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# Information and documentation — A reference ontology for the interchange of cultural heritage information

Informatiques et documentation — Un ontologie de référence pour l'échange des informations du patrimoine culturelle

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# **Foreword**

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

ISO 21127 was prepared by Technical Committee ISO/TC 46, Computer applications in information and documentation, Subcommittee SC 4, Technical interoperability, in collaboration with the International Council of Museums Committee for Documentation (ICOM CIDOC).

# Introduction

Development of ISO 21127 began in 1994 and is primarily the result of work undertaken by members of the ICOM/CIDOC documentation standards group. Throughout its development, the model has been known as the "CIDOC Conceptual Reference Model" or CRM. References to the CRM can be considered throughout as synonymous with ISO 21127.

The primary purpose of ISO 21127 is to offer a conceptual basis for the mediation of information between cultural heritage organizations such as museums, libraries and archives. The standard aims to provide a common reference point against which divergent and incompatible sources of information can be compared and, ultimately, harmonized.

ISO 21127 is a domain ontology <sup>1)</sup> for cultural heritage information. As such, it is designed to be explanatory and extensible rather than prescriptive and restrictive. Currently, no specific formalism for semantic models has been widely accepted as standard, nevertheless the semantic deviations between the various available models are minimal. Consequently, the model has been formulated as an object-oriented semantic model, which can easily be converted into other object-oriented models. It is our intention that this presentation format should be both natural and expressive for domain experts, and easily converted to other machine readable formats such as RDF and XML. Considerable effort has gone into achieving these goals; all cross-references and inheritance of properties, for example, are explicitly resolved. This has led to a certain degree of redundancy, but makes the document more readily comprehensible and facilitates its use as a reference document.

The standard is intended to cover all concepts relevant to cultural heritage information, but most particularly those needed for wide area data exchange between museums, libraries, and archives. Due to the diversity of the subject matter and the nature of cultural heritage collections, this goal can ultimately be achieved only by extensions to the standard. However, thanks to its object-oriented nature, the ontology offers a backbone of powerful general concepts, which have a wide application.

Of necessity, some concepts are less thoroughly elaborated than others. This is a natural consequence of focusing on specific functionality in an intrinsically unlimited field. These 'undeveloped' concepts can be considered as hookin points for extensions compatible with the model. However, even without these extensions, this version of the standard is nevertheless 'complete' in that, through the use of free text fields, it allows information to be captured which is not modelled explicitly. Indeed, some information has deliberately not been developed into formal properties or links. This approach is preferable when detailed, targeted queries are not expected; a good text description, drawing, or diagram often provides a better source of information. In general, only those concepts on which formal querying is required need to be made explicit, rather than all the information that needs to be stored and retrieved.

<sup>1)</sup> In the sense used in computer science i.e. it describes in a formal language the relevant explicit and implicit concepts and the relationships between them.

COMMITTEE DRAFT ISO/CD 21127

# Information and documentation — A reference ontology for the interchange of cultural heritage information

# 1 Scope

ISO 21127 applies to all information required for the scientific documentation of cultural heritage collections, with a view to enabling wide area information exchange and integration of heterogeneous sources. This definition requires some explanation.

The term scientific documentation is intended to convey the requirement that the depth and quality of descriptive information which can be handled by the CRM should be sufficient for serious academic research into a given field and not merely that required for casual browsing. This does not mean that information intended for presentation to members of the general public is excluded, but rather that the standard is intended to provide the level of detail and precision expected and required by museum professionals and researchers in the field of cultural heritage information.

The term cultural heritage collections is intended to cover all types of material collected and displayed by museums and related institutions, as defined by ICOM  $(\underline{1})$ . This includes collections, sites, and monuments relating to natural history, ethnography, archaeology, and historic monuments, as well as collections of fine and applied arts.

The detailed description and documentation of collections held by libraries and archives lies outside the scope of the standard. However, the *exchange* of information relevant to museum collections with libraries and archives falls within the scope of the standard.

The documentation of collections is intended to encompass the detailed description both of individual items within collections as well as groups of items and collections as a whole. The scope of the ontology is the curated knowledge of museums. Information required solely for the administration and management of cultural heritage institutions, such as information relating to personnel, accounting, and visitor statistics, falls outside the intended scope.

The standard is specifically intended to cover contextual information: the historical, geographical, and theoretical background in which individual items are placed and which gives them much of their significance and value.

The goal of enabling information exchange and integration between heterogeneous sources determines the constructs and level of detail of the standard. It also determines its perspective, which is necessarily suprainstitutional and abstracted from any specific local context.

The standard aims to leverage contemporary technology while enabling communication with legacy systems.

#### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3166:1998, Codes for the representation of names of countries and their subdivisions

ISO 639:1988, Codes for the representation of names of languages

ISO 31:1992, Quantities and units

ISO 1000:1992, SI units and recommendations for the use of their multiples and of certain other units

ISO 2108:1992, Information and documentation — International standard book numbering (ISBN)

ISO 3297:1998, Information and documentation — International standard serial number (ISSN)

ISO 15707:2001, Information and documentation — International Standard Musical Work Code (ISWC)

#### 3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply. We have selected these terms from the various terminologies in use for object-oriented models for ease of understanding by non-computer experts:

#### 3.1

#### **Entity**

anything that may be called "class", "entity", or "node"

#### 3.2

#### **Abstract Entity**

an entity which would not normally have any instances and which serves primarily as a means of grouping subentities

#### 3.3

# **Property**

anything that may be called "attribute", "reference", "link", or "property"

#### 3.4

# Superclass - Subclass

relations refer to "isA" relations, "subclass – superclass", " parent class – derived class", "generalization – specialization", etc.

### 3.5

#### Superproperty - Subproperty

the same hierarchical notion as "superclass - subclass", when applied to properties

#### 4 Structure and format

#### 4.1 Cardinality constraints

Cardinality constraints are deliberately omitted as they are considered to be implementation details with only minimal explanatory value. By default, all properties (or links) are regarded as **optional**, and potentially **multiple**. For example, several persons together may transfer ownership of a set of objects in one legal act to another group of persons. Alternatively, ownership may be acquired from nobody, but by collection. (See entity E8).

# 4.2 Properties

Properties are strictly **inherited** to subclasses (entities again). This applies symmetrically to both entities to the connecting link. Any instance of a subclass can instantiate inherited properties, and any instance of a property can reference a subclass of an entity to which it points.

Properties may themselves have properties, which point to other entities. Typically, these property links are used for dynamically modified properties such as roles.

#### 4.3 CRM metamodel

The CRM is formulated in reference to a **metamodel**, such as that supported by TELOS. **"Metaclasses"** form sets of entities, typically used to handle lists of entities that form one subclass hierarchy. **"Metacategories"** are like property links between metaclasses and group properties by related meaning. For the current purposes of the **model**, references to the metamodel can simply be regarded as comments to assist reading.

# 4.4 Naming rules:

We have applied the following naming rules:

- a) Entities are named using initial capitals.
- b) Entities are named using noun phrases (nominal groups).
- c) Property links are named using lower case letters and are labelled in both directions.
- d) The direction of property links, and hence their names, are in accordance with the following priority list:

**Events** 

Objects

Actors

Other

- e) Property names are to be read from left to right and, in brackets, from right to left. Implementers can choose the appropriate name according to the orientation of their link attachment.
- f) Properties are named using verbal phrases. References to states are named in present tense, whereas actions are named in past tense.
- g) All entities are assigned a unique identifier of the form Enn. These identifiers are permanent and will not be changed in subsequent revisions of the standard. (These identifiers are also intended to facilitate exchange between different language versions.)

#### 4.5 Format of Entity declarations

Entity declarations use the following format:

- Entity names (terms) are presented as headings in bold face, preceded by the unique identifier.
- The line "Belongs to:" refers to the metaclass the entity is a member of.
- The line "Subclass of:" declares the superclass of the entity, from which it inherits properties.
- The line "Superclass of:" is a cross-reference to the following subclasses of this entity.
- The line "Scope note" contains the textual definition of the concept the entity represents.
- The title "Properties" announces the list of property links.
- Properties are grouped by related meaning under metacategories, i.e. a series of titles. E.g. "classifications" etc., in normal face.
- Each property is represented by its forward and backward name, and the entity it links to, separated by colon.

- Properties declared directly for the entity are given in bold face.
- Inherited properties are given in italics as cross-references to the respective superclasses for better comprehension.
- Inherited properties with a redefined (restricted) target entity are given in bold face italics.
- Each property may be followed by a scope note in indented text and smaller characters.
- Properties of properties are given in an indented position in parenthesis under the respective property.

The title "The entity is referenced by:" indicates the cross-reference list of properties with links pointing to this entity (in the sequence called "incoming links"). In cases where there is no such link, the phrase "The entity is not referenced" is used.

Each incoming property link is represented by the entity it originates from, and its forward and backward name, separated by a colon, in normal face.

The title "The entity inherits references:" indicates the cross-reference list of links pointing to any of the superclasses of this entity ("inherited incoming links").

Each inherited incoming property link is represented by the entity it originates from, and its forward and backward name, separated by a colon, in italics.

# 5 Entity hierarchy

# 5.1 Top level Entity

# E1 CRM Entity

Belongs to: Meta Entity
Superclass of: Temporal Entity

Existence Time-Span Place Dimension

Scope note: This is the abstract concept of the entities of our universe of discourse. It carries the rule that all

entities can be classified by a type, which further refines the specific subclass an instance belongs to, and a free text field for anything we want to express and that is not captured by

formal links.

#### **Properties:**

identification

# is identified by (identifies): Appellation

property note: this is the superproperty of "E19 Physical Object.(is identified by)", "E52 Time-Span.(is identified by)", "E53 Place.(is identified by)", "E71 Man-Made Stuff.(has title)".

classifications

has type (is type of): Type

other descriptions

has note: String (has type: Type)

# The entity is referenced by:

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)

(has type: Type)

# 5.2 Period Hierarchy

All entities in this hierarchy are instances of the metaclass "Period Type", which is the container for all these entities.

#### **E2** Temporal Entity

Belongs to: Period Type
Subclass of: CRM Entity
Superclass of: Condition State

Period

Scope note: This is an abstract entity and has no examples. It groups together things such as events, states,

and other phenomena which are limited in time. It is specialized into Period, which holds on

some geographic area, and Condition State, which holds for, on, or over a certain object.

#### **Properties:**

identification

is identified by (identifies): Appellation

classifications

has type (is type of): Type

temporal definitions

has time-span (is time-span of): Time-Span

other descriptions

has note: String (has type: Type)

#### The entity is not referenced.

#### The entity inherits references:

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)

(has type: Type)

# E3 Condition State

Belongs to: Period Type Subclass of: Temporal Entity

Scope note: The state of an object characterized by a certain condition and a time-span, e.g. "In ruins from

1695 until 1952", where the qualifier "in ruins" is represented as the condition state type.

# **Properties:**

identifications

is identified by (identifies):Appellation

classifications

has type (is type of): Type

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Condition State falls within (contains): Condition State

other descriptions

has note: String (has type: Type)

#### The entity is referenced by:

Condition Assessment: has identified (identified by) Physical Stuff: has condition (condition of)

and itself

#### The entity inherits references:

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

#### E4 Period

Belongs to: Period Type Subclass of: Temporal Entity

Superclass of: Event

Scope note: A period is characterized by a coherent set of phenomena and or manifestations (explicitly

intended or not), which are assumed to have taken place over a certain space and time.

Examples: glacial period, bronze period, Ming Dynasty, Impressionism, Neolithic Period, McCarthy Era,

The Sixties, Nineveh, 'Sturm und Drang'

There are different opinions as to whether a 'style' is defined by physical features or by the historical context.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

spatial definitions

took place at (witnessed): Place

property note: this is the superproperty of "moved to", "moved from", spatial definitions, short cut

took place on or within (witnessed): Physical Object

property note: It is short cut of the "Section Definition"

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String (has type: Type)

# The entity is referenced only by itself.

#### The entity inherits references:

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)

(has type: Type)

#### E5 Event

Belongs to: Period Type Subclass of: Period

Superclass of: End of Existence

Beginning of Existence

Activity

Scope note: A change of state in cultural, social, or physical systems, regardless of scale, brought about by

a series or group of coherent physical, cultural, technological, or legal phenomena. The distinction between an event and a period is partly a question of scale. Viewed at a broad scale, an event is an 'instantaneous' change of state. At a fine scale, the event can be analyzed into its component phenomena within a space and time frame, i.e., a period. The reverse is not

necessarily the case; not all periods give rise to a noteworthy change of state.

Examples: World War II, Battle of Stalingrad, Earthquake in Lisbon, birth of Cleopatra, my birthday

celebration 28-6-1995, the Yalta Conference, "a tile fell from my roof", the CIDOC Conference

2005

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

#### had participants (participated in):Actor

<u>property note:</u> this is the superproperty of "carried out by", "has formed", "by mother", "brought into life", "dissolved", "was death".

passive participants

# occurred in the presence of (was present at): Stuff

<u>property note:</u> this is the superproperty of "destroyed", "used object", "transferred title of", "moved", "transferred custody of", "has modified", "concerned", "registered", "measured", "has created".

spatial definitions

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String (has type: Type)

# The entity is referenced by:

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction: Type)

#### The entity inherits references:

Period: consists of (forms part of) Period: falls within (contains)

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

#### **E6** Destruction

Belongs to: Period Type Subclass of: End of Existence

Scope note: An event which causes one or more objects to lose their identity as the current subjects of

documentation. Some destructions are intentional, others are independent of human activity. The decision as to the point at which an object is destroyed rather than modified may be arbitrary in some cases. The same event may, in some cases, be documented both as a destruction of one or more objects and as the creation of others using parts or material from the original, or, alternatively, as a modification. In the former case, the object record would close; in

the latter, it would continue. For living beings, death is usually more clearly defined.

Examples: the Lisbon Earthquake, the destruction of Nineveh, "I broke a champagne glass yesterday", the

shooting of the last wolf in Germany in 1729

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor

passive participants

# destroyed (was destroyed by): Physical Object

property note: this is the subproperty of "occurred in the presence of", "took out of existence"

took out of existence (was taken out of existence by): Existence

occurred in the presence of (was present at): Stuff

spatial definitions

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period

falls within (contains): Period

other descriptions

has note: String (has type: Type)

#### The entity is not referenced.

#### The entity inherits references:

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction : Type)

Period: falls within (contains)
Period: consists of (forms part of)

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

#### E7 Activity

Belongs to: Period Type
Subclass of: Event
Superclass of: Formation

**Conceptual Creation** 

Modification

Transfer of Custody

Acquisition Move

Attribute Assignment

Scope note:

An action or a series of actions, carried out by actors (people, groups or organizations) which follow a certain explicit or implicit intention and result as a collective effect in some change of state in the cultural, social, or physical systems we are interested in. This notion includes both complex and long lasting actions such as the building of a settlement or a war, as well as simple, short-lived actions such as the opening of a door. It does not include the notion of activity in the sense of professions and other non-targeted notions. These are seen rather as belonging to a part in the hierarchy above, E5 Event.

