### ISSUE : HW BY CEO; CHECK SCOPE NOTES FOR CLASSES AND PROPERTIES OF THE CRM FOR INCONSISTENCIES.

**DECISIONS (OVERALL):**

1. the sig accepted all additions of \*instance(s) of\* prior to identifiers for classes across the document.
2. Examples missing from definitions of classes and properties: They have to be filled before the next CRM sig meeting. They are either to be treated in a separate issue or as part of this one.
CB shared with the sig a list of the classes and properties lacking examples.
**HW** to MD and SS to provide with examples.

#### CLASSES

##### E1 CRM Entity

**DECISION**: former conflict with E59 Primitive Value being in the scope of E1 CRM Entity is resolved, by explicitly declaring E59 isA E1.

**DECISION**: Scope note accepted post-editing by the sig.

E1 CRM Entity, changed

###### FROM (old)

**E1 CRM Entity**

Superclass of: [E2](#_E2_Temporal_Entity) Temporal Entity

[E52](#_E52_Time-Span) Time-Span

[E53](#_E53_Place) Place

[E54](#_E54_Dimension) Dimension

[E77](#_E77_Persistent_Item) Persistent Item

[E92](#_E92_Spacetime_Volume) Spacetime Volume

Scope note: This class comprises all things in the universe of discourse of the CIDOC Conceptual Reference Model.

It is an abstract concept providing for three general properties:

1. Identification by name or appellation, and in particular by a preferred identifier
2. Classification by type, allowing further refinement of the specific subclass an instance belongs to
3. Attachment of free text for the expression of anything not captured by formal properties

With the exception of E59 Primitive Value, all other classes within the CIDOC CRM are directly or indirectly specialisations of E1 CRM Entity.

Examples:

* the earthquake in Lisbon 1755 (E5) (Chester, 2001)

In First Order Logic:

 E1(x)

Properties:

[P1](#_P1_is_identified) is identified by (identifies): [E41](#_E41_Appellation) Appellation

[P2](#_P2_has_type) has type (is type of): [E55](#_E55_Type) Type

[P3](#_P3_has_note) has note: [E62](#_E62_String) String

 (P3.1 has type: [E55](#_E55_Type) Type)

[P48](#_P48_has_preferred) has preferred identifier (is preferred identifier of): [E42](#_E42_Object_Identifier) Identifier

[P137](#_P137_exemplifies_(_is exemplified b) exemplifies (is exemplified by): [E55](#_E55_Type) Type

 (P137.1 in the taxonomic role: [E55](#_E55_Type) Type)

###### TO (new)

**E1 CRM Entity**

Superclass of: [E2](#_E2_Temporal_Entity) Temporal Entity

[E52](#_E52_Time-Span) Time-Span

[E53](#_E53_Place) Place

[E54](#_E54_Dimension) Dimension

[E59](#_E59_Primitive_Value) Primitive Value

[E77](#_E77_Persistent_Item) Persistent Item

[E92](#_E92_Spacetime_Volume) Spacetime Volume

Scope note: This class comprises all things in the universe of discourse of the CIDOC Conceptual Reference Model.

It is an abstract concept providing for three general properties:

1. Identification by name or appellation, and in particular by a preferred identifier
2. Classification by type, allowing further refinement of the specific subclass an instance belongs to
3. Attachment of free text and other unstructured data for the expression of anything not captured by formal properties

All other classes within the CIDOC CRM are directly or indirectly specializations of E1 CRM Entity.

Examples:

* the earthquake in Lisbon 1755 (E5) (Chester, 2001)

In First Order Logic:

 E1(x)

Properties:

[P1](#_P1_is_identified) is identified by (identifies): [E41](#_E41_Appellation) Appellation

[P2](#_P2_has_type) has type (is type of): [E55](#_E55_Type) Type

[P3](#_P3_has_note) has note: [E62](#_E62_String) String

 (P3.1 has type: [E55](#_E55_Type) Type)

[P48](#_P48_has_preferred) has preferred identifier (is preferred identifier of): [E42](#_E42_Object_Identifier) Identifier

[P137](#_P137_exemplifies_(_is exemplified b) exemplifies (is exemplified by): [E55](#_E55_Type) Type

 (P137.1 in the taxonomic role: [E55](#_E55_Type) Type)

##### E2 Temporal Entity

**DECISION**: the sig resolved the comments made by CEO, did some editing to the scope note and accepted it for the next official release.

