subject>television series</subject>
<subject>20th Century</subject>
<creator>XYZ Network</creator>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1999-02-05</date>
<identifier>SRG XYZ Network broadcast 1999-02-05</identifier>
<source>SRG Guggenheim 5-part series</source>
<source>IsFormatOf SRG Guggenheim 5-part series</source>
<relation>References Solomon R. Guggenheim Museum</relation>
<rights>Solomon R. Guggenheim Museum</rights>
</dc-record>
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DC RECORD RELATIONSHIPS - FIGURE F-9
VIDEOTAPE OF TV MINISERIES BROADCAST ABOUT MUSEUM

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<?xml version="1.0" ?>
<dc-record>
<type>image</type>
<type>sound</type>
<type>physical object</type>
<type>surrogate</type>
<type>cultural</type>
<format>VHS/ BetaSP/ Digital Betacam</format>
<format>60 minutes</format>
<title>Videotape of a TV Miniseries Broadcast of the Making of the Guggenheim
Museums</title>
<description>A five part series that traces the growth of the Solomon R. Guggenheim Museum
from its founding in 1937 to its present five locations. Each segment features one of the five
Guggenheim museums; New York on Fifth, New York, SoHo, Guggenheim Bilbao in Spain,
Deutsche Guggenheim in Berlin, and the Peggy Guggenheim Collection in
Venice.</description>
<subject>TV Miniseries Broadcast of the Making of the Guggenheim Museums</subject>
<subject>Guggenheim, Solomon R.</subject>
<subject>Guggenheim Foundation, Solomon R.</subject>
<subject>Guggenheim Museum, Solomon R.</subject>
<subject>Bilbao, Spain</subject>
<subject>Berlin, Germany</subject>
<subject>New York, New York, USA</subject>
<subject>Venice, Italy</subject>
<subject>art museums</subject>
<subject>organizations, nonprofit</subject>
<subject>artworks</subject>
<subject>conceptual art</subject>
<subject>Museum of Nonobjective Painting</subject>
<subject>television series</subject>
<subject>20th century</subject>
<subject>XYZ Network</subject>
<creator>Wash, Stan</creator>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1999-02-05</date>
<identifier>SRG videotape XYZ Network broadcast 1999-02-05</identifier>
<source>SRG Guggenheim XYZ Network broadcast 1999-02-05</source>
<relation>IsFormatOf SRG Guggenheim XYZ Network broadcast 1999-02-05</relation>
<relation>References Solomon R. Guggenheim Museum</relation>
<rights>Solomon R. Guggenheim Museum</rights>
</dc-record>
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DC RECORD RELATIONSHIPS - FIGURE F-10
TV SPECIAL ABOUT ARTIST OF ITEM

```
<?xml version="1.0" ?>
<dc-record>
<type>image</type>
<type>sound</type>
<type>event</type>
<type>surrogate</type>
<type>cultural</type>
<format>60 minutes</format>
<title>An Interview with Dan Flavin</title>
<description>One hour interview with Dan Flavin at the Solomon R. Guggenheim
Museum.</description>
<subject>Flavin, Dan</subject>
<subject>neon</subject>
<subject>Panza di Biumo, Giuseppe</subject>
<subject>visual works</subject>
<creator>XYZ Network</creator>
<contributor>Flavin, Dan</contributor>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1998-10-10</date>
<identifier>Flavin interview XYZ broadcast 1998-10-10</identifier>
<source>Flavin interview 1998-10-10</source>
<relation>IsFormatOf Flavin interview 1998-10-10</relation>
<relation>References Panza Collection</relation>
<rights>copyright XYZ Network</rights>
</dc-record>
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DC RECORD RELATIONSHIPS - FIGURE F-11
PHOTOGRAPH OF ITEM

```
<?xml version="1.0" ?>
<dc-record>
<type>image</type>
<type>surrogate</type>
<type>physical object</type>
<type>surrogate</type>
<type>cultural</type>
<format>photograph</format>
<format>4 x 5</format>
<title>Photograph of No. 86 (Violet, black, violet)</title>
<subject>No. 86 (Violet, black, violet)</subject>
<subject>paintings</subject>
<subject>Panza Collection</subject>
<subject>Law, Bob</subject>
<subject>minimalism</subject>
<subject>visual works</subject>
<creator>Fine, Sal</creator>
<publisher>Guggenheim Museum, Solomon R.</publisher>
<date>1999-01-10</date>
<identifier>SRG 91.3737 photo</identifier>
<source>SRG 91.3737</source>
<relation>IsFormatOf SRG 91.3737</relation>
<rights>Solomon R. Guggenheim Museum</rights>
</dc-record>
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DC RECORD RELATIONSHIPS - FIGURE F-12
DIGITAL SCAN OF PHOTOGRAPH OF ITEM

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<?xml version="1.0" ?>
<dc-record>
<type>image</type>
<type>surrogate</type>
<type>cultural</type>
<format>image/JPEG</format>
<format>384 x 256</format>
<title>Digital Image of No. 86 (Violet, black, violet)</title>
<subject>No. 86 (Violet, black, violet)</subject>
<subject>paintings</subject>
<subject>Panza Collection</subject>
<subject>Law, Bob</subject>
<subject>minimalism</subject>
<subject>Fine, Sal</subject>
<subject>visual works</subject>
<creator>Fast, Kenneth</creator>
<publisher>Guggenheim Museum, Solomon R.</publisher>
<date>1999</date>
<identifier>SRG 91.3737.jpg</identifier>
<source>SRG 91.3737 photo</source>
<relation>IsFormatOf SRG 91.3737 photo</relation>
<rights>Solomon R. Guggenheim Museum</rights>
</dc-record>
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DC RECORD RELATIONSHIPS - FIGURE F-13
MUSEUM WEB PAGE THAT INCLUDES DIGITAL SCAN OF PHOTOGRAPH OF ITEM

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<dc-record>
<type>original</type>
<type>cultural</type>
<format>html/text</format>
<description>web page for Digital Image of No. 86 (Violet, black, violet)</description>
<description>1970</description>
<subject>visual works-paintings</subject>
<subject>Solomon R. Guggenheim Museum</subject>
<subject>Panza Collection</subject>
<subject>monochrome</subject>
<subject>paintings</subject>
<subject>Law, Bob</subject>
<subject>No.86 (Violet, black, violet)</subject>
<subject>1970</subject>
<subject>384x256</subject>
<creator>Fast, Kenneth</creator>
<publisher>Solomon R. Guggenheim Museum</publisher>
<date>1999-02-10</date>
<identifier>http://www.guggenheim.org/Panza/paintings/Law_91_3737.html</identifier>
<relation>References Panza Collection</relation>
<relation>References Solomon R. Guggenheim Museum</relation>
<relation>References SRG 91.3737.jpg</relation>
<relation>IsPartOf Solomon R. Guggenheim Museum web site</relation>
<rights>Solomon R. Guggenheim Museum</rights>
<rights>Panza Collection, 1991</rights>
</dc-record>
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