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

carried out by (performed): Actor

(in the role of : Type)

<u>property note:</u> this is the superproperty of "transferred title to", "transferred title from", "custody surrendered by", "custody received by", and subproperty of "had participants".

had participants (participated in): Actor

passive participants

took into account (was taken into account by): Conceptual Object

property note: The equivalent of using something physical. May be better "used: Stuff".

used object (was used for): Physical Object

(mode of use: String)

property note: this is the subproperty of "occurred in the presence of".

occurred in the presence of (was present at):Stuff

motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

was intended use of (was made for): Man-Made Stuff

(mode of use: String)

had specific purpose (was purpose of): Activity

had as general purpose (was purpose of): Type

spatial definitions

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String (has type: Type)

# The entity is referenced only by itself.

# The entity inherits references:

Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type : Type)

# E8 Acquisition

Scope note:

Belongs to: Period Type Subclass of: Activity

•

one of the actors may be omitted, unknown, or not existing. The entity describes the beginning, the end, or the transfer of an ownership, acquisition from unknown source, or loss of title, depending on the circumstances. It takes a neutral position with respect to the actors involved. The museum notion of 'accession' seems to differ between institutions. We preferred therefore to model the notions of legal ownership and physical custody instead, which are well defined in international business. Institutions can choose to model their specific notions as combinations of

This entity describes the transfer of the legal ownership from one legal person to another. Either

these.

Annexation, donation, purchase, field collection — where legal title is appropriated by the

collector, are types of acquisition.

Examples: a fish collected in international waters, a painting bequeathed to a museum

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

transferred title to (acquired title of): Actor

property note: this is the subproperty of "carried out by"

transferred title from (surrendered title of): Actor

property note: this is the subproperty of "carried out by"

had participants (participated in): Actor

carried out by (performed): Actor

(in the role of : Type)

passive participants

#### transferred title of (changed ownership by): Physical Object

<u>property note:</u> this is the subproperty of "occurred in the presence of" took into account (was taken into account by): Conceptual Object

occurred in the presence of (was present at): Stuff

used object (was used for): Physical Object

(mode of use: String)

motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

was intended use of (was made for): Man-Made Stuff

(mode of use: String)

had specific purpose (was purpose of): Activity

had as general purpose (was purpose of): Type

spatial definitions

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String (has type: Type)

# The entity is not referenced.

# The entity inherits references:

Activity: had specific purpose (was purpose of)

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction: Type)

Period: consists of (forms part of) Period: falls within (contains)

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type : Type)

#### E9 Move

Belongs to: Period Type Subclass of: Activity

Scope note: This entity captures the change of physical location of a museum object for exhibitions,

conservation, reorganization, loans, study, etc.

Examples: Taking objects from storage and putting them on display is a type of move.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor carried out by (performed): Actor

(in the role of : Type)

passive participants

# moved (moved by): Physical Object

<u>property note:</u> this is the subproperty of "occurred in the presence of" took into account (was taken into account by): Conceptual Object

occurred in the presence of (was present at): Stuff

used object (was used for): Physical Object

(mode of use: String)

#### motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

was intended use of (was made for): Man-Made Stuff

(mode of use: String)

had specific purpose (was purpose of): Activity

had as general purpose (was purpose of): Type

spatial definitions

#### moved to (occupied): Place

property note: this is the subproperty of "took place at".

moved from (vacated): Place

property note: this is the subproperty of "took place at".

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

ians within (contains). Fe

other descriptions

has note: String (has type: Type)

#### The entity is not referenced.

# The entity inherits references:

Activity: had specific purpose (was purpose of)

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction : Type)

Period: consists of (forms part of)
Period: falls within (contains)

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)
(has type: Type)

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# **E10** Transfer of Custody

Period Type Belongs to: Subclass of: Activity

Scope note:

This entity describes the transfer of physical custody from one legal person to another. Either one of the actors may be omitted, unknown, or not existing. The entity may describe the beginning, the end, or the transfer of custody, field collection, or declared loss of an object, depending on the circumstances. It takes a neutral position with respect to the actors involved.

The distinction between legal and physical custody can be modelled as types.

Some events can simultaneously be considered as acquisition, transfer of custody, and move. For example, purchase of a Polynesian feather hat at a market. In other cases, separate events are involved, e.g. purchase by telephone of an object on auction, physical transportation, and reception by the new owner.

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

custody surrendered by (surrendered custody): Actor property note: this is the subproperty of "carried out by" custody received by (received custody): Actor property note: this is the subproperty of "carried out by" had participants (participated in): Actor carried out by (performed): Actor (in the role of : Type)

passive participants

#### transferred custody of (custody changed by): Physical Object

property note: this is the subproperty of "occurred in the presence of" took into account (was taken into account by): Conceptual Object occurred in the presence of (was present at): Stuff used object (was used for): Physical Object

(mode of use: String)

motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

was intended use of (was made for): Man-Made Stuff

(mode of use: String)

had specific purpose (was purpose of): Activity

had as general purpose (was purpose of): Type

spatial definitions

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String (has type: Type)

# The entity is not referenced.

# The entity inherits references:

Activity: had specific purpose (was purpose of) Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction : Type)

Period: consists of (forms part of)

Period: falls within (contains)

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type : Type)

#### **E11 Modification**

Belongs to: Period Type
Subclass of: Activity
Superclass of: Production

Scope note:

This entity comprises all activities which intentionally alter physical objects, regardless of the degree of intervention: creation of some item from raw material, restorations, use of ancient objects in jewelry, etc. Since in many cases the distinction between modification and creation is not clear, and the actions implied are basically the same, modification is regarded as the more general (and less ambiguous) concept. This implies that some items may be consumed or destroyed in a modification process and others emerge from it. Typically, objects involved in the process, such as tools, materials, etc., which are foreseen by the applied technique are modelled as attributes of the Design or Procedure, for reasons of efficient data representation. Nevertheless, unusual and remarkable items used for a specific instance of a process should be referred to here.

This entity is thought to be collective, e.g. the printing of a thousand books should be one event. Conservation actions can be modelled as a type of modification.

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor carried out by (performed): Actor

(in the role of : Type)

passive participants

#### has modified (was modified by): Physical Man-Made Stuff

property note: this is the superproperty of "has produced" and subproperty of "occurred in the presence of".

took into account (was taken into account by): Conceptual Object

occurred in the presence of (was present at): Stuff

used object (was used for): Physical Object

(mode of use: String)

following

#### used general technique (was technique of): Type

used specific technique (was used by): Design or Procedure

motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

was intended use of (was made for): Man-Made Stuff

(mode of use: String)

had specific purpose (was purpose of): Activity

had as general purpose (was purpose of): Type

spatial definitions

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String

(has type: Type)

# The entity is not referenced.

# The entity inherits references:

Activity: had specific purpose (was purpose of)

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction: Type)

Period: consists of (forms part of)

Period: falls within (contains)

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)

(has type : Type)

# **E12 Production**

Belongs to: Period Type Subclass of: Modification

Beginning of Existence

Scope note: This entity specializes the notion of modification into production, i.e. activities which are

designed to and succeed in creating one or a series of new items—new in the sense that there

is no obvious similarity to the consumed items and material.

Examples: painting a watercolor, printing an etching, producing a series of household forks, the recasting of

the mermaid in Copenhagen

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor carried out by (performed): Actor

(in the role of : Type)

passive participants

brought into existence (was brought into existence by): Existence took into account (was taken into account by): Conceptual Object

has produced (was produced by): Physical Man-Made Stuff

property note: this is the subproperty of "has modified", "brought into existence".

has modified (was modified by): Physical Man-Made Stuff

occurred in the presence of (was present at): Stuff

used object (was used for): Physical Object

(mode of use: String)

following

used general technique (was technique of): Type

used specific technique (was used by): Design or Procedure

motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

was intended use of (was made for): Man-Made Stuff

(mode of use: String)

had specific purpose (was purpose of): Activity

had as general purpose (was purpose of): Type

spatial definitions

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String (has type: Type)

#### The entity is not referenced.

#### The entity inherits references:

Activity: had specific purpose (was purpose of)

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction: Type)

Period: consists of (forms part of)
Period: falls within (contains)
Type Assignment: classified (was classified by)
Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type : Type)

# **E13** Attribute Assignment

Belongs to: Period Type Subclass of: Activity

Superclass of: Condition Assessment

Identifier Assignment Measurement

Measurement
Type Assignment

Scope note:

This entity comprises the actions of making assertions about properties of an object. It serves the documentation of how the respective assessment came about and whose opinion it was. All the attributes or properties assigned in such an action can also be seen as directly attached to the respective object, possibly as a collection of contradictory values. All cases of direct links from objects to values which are, in this model, also referred to indirectly through an action, are characterized as "short cuts" of this action. This redundant modelling of two alternative views is preferred because many implementations may have good reasons to model either the action or the short cut, and the relation between both alternatives can be captured by simple rules.

In addition, the entity describes the actions of people making propositions and statements during certain museum procedures, e.g. the person and date when a condition statement was made, an identifier was assigned, the museum object was measured, etc. Which kinds of such assignments and statements need to be documented explicitly in schema structures, rather than free text, depends on a museum's practice. In the latter case shortcuts may be used which refer directly to the museum object.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor carried out by (performed): Actor

(in the role of : Type)

passive participants

took into account (was taken into account by): Conceptual Object

occurred in the presence of (was present at): Stuff

used object (was used for): Physical Object

(mode of use: String)

motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

was intended use of (was made for): Man-Made Stuff

(mode of use: String)

had specific purpose (was purpose of): Activity

had as general purpose (was purpose of): Type

spatial definitions

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period

falls within (contains): Period

other descriptions

has note: String (has type : Type)

# The entity is not referenced.

# The entity inherits references:

Activity: had specific purpose (was purpose of)

Physical Man-Made Stuff: depicts event (is depicted by) (mode of depiction: Type)

Period: consists of (forms part of) Period: falls within (contains)

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

# **E14 Condition Assessment**

Belongs to: Period Type

Subclass of: Attribute Assignment

Scope note: This entity describes the action of assessing the condition of preservation of an object over a

particular period, either by inspection, measurement, or historical studies.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor

carried out by (performed): Actor (in the role of : Type)

passive participants

# concerned (was assessed by): Physical Stuff

property note: this is the subproperty of "occurred in the presence of".

took into account (was taken into account by): Conceptual Object

occurred in the presence of (was present at): Stuff

used object (was used for): Physical Object

(mode of use: String)

attributions

#### has identified (identified by): Condition State

motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

was intended use of (was made for): Man-Made Stuff

(mode of use: String)

had specific purpose (was purpose of): Activity

had as general purpose (was purpose of): Type

spatial definitions

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period

falls within (contains): Period

other descriptions

has note: String

(has type: Type)

#### The entity is not referenced.

# The entity inherits references:

Activity: had specific purpose (was purpose of)

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction: Type)

Period: consists of (forms part of)

Period: falls within (contains)

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

#### **E15** Identifier Assignment

Belongs to: Period Type

Subclass of: Attribute Assignment

Scope note: This entity describes the action of assigning an identifier, such as a museum number, to an

object. The interest in this action arises when objects are exchanged and multiple identifiers are used, or the identification system of an organization is changed. In order to cover these cases, it is important to document by whom, when, and for what purpose an identifier is assigned to a

museum object.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor carried out by (performed): Actor

(in the role of : Type)

passive participants

# registered (was registered by): Physical Object

<u>property note:</u> this is the subproperty of "occurred in the presence of". took into account (was taken into account by): Conceptual Object

occurred in the presence of (was present at): Stuff

used object (was used for): Physical Object

(mode of use: String)

attributions

# assigns (is assigned by): Object Identifier deassigns (is deassigned by): Object Identifier

motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

was intended use of (was made for): Man-Made Stuff

(mode of use: String)

had specific purpose (was purpose of): Activity

had as general purpose (was purpose of): Type

spatial definitions

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

ialis Willilli (Cortallis). Perio

other descriptions

has note: String (has type: Type)

#### The entity is not referenced.

# The entity inherits references:

Activity: had specific purpose (was purpose of)

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction : Type)

Period: consists of (forms part of) Period: falls within (contains) Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)
(has type: Type)

#### **E16 Measurement**

Belongs to: Period Type

Subclass of: Attribute Assignment

This entity describes actions of measuring physical properties by counting or use of some tool, Scope note:

whether by simple vardstick or complex radiation detection device. The interest is in the method and care applied in order to decide afterwards on the reliability of the result. For properties which may change value over time, such as length due to shrinkage, the date is of direct relevance as well. Details of methods and devices are best handled as free text, whereas basic

methods such as 'C14' should be encoded in the type field.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor

carried out by (performed): Actor

(in the role of : Type)

passive participants

# measured (was measured by): Physical Stuff

property note: this is the subproperty of "occurred in the presence of".

took into account (was taken into account by): Conceptual Object

occurred in the presence of (was present at): Stuff

used object (was used for): Physical Object

(mode of use: String)

attributions

#### observed dimension (was observed): Dimension

motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

was intended use of (was made for): Man-Made Stuff

(mode of use: String)

had specific purpose (was purpose of): Activity

had as general purpose (was purpose of): Type

spatial definitions

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period

falls within (contains): Period

other descriptions

has note: String

(has type : `Type)

#### The entity is not referenced.

#### The entity inherits references:

Activity: had specific purpose (was purpose of)

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction: Type)

Period: consists of (forms part of) Period: falls within (contains)

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)
(has type: Type)

# **E17 Type Assignment**

Belongs to: Period Type

Subclass of: Attribute Assignment

Scope note: This entity describes the act of scientifically classifying some entity—an object, a work, an

action, etc. The value of classification depends critically on general and personal knowledge

and the scientific system used. Therefore the interest lies in the author and date.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor

carried out by (performed): Actor

(in the role of : Type)

passive participants

# classified (was classified by): CRM Entity

took into account (was taken into account by): Conceptual Object

occurred in the presence of (was present at): Stuff used object (was used for): Physical Object

(mode of use: String)

attributions

#### assigned (was assigned by): Type

motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

was intended use of (was made for): Man-Made Stuff

(mode of use: String)

had specific purpose (was purpose of): Activity

had as general purpose (was purpose of): Type

spatial definitions

took place at (witnessed): Place

spatial definitions, short cut

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period

falls within (contains): Period

other descriptions

has note: String

(has type: Type)

# The entity is not referenced.

#### The entity inherits references:

Activity: had specific purpose (was purpose of)

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction: Type)

Period: consists of (forms part of)

Period: falls within (contains)

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)

(has type: Type)

# 5.3 Object Hierarchy

All entities in this hierarchy are instances of the metaclass "Object Type". Two submetaclasses are defined, the "Physical Object Type"—for the hierarchy of the "Physical Objects", the kinds of things which have weight, are created once and can be destroyed—and the "Concept Type"—for the "Concepts", the intellectual or other products which are created once, and can exist on multiple carriers, and hence can rather be forgotten or lost than destroyed.

## 5.3.1 Physical Objects

# E18 Physical Stuff

Belongs to: Physical Object Type

Subclass of: Legal Object

Stuff

Superclass of: Physical Object

Physical Man-Made Stuff

Physical Feature

Scope Note: Physical stuff is an abstract notion that groups all physical objects, man-made and natural, as

well as physical features of objects, such as holes. We use the term 'feature' to refer to anything of a material nature, such as scratches, holes, rivers, and stains, which it would be strange to

refer to as 'objects'.