The scope note changed

###### FROM (old)

**E2 Temporal Entity**

Subclass of: Ε1 CRM Entity

Superclass of: Ε3 Condition State

 E4 Period

Scope note: This class comprises all phenomena, such as the instances of E4 Periods, E5 Events and states, which happen over a limited extent in time. This extent in time must be contiguous, i.e., without gaps. In case the defining kinds of phenomena for an instance of E2 Temporal Entity cease to happen, and occur later again at another time, we regard that the former instance of E2 Temporal Entity has ended and a new instance has come into existence. In more intuitive terms, the same event cannot happen twice.

 In some contexts, these are also called perdurants. This class is disjoint from E77 Persistent Item. This is an abstract class that typically has no direct instances. E2 Temporal Entity is specialized into E4 Period, which applies to a particular geographic area (defined with a greater or lesser degree of precision), and E3 Condition State, which applies to instances of E18 Physical Thing.

Examples:

* Bronze Age (E4) (Childe, 1963)
* the earthquake in Lisbon 1755 (E5) (Chester, 2001)
* the Peterhof Palace near Saint Petersburg being in ruins from 1944 – 1946 (E3) (Maddox, 2015)

In First Order Logic:

E2(x) ⊃ E1(x)

Properties:

P4 has time-span (is time-span of): E52 Time-Span

P173 starts before or at the end of (ends with or after the start of): E2 Temporal Entity

P174 starts before (starts after the start of): E2 Temporal Entity

P175 starts before or with the start of (starts with or after the start of) : E2 Temporal Entity

P176 starts before the start of (starts after the start of): E2 Temporal Entity

P182 ends before or at the start of (starts with or after the end of) : E2 Temporal Entity

P183 ends before the start of (starts after the end of) : E2 Temporal Entity

P184 ends before or with the end of (ends with or after the end of) : E2 Temporal Entity

P185 ends before the end of (ends after the end of): E2 Temporal Entity

###### TO (new)

**E2 Temporal Entity**

Subclass of: Ε1 CRM Entity

Superclass of: Ε3 Condition State

 E4 Period

Scope note: This class comprises all phenomena, such as the instances of E4 Periods and E5 Events, which happen over a limited extent in time. This extent in time must be contiguous, i.e., without gaps. In case the defining kinds of phenomena for an instance of E2 Temporal Entity cease to happen, and occur later again at another time, we regard that the former instance of E2 Temporal Entity has ended and a new instance has come into existence. In more intuitive terms, the same event cannot happen twice.

 In some contexts, such phenomena are also called perdurants. This class is disjoint from E77 Persistent Item and is an abstract class that typically has no direct instances. E2 Temporal Entity is specialized into E4 Period, which applies to a particular geographic area (defined with a greater or lesser degree of precision), and E3 Condition State, which applies to instances of E18 Physical Thing.

Examples:

* Bronze Age (E4) (Childe, 1963)
* the earthquake in Lisbon 1755 (E5) (Chester, 2001)
* the Peterhof Palace near Saint Petersburg being in ruins from 1944 – 1946 (E3) (Maddox, 2015)

In First Order Logic:

E2(x) ⊃ E1(x)

Properties:

P4 has time-span (is time-span of): E52 Time-Span

P173 starts before or at the end of (ends with or after the start of): E2 Temporal Entity

P174 starts before (starts after the start of): E2 Temporal Entity

P175 starts before or with the start of (starts with or after the start of) : E2 Temporal Entity

P176 starts before the start of (starts after the start of): E2 Temporal Entity

P182 ends before or at the start of (starts with or after the end of) : E2 Temporal Entity

P183 ends before the start of (starts after the end of) : E2 Temporal Entity

P184 ends before or with the end of (ends with or after the end of) : E2 Temporal Entity

P185 ends before the end of (ends after the end of): E2 Temporal Entity

##### E4 Period

**DECISION**: the paragraph below, was marked \*to be deleted\*. The sig decided to delete it for the moment, and assigned MD [**HW**] to check if it was alright to delete it after all.

Consequently, an instance of E4 Period may occupy a number of disjoint spacetime volumes, however there must not be a discontinuity in the timespan covered by these spacetime volumes. This means that an instance of E4 Period must be contiguous in time. If it has ended in all areas, it has ended as a whole. However, it may end in one area before another, such as in the Polynesian migration, and it continues as long as it is ongoing in at least one area

**DECISION**: the reference to the STV in the introduction must be reintroduced.

The definition of E4 Period changed

###### FROM (old)

**E4 Period**

Subclass of: [E2](#_E2_Temporal_Entity) Temporal Entity

Subclass of [E92](#_E91_Co-Reference_Assignment) Spacetime volume

Superclass of: [E5](#_E5_Event) Event

Scope note: This class comprises sets of coherent phenomena or cultural manifestations occurring in time and space.