## **Properties:**

identification

is identified by (identifies): Appellation

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type : Type) (has note : String)

physical status, short cut

has dimension (is dimension of): Dimension

property note: It is short cut of the path "Measurement changed by – Dimension – observed dimension".

has condition (condition of): Condition State

**property note:** It is short cut of the path "Assessment changed by – Condition Assessment – has identified".

structures

consists of (is incorporated in): Material is composed of (forms part of): Physical Stuff

other descriptions

had as general use (was use of): Type

has note: String (has type: Type)

## The entity is referenced by:

Physical Man-Made Stuff: depicts object (is depicted by)

(mode of depiction: Type)

Condition Assessment: concerned (was assessed by)

Measurement: measured (was measured by)

and itself

## The entity inherits references:

Event: occurred in the presence of (was present at) Type Assignment: classified (was classified by)

Document: documents (is documented in)

Conceptual Object: refers to (is referred to by)
(has type: Type)
Beginning of Existence: brought into existence (was brought into existence by)
End of Existence: took out of existence (was taken out of existence by)

## **E19 Physical Object**

Belongs to: Physical Object Type
Subclass of: Physical Stuff
Superclass of: Biological Object
Man-Made Object

Scope note: A discrete, real item of material nature which constitutes a unit for documentation. The decision

as to what constitutes a complete item, rather than parts or components, may be purely

administrative.

Examples: John Smith, Aphrodite of Milos, the Palace of Knossos, the Cullinan diamond, Apollo 13 at the

time of launch

#### **Properties:**

identifications

is identified by (identifies): Object Identifier

**property note:** this is the subproperty of "E1 CRM Entity.(is identified by)", and superproperty of "E19 Physical Object.(preferred identifier is)".

preferred identifier is (is preferred identifier of): Object Identifier

property note: this is the subproperty of "E19 Physical Object. (is identified by)".

is identified by (identifies): Appellation

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

legal status, short cut

has former or current keeper (is former or current keeper of) : Actor

**property note:** this is the superproperty of "has current keeper". It is short cut of the path "Custody changed by – Transfer of Custody – custody received / surrendered by".

has current keeper (is current keeper of) : Actor

**property note:** this is the subproperty of "has former or current keeper". It is short cut of the path "Custody changed by – Transfer of Custody – custody received / surrendered by".

has former or current owner (is former or current owner of): Actor

**property note:** this is the superproperty of "has current owner". It is short cut of the path "Acquisition changed by – Acquisition – transferred title from / to"

has current owner (is current owner of): Actor

**property note:** this is the subproperty of "has former or current owner". It is short cut of the path "Acquisition changed by – Acquisition – transferred title from / to".

right held by (has right on): Actor

(has type: Type) (has note: String)

physical status, short cut

has dimension (is dimension of): Dimension

has condition (condition of): Condition State

locations, short cut

has former or current location (is former or current location of): Place

**property note:** this is the superproperty of "has current permanent location", "has current location". It is short cut of the path "Move changed by – Move – moved from / to".

has current permanent location (is current permanent location of): Place

**property note:** this is the subproperty of "has former or current location". It is short cut of the path "Move changed by – Move – moved from / to".

has current location (currently holds): Place

**property note:** this is the subproperty of "has former or current location". It is short cut of the path "Move changed by – Move – moved from / to".

structures

bears feature (is found on): Physical Feature

has number of parts: Number

## has section definition (defines section): Section Definition

is composed of (forms part of): Physical Stuff consists of (is incorporated in): Material

structures, short cut

has section (is located on or within): Place

property note: It is short cut of the "Section Definition"

other descriptions

had as general use (was use of): Type

has note: String (has type: Type)

### The entity is referenced by:

Period: took place on or within (witnessed) Destruction: destroyed (was destroyed by)

Activity: used object (was used for) (mode of use: String)

Acquisition: transferred title of (changed ownership by)

Move: moved (moved by)

Transfer of Custody: transferred custody of (custody changed by)

Identifier Assignment: registered (was registered by)

# The entity inherits references:

Physical Man-Made Stuff: depicts object (is depicted by)

(mode of depiction: Type)

Physical Stuff: is composed of (forms part of)

Condition Assessment: concerned (was assessed by)

Measurement: measured (was measured by)

Event: occurred in the presence of (was present at)

Type Assignment: classified (was classified by)

Document: documents (is documented in)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

# **E20** Biological Object

Belongs to: Physical Object Type Subclass of: Physical Object

Superclass of: Person

Scope note: An individual, real item of material nature which lives, has lived, or is a natural product of living

organisms. Artificial objects which incorporate biological elements, such as Victorian butterfly

frames, can be classified as both natural and man-made objects.

Examples: Me, Tut-Ankh-Amun, Boukephalas

#### **Properties:**

identifications

is identified by (identifies): Object Identifier

preferred identifier is (is preferred identifier of): Object Identifier

is identified by (identifies): Appellation

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

legal status, short cut

has former or current keeper (is former or current keeper of) : Actor

has current keeper (is current keeper of): Actor

has former or current owner (is former or current owner of): Actor

has current owner (is current owner of): Actor

right held by (has right on): Actor

(has type: Type) (has note: String)

physical status, short cut

has dimension (is dimension of): Dimension has condition (condition of): Condition State

locations, short cut

has former or current location (is former or current location of): Place has current permanent location (is current permanent location of): Place

has current location (currently holds): Place

structures

bears feature (is found on): Physical Feature

has number of parts: Number

has section definition (defines section): Section Definition

consists of (is incorporated in): Material is composed of (forms part of): Physical Stuff

structures, short cut

has section (is located on or within): Place

other descriptions

had as general use (was use of): Type

has note: String (has type: Type)

### The entity is not referenced.

## The entity inherits references:

Activity: used object (was used for)

(mode of use: String)

Physical Man-Made Stuff: depicts object (is depicted by)

(mode of depiction: Type)

Physical Stuff: is composed of (forms part of)

Event: occurred in the presence of (was present at)

Period: took place on or within (witnessed)

Condition Assessment: concerned (was assessed by)

Destruction: destroyed (was destroyed by)

Identifier Assignment: registered (was registered by)

Move: moved (moved by)

Acquisition: transferred title of (changed ownership by)

Transfer of Custody: transferred custody of (custody changed by)

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Measurement: measured (was measured by)
Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

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## E21 Person

Belongs to: Actor Type

Physical Object Type

Subclass of: Biological Object

Actor

Scope note: A real person, who lives or is assumed to have lived. Legendary figures, such as Ulysses and

King Arthur, who may have existed, fall into this class if the documentation refers to them as historical figures. In cases where doubt exists as to whether several persons are in fact identical,

multiple instances can be created and linked to indicate their relationship.

Examples: John Smith, Tut-Ankh-Amun

## **Properties:**

identifications

is identified by (identifies): Object Identifier

preferred identifier is (is preferred identifier of): Object Identifier

is identified by (identifies): Appellation

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

legal status, short cut

has former or current keeper (is former or current keeper of): Actor

has current keeper (is current keeper of): Actor

has former or current owner (is former or current owner of): Actor

has current owner is (current owner of): Actor

right held by (has right on): Actor

(has type: Type) (has note: String)

physical status, short cut

has dimension (is dimension of): Dimension has condition (condition of): Condition State

locations, short cut

has former or current location (is former or current location of): Place has current permanent location (is current permanent location of): Place

has current location (currently holds): Place

structures

bears feature (is found on): Physical Feature

has number of parts: Number

has section definition (defines section): Section Definition

consists of (is incorporated in): Material is composed of (forms part of): Physical Stuff

structures, short cut

has section (is located on or within): Place

other descriptions

is member of (has members): Legal Body

has gender (is gender of): Gender

has current or former residence (is current or former residence of): Place

had as general use (was use of): Type possesses (is possessed by): Right

has contact points (provides access to): Contact Point

has note: String (has type: Type)

#### The entity is referenced by:

Birth: by mother (gave birth)

Birth: from father (was father for) Birth: brought into life (was born) Death: was death of (died in)

## The entity inherits references:

Activity: carried out by (performed)

(in the role of : Type)

Legal Object: right held by (has right on)

(has type: Type) (has note: String)

Activity: used object (was used for)

(mode of use : String)

Physical Man-Made Stuff: depicts object (is depicted by)

(mode of depiction: Type)

Physical Object: has current owner (is current owner of)

Physical Object: has former or current owner (is former or current owner of)

Physical Object: has current keeper (is current keeper of)

Physical Object: has former or current keeper (is former or current keeper of)

Physical Stuff: is composed of (forms part of) Event: had participants (participated in)

Event: occurred in the presence of (was present at)

Period: took place on or within (witnessed)

Condition Assessment: concerned (was assessed by)

Destruction: destroyed (was destroyed by)

Identifier Assignment: registered (was registered by)

Move: moved (moved by)

Acquisition: transferred title from (surrendered title of)
Acquisition: transferred title to (acquired title of)
Acquisition: transferred title of (changed ownership by)
Transfer of Custody: custody received by (received custody)

Transfer of Custody: custody surrendered by (surrendered custody)
Transfer of Custody: transferred custody of (custody changed by)

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Measurement: measured (was measured by)
Conceptual Object: refers to (is referred to by)

(has type: Type)

Group: had member (was member of)

Beginning of Existence: brought into existence (was brought into existence by)

## E22 Man-Made Object

Physical Object Type Belongs to: Subclass of: **Physical Object** 

Physical Man-Made Stuff

Iconographic Object Superclass of:

Scope note: A discrete real item of material nature, which is an artifact of technological actions.

Examples: my car, chassis no. AMT-9566-XXX9384; the Portland Vase, the Coliseum, the Parthenon

#### **Properties:**

```
identifications
      is identified by (identifies): Object Identifier
      is identified by (identifies): Appellation
      preferred identifier is (is preferred identifier of): Object Identifier
      has title (is title of): Title
         (has type: Type)
classifications
      has type (is type of): Type
legal status
      is subject to (applies to): Right
legal status, short cut
      has former or current keeper (is former or current keeper of): Actor
      has current keeper (is current keeper of): Actor
      has former or current owner (is former or current owner of): Actor
      has current owner (is current owner of): Actor
      right held by (has right on): Actor
           (has type: Type)
           (has note: String)
intellectual contents
      depicts concept (is depicted by): Type
         (mode of depiction: Type)
      depicts event (is depicted by): Event
         (mode of depiction: Type)
      depicts object (is depicted by): Physical Stuff
          (mode of depiction: Type)
physical status, short cut
      has dimension (is dimension of): Dimension
      has condition (condition of): Condition State
locations, short cut
      has former or current location (is former or current location of): Place
      has current permanent location (is current permanent location of): Place
      has current location (currently holds): Place
structures
      bears feature (is found on): Physical Feature
      has number of parts: Number
      is composed of (forms part of): Physical Stuff
      shows visual item (is shown by): Visual Item
```

has section definition (defines section): Section Definition

consists of (is incorporated in): Material

structures, short cut

has section (is located on or within): Place

other descriptions

was intended for (was intention of): Type had as general use (was use of): Type

has note: String (has type: Type)

#### The entity is not referenced.

## The entity inherits references:

Activity: used object (was used for)

(mode of use: String)

Activity: was intended use of (was made for)

(mode of use: String)

Physical Man-Made Stuff: depicts object (is depicted by)

(mode of depiction: Type)

Physical Stuff: is composed of (forms part of)

Event: occurred in the presence of (was present at)

Period: took place on or within (witnessed)

Condition Assessment: concerned (was assessed by)

Destruction: destroyed (was destroyed by)

Identifier Assignment: registered (was registered by)

Move: moved (moved by)

Acquisition: transferred title of (changed ownership by)

Transfer of Custody: transferred custody of (custody changed by)

Type Assignment: classified (was classified by) Document: documents (is documented in)

Production: has produced (was produced by) Modification: has modified (was modified by)

Measurement: measured (was measured by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

## **E23** Iconographic Object

Belongs to: Physical Object Type
Subclass of: Man-Made Object

Information Object

Scope note: This entity comprises objects which are designed primarily or in addition to another functionality

to represent or depict something in an optical manner, be it concrete or abstract.

This entity has a certain pragmatic value in the fine arts since it conveniently groups together objects such as paintings, drawings, watercolors, and other similar objects. From a philosophical point of view, representation is an 'intentional' act. Natural objects may resemble other objects by chance but they can represent only as a result of intervention by some fairly

sophisticated semiotic arrangements.

Examples: paintings, sculpture, a vase in form of a head, a decoration on a medieval gun

# **Properties:**

```
identifications
      is identified by (identifies): Object Identifier
      is identified by (identifies): Appellation
      preferred identifier is (is preferred identifier of): Object Identifier
      has title (is title of): Title
         (has type: Type)
classifications
      has type (is type of): Type
legal status
      is subject to (applies to): Right
legal status, short cut
      right held by (has right on): Actor
           (has type: Type)
           (has note: String)
      has former or current keeper (is former or current keeper of): Actor
      has current keeper (is current keeper of): Actor
      has former or current owner (is former or current owner of): Actor
      has current owner (is current owner of): Actor
intellectual contents
      refers to concept (is referred to by): Type
      refers to (is referred to by): CRM Entity
         (has type: Type)
      depicts concept (is depicted by): Type
         (mode of depiction: Type)
      depicts event (is depicted by): Event
         (mode of depiction: Type)
      depicts object (is depicted by): Physical Stuff
          (mode of depiction: Type)
physical status, short cut
      has dimension (is dimension of): Dimension
      has condition (condition of): Condition State
locations, short cut
      has former or current location (is former or current location of): Place
      has current permanent location (is current permanent location of): Place
      has current location (currently holds): Place
structures
      bears feature (is found on): Physical Feature
      has number of parts: Number
      shows visual item (is shown by): Visual Item
```

is composed of (forms part of): Information Object

has section definition (defines section): Section Definition consists of (is incorporated in): Material is composed of (forms part of): Physical Stuff structures, short cut has section (is located on or within): Place other descriptions was intended for (was intention of): Type had as general use (was use of): Type has note: String (has type: Type)

#### The entity is not referenced.

## The entity inherits references:

Activity: used object (was used for) (mode of use : String)

Activity: was intended use of (was made for)

(mode of use: String)

Physical Man-Made Stuff: depicts object (is depicted by)

(mode of depiction: Type)

Physical Stuff: is composed of (forms part of)
Event: occurred in the presence of (was present at)
Conceptual Creation: has created (was created by)

Period: took place on or within (witnessed)

Condition Assessment: concerned (was assessed by)

Destruction: destroyed (was destroyed by)

Identifier Assignment: registered (was registered by)

Move: moved (moved by)

Acquisition: transferred title of (changed ownership by)

Transfer of Custody: transferred custody of (custody changed by)

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Production: has produced (was produced by)
Modification: has modified (was modified by)
Measurement: measured (was measured by)
Activity: motivated the creation of (was created for)
Information Object: is composed of (forms part of)
Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type : Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

Activity: was motivation for (motivated)

## **E24** Physical Man-Made Stuff

Belongs to: Physical Object Type

Subclass of: Physical Stuff

Man-Made Stuff

Superclass of: Man-Made Object

Man-Made Feature

Scope Note: Man-Made Stuff is a general class that groups man-made objects and features. The distinction

between 'objects' and 'features' is useful since it avoids referring to things like holes and texture as objects. Features and objects share many common characteristics however, hence the need

for a general class of man-made things.

#### **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title (has type: Type)

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type : Type) (has note : String)

intellectual contents

depicts object (is depicted by): Physical Stuff

(mode of depiction : Type)

depicts event (is depicted by): Event

(mode of depiction: Type)

depicts concept (is depicted by): Type

(mode of depiction : Type)

physical status, short cut

has dimension (is dimension of): Dimension

has condition (condition of): Condition State

structures

# shows visual item (is shown by): Visual Item

consists of (is incorporated in): Material

is composed of (forms part of): Physical Stuff

other descriptions

was intended for (was intention of): Type

had as general use (was use of): Type

has note: String

(has type: Type)

#### The entity is referenced by:

Modification: has modified (was modified by) Production: has produced (was produced by)

#### The entity inherits references:

Activity: was intended use of (was made for)

(mode of use: String)

Physical Man-Made Stuff: depicts object (is depicted by)

(mode of depiction : Type)

Physical Stuff: is composed of (forms part of)

Event: occurred in the presence of (was present at)

Type Assignment: classified (was classified by)

Condition Assessment: concerned (was assessed by)

Measurement: measured (was measured by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)
(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

## **E25** Man-Made Feature

Physical Object Type Belongs to: Subclass of: Physical Man-Made Stuff

**Physical Feature** 

Scope Note: Man-Made Features are those physical features which result from human intervention. (Cf. E27

Physical Feature.)

# **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title (has type: Type)

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type: Type) (has note: String)

intellectual contents

depicts concept (is depicted by): Type

(mode of depiction: Type) depicts event (is depicted by): Event

(mode of depiction: Type)

depicts object (is depicted by): Physical Stuff

(mode of depiction : Type)

physical status, short cut

has dimension (is dimension of): Dimension

has condition (condition of): Condition State

structures

shows visual item (is shown by): Visual Item

consists of (is incorporated in): Material

is composed of (forms part of): Physical Stuff

other descriptions

was intended for (was intention of): Type

had as general use (was use of): Type

has note: String (has type: Type)

#### The entity is not referenced.

#### The entity inherits references:

Activity: was intended use of (was made for)

(mode of use : String)

Physical Man-Made Stuff: depicts object (is depicted by)

(mode of depiction : Type)

Physical Stuff: is composed of (forms part of)

Condition Assessment: concerned (was assessed by)

Measurement: measured (was measured by)

Physical Object: bears feature (is found on)

Event: occurred in the presence of (was present at)

Type Assignment: classified (was classified by)

Document: documents (is documented in)

Production: has produced (was produced by) Modification: has modified (was modified by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# **E26** Physical Feature

Belongs to: Physical Object Type
Subclass of: Physical Stuff
Superclass of: Man-Made Feature

Site

Scope Note: This class was introduced in order to avoid the counter-intuitive sense of referring to holes and

similar features of objects as physical objects. Features are logically or physically attached to a particular physical object, and they share many of the attributes of physical objects—they can be measured and dated, and we can sometimes say who was responsible for them. However, you can't pick up a hole and put it in your pocket—Yellow Submarine not withstanding. Physical feature groups together all features of physical objects. (Cf. E25 Man-Made Features for the

results of human intervention.)

## **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type : Type) (has note : String)

physical status, short cut

has dimension (is dimension of): Dimension has condition (condition of): Condition State

structures

consists of (is incorporated in): Material is composed of (forms part of): Physical Stuff

other descriptions

had as general use (was use of): Type

has note: String (has type: Type)

# The entity is referenced by:

Physical Object: bears feature (is found on)

#### The entity inherits references:

Physical Man-Made Stuff: depicts object (is depicted by)

(mode of depiction: Type)

Physical Stuff: is composed of (forms part of)

Condition Assessment: concerned (was assessed by)

Measurement: measured (was measured by)

Event: occurred in the presence of (was present at)

Type Assignment: classified (was classified by)

Document: documents (is documented in)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

## E27 Site

Belongs to: Physical Object Type Subclass of: Physical Feature

Scope Note: A site is a recognizable place that can be represented by an iconographic object, such as a

photograph, painting, or map. A site is composed of relatively immobile material items and

features in a particular configuration at a particular location.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type: Type) (has note: String)

physical status, short cut

has dimension (is dimension of): Dimension

has condition (condition of): Condition State

structures

consists of (is incorporated in): Material

is composed of (forms part of): Physical Stuff

other descriptions

had as general use (was use of): Type

has note: String (has type: Type)

#### The entity is not referenced.

## The entity inherits references:

Physical Man-Made Stuff: depicts object (is depicted by)

(mode of depiction : Type)

Physical Stuff: is composed of (forms part of)

Condition Assessment: concerned (was assessed by)

Measurement: measured (was measured by)

Physical Object: bears feature (is found on)

Event: occurred in the presence of (was present at)

Type Assignment: classified (was classified by)

Document: documents (is documented in)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

#### 5.3.2 Conceptual Objects

All object types of double nature, physical and conceptual, are already listed under the physical object types.

# **E28** Conceptual Object

Belongs to: Concept Type
Subclass of: Man-Made Stuff

Superclass of: Right

Information Object

Scope note: This entity

This entity is the attempt to group the non-material products of our minds and specifically to allow for reasoning about their identity, circumstances of creation, and historical implications. Characteristically, these things are created, invented, or thought and somehow documented or communicated between persons. Conceptual objects need not have a particular carrier, but may be found on several different carriers, such as paper, electronic signals, marks, audio media, paintings, photos, human memory, etc. They cannot be destroyed as long as they exist on at least one carrier or in memory. A greater distinction could be made between products having a clear identity, such as a specific text or photograph, and the ideas and concepts shared and

traded by groups of people.

Examples: texts, maps, photos, music, sounds, fairy tales, signs, patterns, symbols, plans, rights, and rules.

#### **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title (has type : Type)

classifications

has type (is type of): Type

intellectual contents

refers to concept (is referred to by): Type refers to (is referred to by): CRM Entity

(has type: Type)

property note: this is the superproperty of "documents".

other descriptions

was intended for (was intention of): Type had as general use (was use of): Type

has note: String (has type: Type)

#### The entity is referenced by:

Activity: took into account (was taken into account by)

Activity: was motivation for (motivated)

Activity: motivated the creation of (was created for) Conceptual Creation: has created (was created by)

# The entity inherits references:

Activity: was intended use of (was made for)

(mode of use: String)

Event: occurred in the presence of (was present at) Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type : Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# **E29** Design or Procedure

Belongs to: Concept Type Subclass of: Information Object

Scope note: An established plan for execution of a series or group of technological actions, which result in a

physical change of state in certain pieces of material and/or any physical object.

Examples: all elements of the AAT "processes and techniques" facets, a plan for a building, conservation

procedures, complex editing techniques, flint napping, etc.

#### **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title

(has type : Type) classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

legal status, short cut

right held by (has right on): Actor

(has type: Type) (has note: String)

intellectual contents

refers to concept (is referred to by): Type

refers to (is referred to by) : CRM Entity

(has type: Type)

structures

is composed of (forms part of): Information Object

other descriptions

usually employs (is usually employed by): Material

is associated with: Design or Procedure had as general use (was use of): Type

nad as general use (was use ot): Type was intended for (was intention of): Type

has note: String (has type: Type)

#### The entity is referenced by:

Modification: used specific technique (was used by)

and itself

#### The entity inherits references:

Activity: was intended use of (was made for)

(mode of use: String)

Event: occurred in the presence of (was present at)

Conceptual Creation: has created (was created by)

Type Assignment: classified (was classified by)

Document: documents (is documented in)

Activity: motivated the creation of (was created for) Information Object: is composed of (forms part of)

Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

Activity: was motivation for (motivated)

# E30 Right

Concept Type Belongs to: Subclass of: Conceptual Object

Scope Note: Rights are used in the sense of legal privileges such as the right of property, reproduction rights,

etc.

## **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title (has type: Type)

classifications

has type (is type of): Type

intellectual contents

refers to concept (is referred to by): Type

refers to (is referred to by): CRM Entity

(has type: Type)

other descriptions

was intended for (was intention of): Type

had as general use (was use of): Type

has note: String (has type: Type)

## The entity is referenced by:

Legal Object: is subject to (applies to) Actor: possesses (is possessed by)

## The entity inherits references:

Activity: was intended use of (was made for)

(mode of use: String)

Event: occurred in the presence of (was present at) Conceptual Creation: has created (was created by) Type Assignment: classified (was classified by)

Document: documents (is documented in)

Activity: motivated the creation of (was created for) Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

Activity: was motivation for (motivated)

## E31 Document

Belongs to: Concept Type
Subclass of: Information Object
Superclass of: Authority Document

Scope note: This entity comprises items which make propositions about reality, whether intentionally or by

chance. The means may be text, graphics, images, sound, or video.

Examples: books on history, maps, photos

## **Properties:**

identifications

is identified by (identifies): Appellation has title (is title of): Title

(has type : Type)

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type : Type) (has note : String)

intellectual contents

documents (is documented in): CRM Entity

**property note:** this is the subproperty of "refers to".

refers to concept (is referred to by): Type refers to (is referred to by): CRM Entity

(has type : Type)

structures

is composed of (forms part of): Information Object

other descriptions

was intended for (was intention of): Type had as general use (was use of): Type

has note: String (has type : Type)

#### The entity is not referenced.

## The entity inherits references:

Activity: was intended use of (was made for)

(mode of use: String)

Event: occurred in the presence of (was present at) Conceptual Creation: has created (was created by) Type Assignment: classified (was classified by)

Document: documents (is documented in)

Activity: motivated the creation of (was created for)
Information Object: is composed of (forms part of)
Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type : Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

Activity: was motivation for (motivated)

# **E32** Authority Document

Belongs to: Concept Type Subclass of: Document

Scope note: This entity describes encyclopedia, thesauri, and authority lists—all documents which define

terminology or conceptual systems for consistent use.

Examples: Webster's, Getty Art and Architecture Thesaurus, MDA Archaeological Objects Thesaurus, this

document, etc.

## **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title (has type: Type)

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type: Type) (has note: String)

intellectual contents

refers to concept (is referred to by): Type

refers to (is referred to by): CRM Entity

(has type : Type)

documents (is documented in): CRM Entity

structures

#### contains (is part of): Type

is composed of (forms part of): Information Object

other descriptions

was intended for (was intention of): Type had as general use (was use of): Type

has note: String (has type: Type)

# The entity is not referenced.

#### The entity inherits references:

Activity: was intended use of (was made for)

(mode of use : String)

Event: occurred in the presence of (was present at) Conceptual Creation: has created (was created by) Type Assignment: classified (was classified by)

Document: documents (is documented in)

Activity: motivated the creation of (was created for)
Information Object: is composed of (forms part of)
Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

Activity: was motivation for (motivated)

# E33 Linguistic Object

Belongs to: Concept Type
Subclass of: Information Object

Superclass of: Inscription

Title

Scope note: This entity comprises texts of all kind, be they written or recorded speech, in any physical

language.

## **Properties:**

identifications is ident

is identified by (identifies): Appellation

has title (is title of): Title (has type: Type)

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type: Type) (has note: String)

intellectual contents

has translation (is translation of): Linguistic Object

refers to concept (is referred to by): Type refers to (is referred to by): CRM Entity (has type: Type)

structures

is composed of (forms part of): Information Object

other descriptions

has language (is language of): Language

was intended for (was intention of): Type had as general use (was use of): Type has note: String

(has type : Type)

## The entity is only referenced by itself.

# The entity inherits references:

Activity: was intended use of (was made for)

(mode of use: String)

Event: occurred in the presence of (was present at) Conceptual Creation: has created (was created by) Type Assignment: classified (was classified by) Document: documents (is documented in)

Activity: motivated the creation of (was created for) Information Object: is composed of (forms part of) Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

Activity: was motivation for (motivated)

# E34 Inscription

Belongs to: Concept Type Subclass of: Linguistic Object

Mark

Scope note: This entity comprises texts attached to a physical object. The attributes of the entity could be

extended to include alphabet used, rather than documenting these features in the note. Note: The entity does not describe idiosyncratic characteristics of individual physical embodiments of

an inscription but the underlying prototype, e.g. Dürer's signature.

#### **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title (has type: Type)

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type: Type) (has note: String)

intellectual contents

refers to concept (is referred to by): Type refers to (is referred to by): CRM Entity

(has type: Type)

has translation (is translation of): Linguistic Object

structures

is composed of (forms part of): Information Object

other descriptions

has language (is language of): Language was intended for (was intention of): Type had as general use (was use of): Type

has note: String (has type: Type)

#### The entity is not referenced.

# The entity inherits references:

Activity: was intended use of (was made for)

(mode of use: String)

Event: occurred in the presence of (was present at) Conceptual Creation: has created (was created by) Linguistic Object: has translation (is translation of) Type Assignment: classified (was classified by)

Document: documents (is documented in)

Physical Man-Made Stuff: shows visual item (is shown by)

Activity: motivated the creation of (was created for) Information Object: is composed of (forms part of) Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

Activity: was motivation for (motivated)

E35 Title

Belongs to: Concept Type

Appellation Type

Linguistic Object Subclass of:

Appellation

Scope note: This entity comprises the short pieces of texts that are used, by the creator or tradition, to

characterize or identify a work, often alluding to its subject. The work may be linguistic, musical,

iconographic, or other.

Examples: Giaconda, La Joconde, Mona Lisa, Die Dreigroschenoper, La Pie, La Marseillaise

## **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title (has type: Type)

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type: Type) (has note: String)

intellectual contents

refers to concept (is referred to by): Type refers to (is referred to by): CRM Entity

(has type: Type)

has translation (is translation of): Linguistic Object

structures

is composed of (forms part of): Information Object

other descriptions

has language (is language of): Language was intended for (was intention of): Type had as general use (was use of): Type

has note: String (has type: Type)

#### The entity is referenced by:

Man-Made Stuff: has title (is title of)

(has type: Type)

#### The entity inherits references:

Activity: was intended use of (was made for)

(mode of use : String)

Event: occurred in the presence of (was present at) Conceptual Creation: has created (was created by) Linguistic Object: has translation (is translation of) Type Assignment: classified (was classified by) Document: documents (is documented in)

Activity: motivated the creation of (was created for)

Information Object: is composed of (forms part of)

CRM Entity: is identified by (identifies)

Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by) End of Existence: took out of existence (was taken out of existence by) Activity: was motivation for (motivated)

## E36 Visual Item

Belongs to: Concept Type
Subclass of: Information Object

Superclass of: Mark

**Image** 

Scope Note: Visual Item refers to the intellectual or conceptual aspect of recognizable marks and images.

When we identify a trademark, say the ICOM logo, we are generally prepared to say that the same logo is used on any number of publications. The size, orientation, and color may change, but something uniquely identifiable remains. The same can be said of images which are reproduced many times. What these examples highlight is that visual items are independent of their physical support. The Visual Items class provides a means of identifying and linking

together objects which carry the same visual symbols, marks, images, etc.

#### **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title (has type: Type)

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type : Type) (has note : String)

intellectual contents

refers to concept (is referred to by): Type

refers to (is referred to by): CRM Entity

(has type : Type)

structures

is composed of (forms part of): Information Object

other descriptions

was intended for (was intention of): Type

had as general use (was use of): Type

has note: String (has type : Type)

# The entity is referenced by:

Physical Man-Made Stuff: shows visual item (is shown by)

#### The entity inherits references:

Activity: was intended use of (was made for)

(mode of use : String)

Event: occurred in the presence of (was present at)

Conceptual Creation: has created (was created by)

Type Assignment: classified (was classified by)

Document: documents (is documented in)

Activity: motivated the creation of (was created for) Information Object: is composed of (forms part of)

Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

Activity: was motivation for (motivated)

## E37 Mark

Belongs to: Concept Type
Subclass of: Visual Item
Superclass of: Inscription

Scope note: Symbols, signs, signatures, or short texts applied to physical objects by arbitrary techniques in

order to indicate the creator, owner, dedications, purpose, etc. This entity specifically does not included marks such as scratches, which have no semantic significance; those cases should be

documented as physical features.

Examples: Minoan double axe mark, ©, ©, STOP!

#### **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title (has type: Type)

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type : Type) (has note : String)

intellectual contents

refers to concept (is referred to by): Type refers to (is referred to by): CRM Entity

(has time : Time)

(has type : Type)

structures

is composed of (forms part of): Information Object

other descriptions

was intended for (was intention of): Type

had as general use (was use of): Type has note: String

(has type: Type)

# The entity is not referenced.

#### The entity inherits references:

Activity: was intended use of (was made for)

(mode of use: String)

Event: occurred in the presence of (was present at) Conceptual Creation: has created (was created by) Type Assignment: classified (was classified by)

Document: documents (is documented in)

Physical Man-Made Stuff: shows visual item (is shown by)

Activity: motivated the creation of (was created for) Information Object: is composed of (forms part of)

Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

Activity: was motivation for (motivated)

## E38 Image

Scope note:

Belongs to: Concept Type Subclass of: Visual Item

This entity refers to distributions of form and color which may be found on surfaces such as photos, paintings, prints, sculptures, etc. or directly on electronic media. The degree to which variations in the distribution of form and color are tolerated depends on a given purpose.

The 'depiction' links between objects and depicted subjects may be regarded as short cuts of an intermediate image node capturing the optical features of the depiction. (Cf. E25 Man-Made

Features.)

Examples: the front side of all 20 Frs notes

# **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title (has type: Type)

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type : Type) (has note : String)

intellectual contents

refers to concept (is referred to by): Type

refers to (is referred to by): CRM Entity

(has type : Type)

structures

is composed of (forms part of): Information Object

other descriptions

was intended for (was intention of): Type had as general use (was use of): Type

has note: String (has type : Type)

#### The entity is not referenced.

#### The entity inherits references:

Activity: was intended use of (was made for)

(mode of use: String)

Event: occurred in the presence of (was present at) Conceptual Creation: has created (was created by) Type Assignment: classified (was classified by)

Document: documents (is documented in)

Physical Man-Made Stuff: shows visual item (is shown by)

Activity: motivated the creation of (was created for) Information Object: is composed of (forms part of) Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

Activity: was motivation for (motivated)

## 5.4 Actors Hierarchy

All entities in this hierarchy are instances of the metaclass "Actor Type".

Only one subclass has been defined, the physical person. As this class also has a physical nature, it is listed under physical objects (In a passive sense, as patient, mummy, etc.). Social organizations should be treated as subclasses in the Actor hierarchy.

E39 Actor

Belongs to: Actor Type
Subclass of: Existence
Superclass of: Group

Person

Scope note: People, either individuals, a group of persons, or organizations, under the aspect of their role in

activities. An informal group, such as a school of artists, may acquire an identity and perform actions without ever becoming an officially established legal entity. Such cases should be

documented as instances of Actors, using an appropriate sub type.

Examples: the ISO central committee; the Benaki Museum in Athens, Greece; the Bauhaus in Weimar,

Germany; Monet, Me

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

has current or former residence (is current or former residence of): Place

possesses (is possessed by): Right

has contact points (provides access to): Contact Point

has note: String (has type : Type) The entity is referenced by:

Activity: carried out by (performed)

(in the role of : Type)

Acquisition: transferred title to (acquired title of)
Acquisition: transferred title from (surrendered title of)

Transfer of Custody: custody surrendered by (surrendered custody)

Transfer of Custody: custody received by (received custody)

Legal Object: right held by (has right on)

(has type: Type) (has note: String)

Physical Object: has former or current keeper (is former or current keeper of)

Physical Object: has current keeper (is current keeper of)

Physical Object: has former or current owner (is former or current owner of)

Physical Object: has current owner (is current owner of)

Event: had participants (participated in) Group: had member (was member of)

## The entity inherits references:

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type : Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# E40 Legal Body

Belongs to: Actor Type Subclass of: Group

Scope Note: A legal body is any institution or group of people which can act collectively as an agent, i.e. it

can perform actions, own property, create or destroy, and be held responsible for its actions.

The term 'personne morale' is often used in French.

Examples: MDA (Europe) Ltd., Green Peace

## **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

structures

## consists of (belongs to): Legal Body

had member (was member of): Actor

other descriptions

has current or former residence (is current or former residence of): Place

possesses (is possessed by): Right

has contact points (provides access to): Contact Point

has note: String (has type: Type)

#### The entity is referenced by:

Person: is member of (has members)

and itself.

# The entity inherits references:

Activity: carried out by (performed)

(in the role of : Type)

Acquisition: transferred title to (acquired title of)

Acquisition: transferred title from (surrendered title of)

Transfer of Custody: custody surrendered by (surrendered custody)

Transfer of Custody: custody received by (received custody)

Type Assignment: classified (was classified by)

Legal Object: right held by (has right on)

(has type : Type) (has note : String)

Physical Object: has former or current keeper (is former or current keeper of)

Physical Object: has current keeper (is current keeper of)

Physical Object: has former or current owner (is former or current owner of)

Physical Object: has current owner (is current owner of)

Event: had participants (participated in)
Document: documents (is documented in)
Formation: has formed (was formed by)
Dissolution: dissolved (was dissolved by)
Conceptual Object: refers to (is referred to by)

(has type: Type)

Group: had member (was member of)

Beginning of Existence: brought into existence (was brought into existence by)

**E21 Person** (repetition from E20 Biological Object hierarchy)

Belongs to: Actor Type

Physical Object Type

Subclass of: Biological Object

Actor

Scope note: A real person, who lives or is assumed to have lived. Legendary figures, such as Ulysses and

King Arthur, who may have existed, fall into this class if the documentation refers to them as historical figures. In cases where doubt exists as to whether several persons are in fact identical,

multiple instances can be created and linked to indicate their relationship.

Examples: John Smith, Tut-Ankh-Amun

## **Properties:**

identifications

is identified by (identifies): Object Identifier

preferred identifier is (is preferred identifier of): Object Identifier

is identified by (identifies): Appellation

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

legal status, short cut

has former or current keeper (is former or current keeper of): Actor

has current keeper (is current keeper of): Actor

has former or current owner (is former or current owner of): Actor

has current owner is (current owner of): Actor

right held by (has right on): Actor

(has type: Type) (has note: String)

physical status, short cut

has dimension (is dimension of): Dimension

has condition (condition of): Condition State

locations, short cut

has former or current location (is former or current location of): Place

has current permanent location (is current permanent location of): Place

has current location (currently holds): Place

structures

bears feature (is found on): Physical Feature

has number of parts: Number

has section definition (defines section): Section Definition

consists of (is incorporated in): Material is composed of (forms part of): Physical Stuff

structures, short cut

has section (is located on or within): Place

other descriptions

is member of (has members): Legal Body

has gender (is gender of): Gender

has current or former residence (is current or former residence of): Place

had as general use (was use of): Type possesses (is possessed by): Right

has contact points (provides access to): Contact Point

has note: String (has type: Type)

#### The entity is referenced by:

Birth: by mother (gave birth)

Birth: from father (was father for) Birth: brought into life (was born) Death: was death of (died in)

## The entity inherits references:

Activity: carried out by (performed)

(in the role of : Type)

Legal Object: right held by (has right on)

(has type: Type) (has note: String)

Activity: used object (was used for)

(mode of use: String)

Physical Man-Made Stuff: depicts object (is depicted by)

(mode of depiction: Type)

Physical Object: has current owner (is current owner of)

Physical Object: has former or current owner (is former or current owner of)

Physical Object: has current keeper (is current keeper of)

Physical Object: has former or current keeper (is former or current keeper of)

Physical Stuff: is composed of (forms part of) Event: had participants (participated in)

Event: occurred in the presence of (was present at)

Period: took place on or within (witnessed)

Condition Assessment: concerned (was assessed by)

Destruction: destroyed (was destroyed by)

Identifier Assignment: registered (was registered by)

Move: moved (moved by)

Acquisition: transferred title from (surrendered title of) Acquisition: transferred title to (acquired title of) Acquisition: transferred title of (changed ownership by)

Transfer of Custody: custody received by (received custody)
Transfer of Custody: custody surrendered by (surrendered custody)

Transfer of Custody: transferred custody of (custody changed by)

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Measurement: measured (was measured by)
Conceptual Object: refers to (is referred to by)

(has type: Type)

Group: had member (was member of)

Beginning of Existence: brought into existence (was brought into existence by)

# 5.5 Appellations Hierarchy

All entities in this hierarchy are instances of the metaclass "Appellation Type". This hierarchy is thought to capture all kinds of social or technical identifiers, names, numbers, codes, etc. To what degree there is an overlap with conceptual objects should be discussed.

## **E41** Appellation

Belongs to: Appellation Type
Subclass of: Existence
Superclass of: Object Identifier

Place Appellation Time Appellation

Title

**Conceptual Object Appellation** 

Scope note: This entity comprises all names in the proper sense—codes or words, meaningless or

meaningful, in the script of some group or encoding of an electronic system, used solely to identify a specific instance of some category within a certain context. These words do not

identify the object by their meaning but by convention, tradition, or agreement.

## **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

has note: String (has type: Type)

#### The entity is referenced by:

CRM Entity: is identified by (identifies)

## The entity inherits references:

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# **E42** Object Identifier

Belongs to: Appellation Type Subclass of: Appellation

Scope note: Unique codes assigned to objects in order to identify them uniquely within the context of one or

more organizations. Typically alphanumeric sequences.

Examples: MM.GE.195, 13.45.1976, etc.

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

has note: String (has type: Type)

# The entity is referenced by:

Identifier Assignment: assigns (is assigned by)
Identifier Assignment: deassigns (is deassigned by)

Physical Object: is identified by (identifies)

Physical Object: preferred identifier is (is preferred identifier of)

## The entity inherits references:

CRM Entity: is identified by (identifies)

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

# **E44** Place Appellation

Belongs to: Appellation Type
Subclass of: Appellation
Superclass of Address

Section Definition Spatial Coordinates Place Name

Scope Note: A place appe

A place appellation is any sort of identifier used to refer to a place. Place appellations may vary over time and the same appellation may be used to refer to several places, either because of cultural shifts or because things move around. These unstable aspects of place appellations are dealt with in the more general "Appellation" class. Place appellations can be extremely varied in form—postal addresses, spatial coordinates, and parts of buildings can all be considered as

place appellations.

Examples: Vienna, Wien, Aquae Sulis Minerva, Bath, Cambridge, "The Other Place",. "The City"

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

has note: String (has type: Type)

#### The entity is referenced by:

Place: is identified by (identifies)

#### The entity inherits references:

CRM Entity: is identified by (identifies)

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# E45 Address

Belongs to: Appellation Type Subclass of: Place Appellation

**Contact Point** 

Scope Note: An address is generally a postal address used for mailing. An address can be considered both

as the name of a place and as a contact point for an actor. This dual aspect is reflected in the

multiple inheritance.

Example: 1-29-3 Otsuka, Bunkyo-ku,

Tokyo, 121, Japan

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions has note: String

(has type : Type)

# The entity is not referenced.

#### The entity inherits references:

CRM Entity: is identified by (identifies)

Type Assignment: classified (was classified by) Actor: has contact points (provides access to)

Place: is identified by (identifies)

Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# **E46** Section Definition

Belongs to: Appellation Type Subclass of: Place Appellation

Superclass of

Scope Note: Section definition groups together names used to refer to parts of objects. The 'prow' of a boat,

the 'frame' of the picture, the 'basement' of the building are all section definitions. The entity highlights the fact that parts of objects can be treated as locations. (Cf. E53 Place.) In answer to

the question 'where is the signature?', one might reply 'on the lower left corner'.

Example: the entrance lobby to MDA House, Matthew's bedroom, the poop deck of H.M.S. Victory, the

Venus de Milo's left buttock, "left inner side of the box"

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

has note: String

(has type: Type)

# The entity is referenced by:

Physical Object: has section definition (defines section)

#### The entity inherits references:

CRM Entity: is identified by (identifies)

Type Assignment: classified (was classified by)

Place: is identified by (identifies)

Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# **E47 Spatial Coordinates**

Belongs to: Appellation Type Subclass of: Place Appellation

Scope Note: Coordinates are a specific form of place appellation, that is, a means of referring to a particular

place. (Cf. E53 Place.) Coordinates are not restricted to longitude, latitude, and altitude. Any regular system of reference that maps onto a physical object can be considered as coordinates.

Examples: 6°5'29"N 45°12'13"W

Black queen's bishop 4

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions has note: String

(has type : Type)

#### The entity is not referenced.

# The entity inherits references:

CRM Entity: is identified by (identifies)

Type Assignment: classified (was classified by)

Place: is identified by (identifies)

Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

#### **E48 Place Name**

Belongs to: Appellation Type Subclass of: Place Appellation

Scope Note: A place name is a particular and common form of place appellation. 'Greece', 'Athens', 'Geneva',

are all place names. Place names may shift their meaning over time. (Cf. E44 Place appellations.) ISO codes should be used for names of countries and former names (ISO 3166:1998, Codes for the representation of names of countries and their subdivisions).

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

has note: String

(has type: Type)

#### The entity is not referenced.

#### The entity inherits references:

CRM Entity: is identified by (identifies)

Type Assignment: classified (was classified by)

Place: is identified by (identifies)

Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# **E49** Time Appellation

Belongs to: Appellation Type
Subclass of: Appellation
Superclass of Date

Scope Note: Time appellation groups all forms of names or codes, such as historical periods, and dates,

which are used to refer to specific time frames. Time appellations may vary in their degree of precision and they may be relative to other time frames, 'prehistoric' for example. These aspects

of time appellations are dealt with in the more general "Appellations" class.

In contrast to cultural periods, proper names are seldom given to particular time-spans, hence it was decided to exclude a specific entity "Time-spans name". Time-spans are often referred to in association with cultural periods, and events e.g. 'the duration of Ming Dynasty'. (Cf. E52 Time-

span.)

Examples: Meiji, 1<sup>st</sup> half of the XX century, Quaternary, 1215 Hegira, Last century

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

has note: String (has type: Type)

#### The entity is referenced by:

Time-Span: is identified by (identifies)

#### The entity inherits references:

CRM Entity: is identified by (identifies)

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

E50 Date

Belongs to: Appellation Type Subclass of: Time Appellation

Superclass of:

Scope Note: Dates are a specific form of time appellation. Dates may vary in their degree of precision.

Examples: 1900, 4-4-1959, 19640604

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

has note: String (has type: Type)

#### The entity is not referenced.

# The entity inherits references:

CRM Entity: is identified by (identifies)

Type Assignment: classified (was classified by)

Time-Span: is identified by (identifies)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

**E35** Title (Repetition from E33 Linguistic Object hierarchy)

Belongs to: Concept Type

Appellation Type

Subclass of: Linguistic Object

Appellation

Scope note: This entity comprises the short pieces of texts that are used, by the creator or tradition, to

characterize or identify a work, often alluding to its subject. The work may be linguistic, musical,

iconographic, or other.

Examples: Giaconda, La Joconde, Mona Lisa, Die Dreigroschenoper, La Pie, La Marseillaise

#### **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title (has type: Type)

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type : Type) (has note : String)

intellectual contents

refers to concept (is referred to by): Type

refers to (is referred to by): CRM Entity

(has type : Type)

has translation (is translation of): Linguistic Object

structures

is composed of (forms part of): Information Object

other descriptions

has language (is language of): Language was intended for (was intention of): Type had as general use (was use of): Type

has note: String (has type: Type)

#### The entity is referenced by:

Man-Made Stuff: has title (is title of)

(has type: Type)

#### The entity inherits references:

Activity: was intended use of (was made for)

(mode of use : String)

Event: occurred in the presence of (was present at) Conceptual Creation: has created (was created by) Linguistic Object: has translation (is translation of) Type Assignment: classified (was classified by) Document: documents (is documented in)

Activity: motivated the creation of (was created for)

Information Object: is composed of (forms part of)

CRM Entity: is identified by (identifies)

Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by) End of Existence: took out of existence (was taken out of existence by) Activity: was motivation for (motivated)

#### 5.5.1 Appellation associated entities

#### **E51 Contact Point**

Belongs to: Meta Entity
Subclass of: CRM Entity
Superclass of: Address

Scope Note: This entity comprises identifiers used to communicate with Actors. Note: postal addresses can

be considered both as "Place Appellations" and "Contact Points".

Examples: E-mail addresses, telephone numbers, post office boxes, Fax numbers, etc.

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

has note: String

(has type: Type)

#### The entity is referenced by:

Actor: has contact points (provides access to)

#### The entity inherits references:

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

**E45** Address (Repetition from E44 Place Appellation)

Belongs to: Appellation Type
Subclass of: Place Appellation

**Contact Point** 

Scope Note: An address is generally a postal address used for mailing. An address can be considered both

as the name of a place and as a contact point for an actor. This dual aspect is reflected in the

multiple inheritance.

Example: 1-29-3 Otsuka, Bunkyo-ku,

Tokyo, 121, Japan

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

has note: String

(has type: Type)

#### The entity is not referenced.

#### The entity inherits references:

CRM Entity: is identified by (identifies)

Type Assignment: classified (was classified by) Actor: has contact points (provides access to)

Place: is identified by (identifies)

Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# 5.6 Measures Hierarchy

All entities in this hierarchy are instances of the metaclass "Measure Type". Three submetaclasses are defined: the "Time Type" for the hierarchy of determinators of a date range in any possible system (e.g., rules of Egyptian kings, Julian dates, C14, etc.), the "Location Type" for the determinators of areas in space, relative to the surface of the earth or other relevant methods, and the "Dimension Types" for all relative measures (e.g., money, lengths, durations, degrees, etc.).

#### E52 Time-Span

Belongs to: Time Type Subclass of: CRM Entity

Scope note: A determination of a range of dates or duration without any further connotations to be used to

confine periods, events, and any other phenomena valid for a certain time. A time appellation is a verbal form which refers to a time-span. The time-span itself is a temporal extent in the sense

of Galilean physics. Different time-appellations may express the same time-span.

Examples: from 12-17-1993 to 12-8-1996, 14h30 - 16h22 4<sup>th</sup> July 1945, 9.30 am 1.1.1999 to 2.OO pm

1.1.1999, Duration of the Ming Dynasty

# **Properties:**

identifications

is identified by (identifies): Time Appellation

property note: this is the subproperty of "E1CRM Entity.(is identified by)".

is identified by (identifies): Appellation

classifications

has type (is type of): Type

numerical values

begins at qualify: String ends at qualify: String

at least covering: Time Primitive

property note: the inner bound, can be omitted

at most within: Time Primitive

property note: the outer bound (ensuring recall)

had at least duration: Dimension had at most duration: Dimension

structures

consists of (forms part of): Time-Span falls within (contains): Time-Span

other descriptions

has note: String (has type: Type)

#### The entity is referenced by:

Temporal Entity: has time-span (is time-span of)

and by itself

#### The entity inherits references:

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)

(has type: Type)

#### E53 Place

Belongs to: Location Type Subclass of: CRM Entity

Scope note:

This entity describes extents in space, in particular on the surface of the earth, in the pure sense of physics—independent from temporal phenomena and matter. Places are usually determined by reference to the position of 'immobile' objects such as buildings, cities, mountains, and rivers. On a large time-scale however, these things are either not persistent or may actually move, with respect to each other. This motivates the search for a global or absolute system of reference.

However, relative references are more relevant in the context of cultural documentation and records of relative places tend to be more precise. In particular, we are often interested in position in relation to large objects, such as ships, which move. Any object can serve as a reference for place determination; therefore the model foresees the notion of a 'section' of a physical object as a place determination of equal validity.

Matching between multiple reference systems is in principle possible for a given moment in time, but depends on the precision and completeness of the information available. However, the resolution of places to 'absolute' coordinates is not, in general, necessary in cultural documentation systems, and absolute referencing may be dependent on the present state of global knowledge.

The place at which Nelson died is known with reference to a large mobile object—H.M.S. Victory. A resolution of this place in terms of absolute coordinates requires knowledge about the position of the vessel and the precise time of his death, either of which may be revised. Hence, documenting only an absolute reference effectively removes the possibility of recalculating. It is more relevant to preserve the *reasoning* behind an assumption than the result.

Hence a *place* can be determined by combining, one or more times, a frame of reference and a location with respect to this frame. These combinations are modelled by "Place Appellation". (Instances of place are themselves nameless.)

Examples:

The place referred to by the "Fish collected at three miles north of the confluence of the Arve and the Rhone, or N W. (GPS)". Here -> <-

# **Properties:**

identifications

#### is identified by (identifies): Place Appellation

property note: this is the subproperty of "E1CRM Entity.(is identified by)".

is identified by (identifies): Appellation

classifications

has type (is type of): Type

structures

consists of (forms part of): Place falls within (contains): Place

other descriptions

has note: String (has type: Type)

#### The entity is referenced by:

Period: took place at (witnessed) Move: moved to (occupied) Move: moved from (vacated)

Physical Object: has section (located on or within)

Physical Object: has former or current location (is former or current location of)
Physical Object: has current permanent location (is current permanent location of)

Physical Object: has current location (currently holds)

Actor: has current or former residence (is current or former residence of) and by itself

# The entity inherits references:

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)
(has type: Type)

# **E54 Dimension**

Belongs to: Measure Type Subclass of: CRM Entity

Scope note: This entity is an abstract class for properties that are measured by some calibrated means and

result in numerical values. Dimensions should be recorded according to ISO standards, or using internationally recognized non SI units whenever possible (ISO 31:1992, *Quantities and units;* ISO 1000:1992, *SI units and recommendations for the use of their multiples and of certain other* 

units).

Examples: currency: £26.00, length: 4 cm, diameter: 26 mm, weight: 150 lbs, density: 0.85 gm/cc,

luminescence: 56 ISO lumens, tin content: 0.46 %, "taille au garrot": 5 hands, C14 date: 2460

years, etc.

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

numerical values

value: Number

unit: Measurement Unit

other descriptions has note: String

(has type : Type)

# The entity is referenced by:

Measurement: observed dimension (was observed) Physical Stuff: has dimension (is dimension of)

Time-Span: had at most duration Time-Span: had at least duration

# The entity inherits references:

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)

(has type: Type)

#### 5.7 Types Hierarchy

All entities in this hierarchy are instances of the metaclass "Type Type". This hierarchy does not belong to the CIDOC Entities in the proper sense as its instances are names for aggregations, sets, or undefined masses of physical items or intellectual constructs. They are thought of as elements of authority files on one side; on the other they are used to refer to entities of the Model or any refinement of it as data elements at appropriate points from within the Model in a consistent way. This implies that the respective authorities must be compatible in structure with the Model. As a rule, every entity of the model gives rise to a "Type Type", which is not listed here, as they are defined by rule. Only those types of types not generated by the rule are given explicitly.

#### E55 Type

Belongs to: Type Type
Subclass of: Existence
Superclass of: Language

Language Material

Measurement Unit

#### Gender

Scope note:

This entity captures the names of all entities in the model and any refinements of these entities which do not require further analysis of their formal properties, but which represent typological distinctions important to a given user group. The semantic interpretation of these subtypes is based on the agreement of specific groups. Instances of the "Type" entity have to be formally organized in thesauri, with scope notes, illustrations, etc., to clarify their meaning. In general, it is expected that different domains and cultural groups develop different thesauri in parallel. Consistent reasoning on the expansion of sub terms used in a thesaurus is possible insofar as it conforms to both the entities and the hierarchies of this Model.

Examples:

Weight, length, depth are types of measurement. Portrait, sketch, animation could be types of depiction. Oral, written could be types of language. Excellent, good, poor could be types of condition state.

# **Properties:**

identifications
 is identified by (identifies): Appellation
classifications
 has type (is type of): Type
other descriptions
 has note: String
 (has type : Type)

#### The entity is referenced by:

CRM Entity: has type (is type of)

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction : Type)

Type Assignment: assigned (was assigned by)

Modification: used general technique (was technique of) Activity: had as general purpose (was purpose of) Conceptual Object: refers to concept (is referred to by)

Authority Document: contains (is part of)

Man-Made Stuff: was intended for (was intention of)

Stuff: had as general use (was use of) CRM Entity: has note: has type

Conceptual Object: refers to (is referred to by): has type

Physical Man-Made Stuff: depicts object (is depicted by): mode of depiction Physical Man-Made Stuff: depicts concept (is depicted by): mode of depiction Physical Man-Made Stuff: depicts event (is depicted by): mode of depiction

Activity: carried out by (performed): in the role of Legal Object: right held by (has right on): has type Man-Made Stuff: has title (is title of): has type

#### The entity inherits references:

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by) End of Existence: took out of existence (was taken out of existence by)

#### E56 Language

Belongs to: Type Type Subclass of: Type

Scope note: This entity comprises the names identifying natural languages. ISO codes should be used (ISO

639:1988 Codes for the representation of names of languages). This type does not correspond

to another explicit entity in the Model.

Examples: el Greek, en English, eo Esperanto, es Spanish, fr French

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions has note: String

(has type : Type)

#### The entity is referenced by:

Linguistic Object: has language (is language of)

#### The entity inherits references:

CRM Entity: has type (is type of)

Physical Man-Made Stuff: depicts concept (is depicted by)

(mode of depiction: Type)

Type Assignment: assigned (was assigned by)

Modification: used general technique (was technique of) Activity: had as general purpose (was purpose of) Conceptual Object: refers to concept (is referred to by)

Authority Document: contains (is part of)

Man-Made Stuff: was intended for (was intention of)

Stuff: had as general use (was use of)

CRM Entity: has note: has type

Conceptual Object: refers to (is referred to by): has type

Physical Man-Made Stuff: depicts object (is depicted by): mode of depiction Physical Man-Made Stuff: depicts concept (is depicted by): mode of depiction Physical Man-Made Stuff: depicts event (is depicted by): mode of depiction

Activity: carried out by (performed): in the role of Legal Object: right held by (has right on): has type Man-Made Stuff: has title (is title of): has type Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# E57 Material

Belongs to: Type Type Subclass of: Type

Scope note: This entity comprises the names used to identify materials. Internationally used codes and

terminology are recommended. This type does not correspond to any other explicit entity in the Model, because materials do not have well-defined instances, especially after they are used. Discrete pieces of raw materials kept in museums, such as bricks, sheets of fabric, pieces of metal, should be modelled separately just as other objects. Discrete used or processed pieces,

such as the stones from Nefer Titi's temple, should be modelled as parts.

#### **Properties:**

identifications
 is identified by (identifies): Appellation
classifications
 has type (is type of): Type
other descriptions
 has note: String
 (has type : Type)

#### The entity is referenced by:

Physical Stuff: consists of (is incorporated in)

Design or Procedure: usually employs (is usually employed by)

# The entity inherits references:

CRM Entity: has type (is type of)

Physical Man-Made Stuff: depicts concept (is depicted by)

(mode of depiction: Type)

Type Assignment: assigned (was assigned by)

Modification: used general technique (was technique of) Activity: had as general purpose (was purpose of) Conceptual Object: refers to concept (is referred to by)

Authority Document: contains (is part of)

Man-Made Stuff: was intended for (was intention of)

Stuff: had as general use (was use of)

CRM Entity: has note: has type

Conceptual Object: refers to (is referred to by): has type

Physical Man-Made Stuff: depicts object (is depicted by): mode of depiction Physical Man-Made Stuff: depicts concept (is depicted by): mode of depiction Physical Man-Made Stuff: depicts event (is depicted by): mode of depiction

Activity: carried out by (performed): in the role of Legal Object: right held by (has right on): has type Man-Made Stuff: has title (is title of): has type Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type : Type)

Beginning of Existence: brought into existence (was brought into existence by) End of Existence: took out of existence (was taken out of existence by)

# **E58** Measurement Unit

Belongs to: Type Type Subclass of: Type

Scope Note: This entity provides the authority list for all types of measurement units: feet, inches,

centimeters, liters, lumens, etc. SI units or internationally recognized non SI terms should be used whenever possible. (ISO 1000:1992 SI units and recommendations for the use of their

multiples and of certain other units.)

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

has note: String (has type: Type)

#### The entity is referenced by:

Dimension: unit

#### The entity inherits references:

CRM Entity: has type (is type of)

Physical Man-Made Stuff: depicts concept (is depicted by)

(mode of depiction: Type)

Type Assignment: assigned (was assigned by)

Modification: used general technique (was technique of) Activity: had as general purpose (was purpose of) Conceptual Object: refers to concept (is referred to by)

Authority Document: contains (is part of)

Man-Made Stuff: was intended for (was intention of)

Stuff: had as general use (was use of)

CRM Entity: has note: has type

Conceptual Object: refers to (is referred to by): has type

Physical Man-Made Stuff: depicts object (is depicted by): mode of depiction Physical Man-Made Stuff: depicts concept (is depicted by): mode of depiction Physical Man-Made Stuff: depicts event (is depicted by): mode of depiction

Activity: carried out by (performed): in the role of Legal Object: right held by (has right on): has type Man-Made Stuff: has title (is title of): has type Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

#### 5.8 Other entities

#### **E59 Primitive Value**

Belongs to: Value Type

Scope Note: This entity is a container for primitive values used as documentation elements which are not

further analyzed. As such they are not considered as elements within our universe of discourse.

No specific implementation recommendations are made.

#### The entity is not referenced.

#### E60 Number

Belongs to: Value Type
Subclass of: Primitive Value

Scope Note: Integers, real or complex numbers.

#### The entity is referenced by:

Physical Object: has number of parts

Dimension: value

#### **E61 Time Primitive**

Belongs to: Value Type Subclass of: Primitive Value

Scope Note: This entity is a primitive value that should implement appropriate validation and interval logic for

date ranges and precision relevant to cultural documentation. It is not further analyzed in this

model.

# The entity is referenced by:

Time-Span: at most within Time-Span: at least covering

#### E62 String

Belongs to: Value Type Subclass of: Primitive Value

Scope Note: This entity is a primitive value to be used for any kind of documentation which lacks formal

structure defined within the model, e.g. free text, bitmaps, vector graphics, etc.

#### The entity is referenced by:

CRM Entity: has note

Legal Object: right held by (has right on): has note Activity: used object (was used for): mode of use

Activity: was intended use of (was made for): mode of use

Time-Span: begins at qualify Time-Span: ends at qualify

#### **E63** Beginning of Existence

Belongs to: Period Type

Subclass of: Event

Superclass of: Conceptual Creation

Production Formation Birth

Scope note: Entity for temporal reasoning about things beginning to exist—intellectual products, physical

items, groups of people, living beings, a hook for termini postquem and antequem. It may be

useful to define more specialization of this entity for Natural History.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor

passive participants

#### brought into existence (was brought into existence by): Existence

property note: this is the superproperty of "has produced", "has formed", "brought into life", "has created".

occurred in the presence of (was present at): Stuff

spatial definitions

took place at (witnessed): Place

short cut, spatial definitions

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String (has type: Type)

# The entity is not referenced:

#### The entity inherits references:

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction : Type)

Period : falls within (contains)
Period : consists of (forms part of)

Type Assignment : classified (was classified by)
Document : documents (is documented in)
Conceptual Object : refers to (is referred to by)

(has type: Type)

#### E64 End of Existence

Belongs to: Period Type
Subclass of: Event
Superclass of: Destruction
Dissolution

Dissoluti

Scope note: Entity for temporal reasoning about things ceasing to exist—physical items, groups of people,

living beings. A hook for termini postquem and antequem.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor

passive participants

took out of existence (was taken out of existence by): Existence

property note: this is the superproperty of "destroyed", "dissolved" "was death of".

occurred in the presence of (was present at): Stuff

spatial definitions

took place at (witnessed): Place

short cut, spatial definitions

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String (has type: Type)

# The entity is not referenced:

#### The entity inherits references:

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction: Type)

Period: falls within (contains)
Period: consists of (forms part of)

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

# **E65** Conceptual Creation

Period Type Belongs to:

Subclass of: Beginning of Existence

Activity

Scope note: The creation of an immaterial product—text, music, image, movie, law, etc.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor carried out by (performed): Actor

(in the role of : Type)

passive participants

#### has created (was created by): Conceptual Object

property note: this is a subproperty of "brought into existence", "occurred in the presence of"

brought into existence (was brought into existence by): Existence

took into account (was taken into account by): Conceptual Object

occurred in the presence of (was present at): Stuff

used object (was used for): Physical Object

(mode of use: String)

motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

had specific purpose (was purpose of): Activity

had as general purpose (was purpose of): Type

was intended use of (was made for): Man-Made Stuff

(mode of use : String)

short cut, spatial definitions

took place on or within (witnessed): Physical Object

spatial definitions

took place at (witnessed): Place

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String

(has type: Type)

# The entity is not referenced:

# The entity inherits references:

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction: Type)

Period: falls within (contains)

Period: consists of (forms part of)

Activity: had specific purpose (was purpose of)

Type Assignment: classified (was classified by)

Document: documents (is documented in)

Conceptual Object: refers to (is referred to by)

(has type: Type)

# E66 Formation

Belongs to: Period Type

Subclass of: Beginning of Existence

Activity

Scope note: The formation or foundation of a formal or informal group of people.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor

carried out by (performed): Actor (in the role of : Type)

passive participants

# has formed (was formed by): Group

property note: this is a subproperty of "brought into existence", "had participants".

brought into existence (was brought into existence by): Existence took into account (was taken into account by): Conceptual Object

occurred in the presence of (was present at): Stuff

used object (was used for): Physical Object

(mode of use : String)

motivations

was motivation for (motivated): Conceptual Object

motivated the creation of (was created for): Conceptual Object

had specific purpose (was purpose of): Activity had as general purpose (was purpose of): Type was intended use of (was made for): Man-Made Stuff

(mode of use : String)

short cut, spatial definitions

took place on or within (witnessed): Physical Object

spatial definitions

took place at (witnessed): Place

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String (has type: Type)

# The entity is not referenced:

# The entity inherits references:

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction: Type)

Period: falls within (contains)
Period: consists of (forms part of)

Activity: had specific purpose (was purpose of) Type Assignment: classified (was classified by) Document: documents (is documented in)

Conceptual Object: refers to (is referred to by)

(has type: Type)

#### E67 Birth

Belongs to: Period Type

Subclass of: Beginning of Existence

Scope note: The birth of a human being.

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

by mother (gave birth): Person

property note: this is the subproperty of "had participants".

from father (was father for): Person had participants (participated in): Actor

passive participants

brought into life (was born): Person

property note: this is a subproperty of "brought into existence", "had participants".

brought into existence (was brought into existence by): Existence

occurred in the presence of (was present at): Stuff

spatial definitions

took place at (witnessed): Place

short cut, spatial definitions

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String (has type: Type)

# The entity is not referenced:

#### The entity inherits references:

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction : Type)

Period: falls within (contains)

Period: consists of (forms part of

Period: consists of (forms part of)

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

#### E68 Dissolution

Belongs to: Period Type
Subclass of: End of Existence

Scope note: The formal or informal end of a group of people. If it was a deliberate act, the instance should

also be instantiated as an activity.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor

passive participants

# dissolved (was dissolved by): Group

property note: this is a subproperty of "took out of existence", "had participants".

took out of existence (was taken out of existence by): Existence

occurred in the presence of (was present at): Stuff

short cut, spatial definitions

took place on or within (witnessed): Physical Object

spatial definitions

took place at (witnessed): Place

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String (has type: Type)

# The entity is not referenced:

#### The entity inherits references:

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction: Type)

Period: falls within (contains)

Period: consists of (forms part of)

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)

(has to a Time)

(has type: Type)

#### E69 Death

Belongs to: Period Type Subclass of: End of Existence

Scope note: The death of a human being. If the person was killed, the instance should also be instantiated

as an activity.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

active participants

had participants (participated in): Actor

passive participants

was death of (died in): Person

property note: this is a subproperty of "took out of existence", "had participants".

took out of existence (was taken out of existence by): Existence

occurred in the presence of (was present at): Stuff

spatial definitions

took place at (witnessed): Place

short cut, spatial definitions

took place on or within (witnessed): Physical Object

temporal definitions

has time-span (is time-span of): Time-Span

structures

consists of (forms part of): Period falls within (contains): Period

other descriptions

has note: String (has type: Type)

# The entity is not referenced:

#### The entity inherits references:

Physical Man-Made Stuff: depicts event (is depicted by)

(mode of depiction: Type)

Period: falls within (contains)

Period: consists of (forms part of)

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type)

#### E70 Stuff

Belongs to: Object Type
Subclass of: Existence
Superclass of: Man-Made Stuff
Physical Stuff

Filysical Stul

Scope note: An identifiable, discrete, persistent item which constitutes a unit for documentation, be it an

intellectual product or a physical thing. Such items are characterized by a relative stability, i.e. either a solid physical form, an electronic encoding, a reproducible pattern, or a logical concept or structure. It introduces the concept of *being used*. Excluded are liquids flowing, gases moving

around, etc. A packaged liquid however fits this entity.

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

had as general use (was use of): Type

has note: String (has type: Type)

# The entity is referenced by:

Event: occurred in the presence of (was present at)

#### The entity inherits references:

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type : Type)

Beginning of Existence: brought into existence (was brought into existence by) End of Existence: took out of existence (was taken out of existence by)

# E71 Man-Made Stuff

Belongs to: Object Type

Subclass of: Stuff

Superclass of: Physical Man-Made Stuff

Conceptual Object

Scope note: An identifiable, discrete, persistent item deliberately produced, invented, or created by humans

which constitutes a unit for documentation, be it an intellectual product, idea, or a physical thing.

#### **Properties:**

identifications

has title (is title of): Title (has type : Type)

(taken over from E19 Physical Object)

property note: this is the subproperty of "E1CRM Entity.(is identified by)",

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

# was intended for (was intention of): Type

(moved up from E22 Man-Made Object)

had as general use (was use of): Type

has note: String (has type: Type)

#### The entity is referenced by:

Activity: was intended use of (was made for)

(mode of use : String)

#### The entity inherits references:

Event: occurred in the presence of (was present at) Type Assignment: classified (was classified by)

Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has time : Time)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# E72 Legal Object

Belongs to: Object Type Subclass of: Existence

Superclass of: Information Object

**Physical Stuff** 

Scope note: An identifiable item which can be owned or concerning which people may have rights. It is not

restricted to Stuff. Legal Bodies should be included.

Examples: Charles Galland 2, Geneva (a building), "Strategies for self improvement" (an article), The Bath

Camerata (an orchestral ensemble)

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type : Type) (has note : String)

(taken over from Physical Object)

property note: It is short cut of the "Right".

other descriptions

has note: String (has type : Type)

#### The entity is not referenced:

# The entity inherits references:

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# **E73** Information Object

Belongs to: Concept Type Subclass of: Conceptual Object

Legal Object

Superclass of: Iconographic Object

Linguistic Object Visual Item Document

Design or Procedure

Scope note: An identifiable immaterial item which constitutes a unit for documentation and has an objectively

recognizable structure. E73 does not include types, ideas, etc.

Examples: data sets, images, texts, procedure prescriptions

#### **Properties:**

identifications

is identified by (identifies): Appellation

has title (is title of): Title (has type: Type)

classifications

has type (is type of): Type

legal status

is subject to (applies to): Right

short cut, legal status

right held by (has right on): Actor

(has type : Type) (has note : String)

intellectual contents

refers to concept (is referred to by): Type refers to (is referred to by): CRM Entity

(has type : Type)

structures

#### is composed of (forms part of): Information Object

other descriptions

was intended for (was intention of): Type had as general use (was use of): Type

has note: String (has type: Type)

#### The entity is referenced only by itself.

Information Object: is composed of (forms part of)

#### The entity inherits references:

Activity: was intended use of (was made for)

(mode of use: String)

Event: occurred in the presence of (was present at) Conceptual Creation: has created (was created by) Type Assignment: classified (was classified by)

Document: documents (is documented in)

Activity: motivated the creation of (was created for) Activity: took into account (was taken into account by)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

Activity: was motivation for (motivated)

#### E74 Group

Belongs to: Actor Type
Subclass of: Actor
Superclass of: Legal Body

Scope note: A group is any gathering of people that acts collectively or in a similar way due to any kind of

social bounds or contact. Nationality can be handled as a link to a group of appropriate type. Note the distinction between citizenship and ethnic group and other subtleties not easily

expressible by nationality adjectives.

Examples: a group of people painting together at some happening, a tribe of indigenous people, an artist

workshop, a museum, "Those at the Bastille", a nation, a government, a company

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

structures

# had member (was member of): Actor

<u>property note</u>: Any kind of belonging to a group. May be seen as shortcut of a respective temporal entity other descriptions

has current or former residence (is current or former residence of): Place

possesses (is possessed by): Right

has contact points (provides access to): Contact Point

has note: String (has type: Type)

#### The entity is referenced:

Dissolution: dissolved (was dissolved by) Formation: has formed (was formed by)

# The entity inherits references:

Activity: carried out by (performed)

(in the role of : Type)

Legal Object: right held by (has right on)

(has type: Type) (has note: String)

Physical Object: has current owner (is current owner of)

Physical Object: has former or current owner (is former or current owner of)

Physical Object: has current keeper (is current keeper of)

Physical Object: has former or current keeper (is former or current keeper of)

Event: had participants (participated in)

Acquisition: transferred title from (surrendered title of)
Acquisition: transferred title to (acquired title of)

Transfer of Custody: custody received by (received custody)

Transfer of Custody: custody surrendered by (surrendered custody)

Type Assignment: classified (was classified by)
Document: documents (is documented in)
Conceptual Object: refers to (is referred to by)

(has type: Type)

Group: had member (was member of)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

# **E75** Conceptual Object Appellation

Belongs to: Appellation Type Subclass of: Appellation

Scope note: Specific identifiers of an intellectual product or standardized pattern. ISO identifiers should be

used whenever possible (ISO 2108, ISBN; ISO 3297, ISSN; ISO 15707, ISWC, etc.)

ISBN 3-7913-1418-1, ISO 2788:1986 (E) Examples:

#### **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions has note: String

(has type: Type)

# The entity is not referenced:

#### The entity inherits references:

Type Assignment: classified (was classified by) Document: documents (is documented in) CRM Entity: is identified by (identifies) Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

#### E76 Gender

Belongs to: Appellation Type

Subclass of: Type

Scope note:

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions

has note: String (has type: Type)

#### The entity is not referenced:

Person: has gender (is gender of)

# The entity inherits references:

CRM Entity: has type (is type of)

Physical Man-Made Stuff: depicts concept (is depicted by)

(mode of depiction: Type)

Type Assignment: assigned (was assigned by)

Modification: used general technique (was technique of)

Activity: had as general purpose (was purpose of)
Conceptual Object: refers to concept (is referred to by)

Authority Document: contains (is part of)

Man-Made Stuff: was intended for (was intention of)

Stuff: had as general use (was use of)

CRM Entity: has note: has type

Conceptual Object: refers to (is referred to by): has type

Physical Man-Made Stuff: depicts object (is depicted by): mode of depiction Physical Man-Made Stuff: depicts concept (is depicted by): mode of depiction

Physical Man-Made Stuff: depicts event (is depicted by): mode of depiction

Activity: carried out by (performed): in the role of Legal Object: right held by (has right on): has type

Legal Object: right held by (has right on): has type Man-Made Stuff: has title (is title of): has type

Type Assignment: classified (was classified by)

Document: documents (is documented in)

Conceptual Object: refers to (is referred to by)

(has type: Type)

Beginning of Existence: brought into existence (was brought into existence by)

End of Existence: took out of existence (was taken out of existence by)

#### **E77** Existence

Belongs to: MetaEntity
Subclass of: CRM Entity
Superclass of: Legal Object

Stuff

**Contact Point** 

Type Appellation Actor

Scope note: This is an abstract entity, which comprises the kinds of things that have the potential to exist for

a relevant time-span preserving their identity. It comprises physical items and intellectual products, groups of people, living beings, etc. Types are included by virtue of their nature as intellectual products, in particular in natural history, where types are based on the finding of a prototypical specimen. Appellations are included in their nature as creations of the people using

them.

Examples: ISBN 3-00-007556-9, me, Arethusa ophioglossoides, Shakespeare's Hamlet, Aphrodite of Milos

# **Properties:**

identifications

is identified by (identifies): Appellation

classifications

has type (is type of): Type

other descriptions has note: String

(has type : Type)

#### The entity is not referenced:

End of Existence: took out of existence (was taken out of existence by)

Beginning of Existence: brought into existence (was brought into existence by)

# The entity inherits references:

Type Assignment: classified (was classified by) Document: documents (is documented in) Conceptual Object: refers to (is referred to by)

(has type: Type

# **Annex A**

(informative)

# Entities presented as a mono-hierarchy

E1	CRM Entity								
E2	-	- Temporal Entity							
E3	-	-	- Condition State						
E4	-	-	Period						
E5	-	-	-	E	Ξve	en	t		
E7	-	-	-	-	. /	٩c	ti۱	/it	у
E8	-	-	-	-	-		Α	CC	quisition
<b>E</b> 9	-	-	-	-	-		M	o	ve
E10	-			-	-	-	-	Τr	ansfer of Custody
E11	-			-	-	-	ſ	M	odification
E12	-			-	-	-	-		Production
E13	-			-	-	-	1	٩t	tribute Assignment
E14	-		-	-	-	-	-		Condition Assessment
E15	-		-	-	-	-	-		Identifier Assignment
E16	-		-	-	-	-	-		Measurement
E17	-		-	-	-	-	-		Type Assignment
E65	-			-	-	-	(	Co	onceptual Creation
E66	-			-	-	-	F	=c	ormation
E63	-		-	-	-	В	e	giı	nning of Existence
E67	-		-	-	-	-	E	Зi	rth
E12	-			-	-	-	I	Pr	oduction
E65	-			-	-	-	(	Co	onceptual Creation
E66	-		-	-	-	-	F	=c	ormation
E64	-		-	-	-	E	n	d	of Existence
E6	-	-	-	-			D	es	struction
E68	-		-	-	-	-	ı	Di	ssolution
E69	-			-	-	-	I	De	eath
E77	-		Ex	ist	ten	ce	)		
E70	-		- ;	St	tuff				
E18	-			-	Pł	าy	si	ca	al Stuff
E19	-			-	-	Ρ	hy	ys	ical Object
E20	-			-	-	-	E	3i	ological Object
E21	-			-	-	_	-		Person

E22 - - - - Man-Made Object

F00					la an annamhia Ohia at		
E23					Iconographic Object		
					Physical Man-Made Stuff		
E22					- Man-Made Object		
E23		-	-	-			
E25			-		- Man-Made Feature		
E26		-	-	-	Physical Feature		
E27			-		- Site		
E21		-	-	-	- Person		
E25					- Man-Made Feature		
E71	-	-	-	M	lan-Made Stuff		
E24	-	-	-	-	Physical Man-Made Stuff		
E22	-	-	-	-	- Man-Made Object		
E23	-	-	-	-	Iconographic Object		
E25	-	-	-	-	- Man-Made Feature		
E28	-	-	-	-	Conceptual Object		
E73	-	-	-	-	- Information Object		
E23	-	-	-	-	Iconographic Object		
E29	-	-	-	-	Design or Procedure		
E31	-	-	-	-	Document		
E32	-	-	-	-	Authority Document		
E33	-	-	-	-	Linguistic Object		
E34	-	-	-	-	Inscription		
E35	-	-	-	-	Title		
E36	-	-	-	-	Visual Item		
E37	-	-	_	_	Mark		
E34	_	_	_	_	Inscription		
E38					Image		
					- Right		
					al Object		
E18					hysical Stuff		
					Physical Object		
					- Biological Object		
E21		_	_		Person		
E22		_	_		- Man-Made Object		
					Iconographic Object		
					Physical Man-Made Stuff		
E22					- Man-Made Object		
					- Iconographic Object		
					- Man-Made Feature		
<b>∟26</b>	-	-	-	-	Physical Feature		

- E27 - - Site
- E25 - - Man-Made Feature
- E73 - Information Object
- E23 - Iconographic Object
- E29 - Design or Procedure
- E31 - Document
- E32 - - Authority Document
- E33 - - Linguistic Object
- E34 - - Inscription
- E35 - - Title
- E36 - Visual Item
- E37 - - Mark
- E34 - - Inscription
- E38 - - Image
- E39 - Actor
- E74 - Group
- E40 - Legal Body
- E26 - Physical Feature
- E21 - Person
- E25 - Man-Made Feature
- E27 - Site
- E41 - Appellation
- E42 - Object Identifier
- E44 - Place Appellation
- E45 - Address
- E46 - Section Definition
- E47 - Spatial Coordinates
- E48 - - Place Name
- E49 - Time Appellation
- E50 - Date
- E75 - Conceptual Object Appellation
- E35 - Title
- E51 - Contact Point
- E45 - Address
- E55 - Type
- E56 - Language
- E57 - Material
- E58 - Measurement Unit
- E76 - Gender
- E52 Time-Span

E53 - Place

E54 - Dimension

E59 Primitive Value

E60 - Number

E61 - Time Primitive

E62 - String

# Annex B

(informative)

# Index of the properties by alphabetical order

Property id	Entity - Domain	Domain id	Property Name	Entity - Range	Range id
P42	Type Assignment	E17	assigned (was assigned by)	Туре	E55
P37	Identifier Assignment	E15	assigns (is assigned by)	Object Identifier	E42
P69	Design or Procedure	E29	is associated with	Design or Procedure	E29
P81	Time-Span	E52	at least covering	Time Primitive	E61
P82	Time-Span	E52	at most within	Time Primitive	E61
P56	Physical Object	E19	bears feature (is found on)	Physical Feature	E26
P79	Time-Span	E52	begins at qualify	String	E62
P92	Beginning of Existence	E63	brought into existence (was brought into existence by)	Existence	E77
P98	Birth	E67	brought into life (was born)	Person	E21
P96	Birth	E67	by mother (gave birth)	Person	E21
P14	Activity	E7	carried out by (performed) (in the role of : Type)	Actor	E39
P41	Type Assignment	E17	classified (was classified by)	CRM Entity	E1
P34	Condition Assessment	E14	concerned (was assessed by)	Physical Stuff	E18
P77	Legal Body	E40	consists of (belongs to)	Legal Body	E40
P85	Time-Span	E52	consists of (forms part of)	Time-Span	E52
P88	Place	E53	consists of (forms part of)	Place	E53
P5	Condition State	E3	consists of (forms part of)	Condition State	E3
P9	Period	E4	consists of (forms part of)	Period	E4
P45	Physical Stuff	E18	consists of (is incorporated in)	Material	E57
P71	Authority Document	E32	contains (is part of)	Туре	E55
P29	Transfer of Custody	E10	custody received by (received custody)	Actor	E39
P28	Transfer of Custody	E10	custody surrendered by (surrendered custody)	Actor	E39
P38	Identifier Assignment	E15	deassigns (is deassigned by)	Object Identifier	E42
P64	Physical Man-Made Stuff	E24	depicts concept (is depicted by) (mode of depiction : Type)	Туре	E55
P63	Physical Man-Made Stuff	E24	depicts event (is depicted by)	Event	E5
P62	Physical Man-Made Stuff	E24	depicts object (is depicted by) (mode of depiction : Type)	Physical Stuff	E18
P13	Destruction	E6	destroyed (was destroyed by)	Physical Object	E19
P99	Dissolution	E68	dissolved (was dissolved by)	Group	E74

Property id	Entity - Domain	Domain id	Property Name	Entity - Range	Range id
P70	Document	E31	documents (is documented in)	CRM Entity	E1
P80	Time-Span	E52	ends at qualify	String	E62
P6	Condition State	E3	falls within (contains)	Condition State	E3
P10	Period	E4	falls within (contains)	Period	E4
P86	Time-Span	E52	falls within (contains)	Time-Span	E52
P89	Place	E53	falls within (contains)	Place	E53
P97	Birth	E67	from father (was father for)	Person	E21
P21	Activity	E7	had as general purpose (was purpose of)	Туре	E55
P83	Time-Span	E52	had at least duration	Dimension	E54
P84	Time-Span	E52	had at most duration	Dimension	E54
P107	Group	E74	had member (was member of)	Actor	E39
P11	Event	E5	had participants (participated in)	Actor	E39
P20	Activity	E7	had specific purpose (was purpose of)	Activity	E7
P101	Stuff	E70	had as general use (was use of)	Туре	E55
P44	Physical Stuff	E18	has condition (condition of)	Condition State	E3
P76	Actor	E39	has contact points (provides access to)	Contact Point	E51
P94	Conceptual Creation	E65	has created (was created by)	Conceptual Object	E28
P50	Physical Object	E19	has current keeper (is current keeper of)	Actor	E39
P55	Physical Object	E19	has current location (currently holds)	Place	E53
P74	Actor	E39	has current or former residence (is current or former residence of)	Place	E53
P52	Physical Object	E19	has current owner (is current owner of)	Actor	E39
P54	Physical Object	E19	has current permanent location (is current permanent location of)	Place	E53
P43	Physical Stuff	E18	has dimension (is dimension of)	Dimension	E54
P35	Condition Assessment	E14	has identified (identified by)	Condition State	E3
P95	Formation	E66	has formed (was formed by)	Group	E74
P49	Physical Object	E19	has former or current keeper (is former or current keeper of)	Actor	E39
P53	Physical Object	E19	has former or current location (is former or current location of)	Place	E53
P51	Physical Object	E19	has former or current owner (is former or current owner of)	Actor	E39
P61	Person	E21	has gender (is gender of)	Gender	E76
P72	Linguistic Object	E33	has language (is language of)	Language	E56
P3	CRM Entity	E1	has note (has type : Type)	String	E62

Property id	Entity - Domain	Domain id	Property Name	Entity - Range	Range id
P31	Modification	E11	has modified (was modified by)	Physical Man-Made Stuff	E24
P57	Physical Object	E19	has number of parts	Number	E60
P108	Production	E12	has produced (was produced by)	Physical Man-Made Stuff	E24
P59	Physical Object	E19	has section (is located on or within)	Place	E53
P58	Physical Object	E19	has section definition (defines section)	Section Definition	E46
P4	Temporal Entity	E2	has time-span (is time-span of)	Time-Span	E52
P102	Man-Made Stuff	E71	has title (is title of) (has type : Type)	Title	E35
P73	Linguistic Object	E33	has translation (is translation of)	Linguistic Object	E33
P2	CRM Entity	E1	has type (is type of)	Туре	E55
P46	Physical Stuff	E18	is composed of (forms part of)	Physical Stuff	E18
P106	Information Object	E73	is composed of (forms part of)	Information Object	E73
P1	CRM Entity	E1	is identified by (identifies)	Appellation	E41
P47	Physical Object	E19	is identified by (identifies)	Object Identifier	E42
P87	Place	E53	is identified by (identifies)	Place Appellation	E44
P78	Time-Span	E52	is identified by (identifies)	Time Appellation	E49
P60	Person	E21	is member of (has members)	Legal Body	E40
P104	Legal Object	E72	is subject to (applies to)	Right	E30
P39	Measurement	E16	measured (was measured by)	Physical Stuff	E18
P18	Activity	E7	motivated the creation of (was created for)	Conceptual Object	E28
P25	Move	E9	moved (moved by)	Physical Object	E19
P27	Move	E9	moved from (vacated)	Place	E53
P26	Move	E9	moved to (occupied)	Place	E53
P40	Measurement	E16	observed dimension (was observed)	Dimension	E54
P12	Event	E5	occurred in the presence of (was present at)	Stuff	E70
P75	Actor	E39	possesses (is possessed by)	Right	E30
P48	Physical Object	E19	preferred identifier is (is preferred identifier of)	Object Identifier	E42
P67	Conceptual Object	E28	refers to ( is referred to by) (has type : Type)	CRM Entity	E1
P66	Conceptual Object	E28	refers to concept (is referred to by)	Туре	E55
P36	Identifier Assignment	E15	registered (was registered by)	Physical Object	E19
P105	Legal Object	E72	right held by (has right on) (has type : Type) (has note : String)	Actor	E39
P65	Physical Man-Made Stuff	E24	shows visual item (is shown by)	Visual Item	E36
P15	Activity	E7	took into account (was taken into account by)	Conceptual Object	E28

Property id	Entity - Domain	Domain id	Property Name	Entity - Range	Range id
P93	End of Existence	E64	took out of existence (was taken out of existence by)	Existence	E77
P7	Period	E4	took place at (witnessed)	Place	E53
P8	Period	E4	took place on or within (witnessed)	Physical Object	E19
P30	Transfer of Custody	E10	transferred custody of (custody changed by)	Physical Object	E19
P23	Acquisition	E8	transferred title from (surrendered title of)	Actor	E39
P24	Acquisition	E8	transferred title of (changed ownership by)	Physical Object	E19
P22	Acquisition	E8	transferred title to (acquired title of)	Actor	E39
P91	Dimension	E54	unit	Measurement Unit	E58
P32	Modification	E11	used general technique (was technique of)	Туре	E55
P16	Activity	E7	used object (was used for) (mode of use : String)	Physical Object	E19
P33	Modification	E11	used specific technique (was used by)	Design or Procedure	E29
P68	Design or Procedure	E29	usually employs (is usually employed by)	Material	E57
P90	Dimension	E54	value	Number	E60
P100	Death	E69	was death of (died in)	Person	E21
P103	Man-Made Stuff	E71	was intended for (was intention of)	Туре	E55
P19	Activity	E7	was intended use of (was made for) (mode of use: String)	Man-Made Stuff	E71
P17	Activity	E7	was motivation for (motivated)	Conceptual Object	E28

# Annex C (informative)

# Index of the sub-properties

Property id	Property Name	Entity – Domain	Entity – Range
P1	is identified by (identifies)	E1 CRM Entity	E41 Appellation
P47	- is identified by (identifies)	E19 Physical Object	E42 Object Identifier
P48	<ul> <li>- preferred identifier is</li> <li>(is preferred identifier of)</li> </ul>	E19 Physical Object	E42 Object Identifier
P78	- is identified by (identifies)	E52 Time-Span	E49 Time Appellation
P87	- is identified by (identifies)	E53 Place	E44 Place Appellation
P102	- has title (is title of)	E71 Man-Made Stuff	E35 Title
P7	took place at (witnessed)	E4 Period	E53 Place
P26	<ul> <li>moved to (occupied)</li> </ul>	E9 Move	E53 Place
P27	- moved from (vacated)	E9 Move	E53 Place
P11	had participants (participated in)	E5 Event	E39 Actor
P14	<ul> <li>carried out by (performed)</li> </ul>	E7 Activity	E39 Actor
P22	<ul> <li>transferred title to (acquired title of)</li> </ul>	E8 Acquisition	E39 Actor
P23	transferred title from (surrendered title of)	E8 Acquisition	E39 Actor
P28	<ul> <li>custody surrendered by (surrendered custody)</li> </ul>	E10 Transfer of Custody	E39 Actor
P29	<ul> <li>custody received by (received custody)</li> </ul>	E10 Transfer of Custody	E39 Actor
P95	<ul> <li>has formed (was formed by)</li> </ul>	E66 Formation	E74 Group
P96	<ul> <li>by mother (gave birth)</li> </ul>	E67 Birth	E21 Person
P98	- brought into life (was born)	E67 Birth	E21 Person
P99	<ul> <li>dissolved (was dissolved by)</li> </ul>	E68 Dissolution	E74 Group
P100	- was death of (died in)	E69 Death	E21 Person
P12	occurred in the presence of (was present at)	E5 Event	E70 Stuff
P13	<ul> <li>destroyed (was destroyed by)</li> </ul>	E6 Destruction	E19 Physical Object
P16	<ul> <li>used object (was used for)</li> </ul>	E7 Activity	E19 Physical Object
P24	<ul> <li>transferred title of (changed ownership by)</li> </ul>	E8 Acquisition	E19 Physical Object
P25	- moved (moved by)	E9 Move	E19 Physical Object
P30	<ul> <li>transferred custody of (custody changed by)</li> </ul>	E10 Transfer of Custody	E19 Physical Object
P31	- has modified (was modified by)	E11 Modification	E24 Physical Man-Made Stuff
P108	has produced (was produced by)	E12 Production	E24 Physical Man-Made Stuff
P34	- concerned (was assessed by)	E14 Condition Assessment	E18 Physical Stuff
P36	- registered (was registered by)	E15 Identifier Assignment	E19 Physical Object
P39	- measured (was measured)	E16 Measurement	E18 Physical Stuff
P94	- has created (was created by)	E65 Conceptual Creation	E28 Conceptual Object
P49	has former or current keeper (is former or current keeper of)	E19 Physical Object	E39 Actor
P50	- has current keeper (is current keeper of)	E19 Physical Object	E39 Actor
P51	has former or current owner (is former or current owner of)	E19 Physical Object	E39 Actor
P52	- has current owner (is current owner of)	E19 Physical Object	E39 Actor

Property id	Property Name	Entity – Domain	Entity - Range
P53	has former or current location (is former or current location of)	E19 Physical Object	E53 Place
P54	<ul> <li>has current permanent location (is current permanent location of)</li> </ul>	E19 Physical Object	E53 Place
P55	- has current location (currently holds)	E19 Physical Object	E53 Place
P67 P70	refers to ( is referred to by) - documents (is documented in)	E28 Conceptual Object E31 Document	E1 CRM Entity E1 CRM Entity
P92	brought into existence (was brought into existence by)	E63 Beginning of Existence	E77 Existence
P94	- has created (was created by)	E65 Conceptual Creation	E28 Conceptual Object
P95	- has formed (was formed by)	E66 Formation	E74 Group
P98	- brought into life (was born)	E67 Birth	E21 Person
P108	- has produced (was produced by)	E12 Production	E24 Physical Man-Made Stuff
P93	took out of existence (was taken out of existence by)	E64 End of Existence	E77 Existence
P13	<ul> <li>destroyed (was destroyed by)</li> </ul>	E6 Destruction	E19 Physical Object
P99	- dissolved (was dissolved by)	E68 Dissolution	E74 Group
P100	- was death of (died in)	E69 Death	E21 Person