It is the social or physical coherence of these phenomena that identify an E4 Period and not the associated spatiotemporal extent. This extent is only the “ground” or space in an abstract physical sense that the actual process of growth, spread and retreat has covered. Consequently, different periods can overlap and coexist in time and space, such as when a nomadic culture exists in the same area and time as a sedentary culture. This also means that overlapping land use rights, common among first nations, amounts to overlapping periods.

Often, this class is used to describe prehistoric or historic periods such as the “Neolithic Period”, the “Ming Dynasty” or the “McCarthy Era”, but also geopolitical units and activities of settlements are regarded as special cases of E4 Period. However, there are no assumptions about the scale of the associated phenomena. In particular all events are seen as synthetic processes consisting of coherent phenomena. Therefore, E4 Period is a superclass of E5 Event. For example, a modern clinical birth, an instance of E67 Birth, can be seen as both a single event, i.e., an instance of E5 Event, and as an extended period, i.e., an instance of E4 Period, that consists of multiple physical processes and complementary activities performed by multiple instances of E39 Actor.

As the actual extent of an instance of E4 Period in spacetime we regard the trajectories of the participating physical things during their participation in an instance of E4 Period. This includes the open spaces via which these things have interacted and the spaces by which they had the potential to interact during that period or event in the way defined by the type of the respective period or event. Examples include the air in a meeting room transferring the voices of the participants. Since these phenomena are fuzzy, we assume the spatiotemporal extent to be contiguous, except for cases of phenomena spreading out over islands or other separated areas, including geopolitical units distributed over disconnected areas such as islands or colonies.

Whether the trajectories necessary for participants to travel between these areas are regarded as part of the spatiotemporal extent or not has to be decided in each case based on a concrete analysis, taking use of the sea for other purposes than travel, such as fishing, into consideration. One may also argue that the activities to govern disconnected areas imply travelling through spaces connecting them and that these areas hence are spatially connected in a way, but it appears counterintuitive to consider for instance travel routes in international waters as extensions of geopolitical units.

~~Consequently, an instance of E4 Period may occupy a number of disjoint spacetime volumes, however there must not be a discontinuity in the timespan covered by these spacetime volumes. This means that an instance of E4 Period must be contiguous in time. If it has ended in all areas, it has ended as a whole. However, it may end in one area before another, such as in the Polynesian migration, and it continues as long as it is ongoing in at least one area~~

We model E4 Period as a subclass of E2 Temporal Entity and of E92 Spacetime Volume. The latter is intended as a phenomenal spacetime volume as defined in CIDOC CRMgeo (Doerr and Hiebel, 2013). By virtue of this multiple inheritance we can discuss the physical extent of an instance of E4 Period without representing each instance of it together with an instance of its associated spacetime volume. This model combines two quite different kinds of substance: an instance of E4 Period is a phenomenon, while an instance of E92 Spacetime Volume is an aggregation of points in spacetime. However, the real spatiotemporal extent of an instance of E4 Period is regarded to be unique to it due to all its details and fuzziness; its identity and existence depends uniquely on the identity of the instance of E4 Period. Therefore, this multiple inheritance is unambiguous and effective and furthermore corresponds to the intuitions of natural language.

There are two different conceptualisations of ‘artistic style’, defined either by physical features or by historical context. For example, “Impressionism” can be viewed as a period lasting from approximately 1870 to 1905 during which paintings with particular characteristics were produced by a group of artists that included (among others) Monet, Renoir, Pissarro, Sisley and Degas. Alternatively, it can be regarded as a style applicable to all paintings sharing the characteristics of the works produced by the Impressionist painters, regardless of historical context. The first interpretation is an instance of E4 Period, and the second defines morphological object types that fall under E55 Type.

A geopolitical unit as a specific case of an instance of E4 Period is the set of activities and phenomena related to the claim of power, the consequences of belonging to a jurisdictional area and an administrative system that establishes a geopolitical unit. Examples from the modern period are countries or administrative areas of countries such as districts whose actions and structures define activities and phenomena in the area that they intend to govern. The borders of geopolitical units are often defined in contracts or treaties although they may deviate from the actual practice. The spatiotemporal properties of Geopolitical units can be modelled through the properties inherited from E92 Spacetime Volume.

Another specific case of an E4 Period is the actual extent of the set of activities and phenomena as evidenced by their physical traces that define a settlement, such as the populated period of Nineveh.

Examples:

* Jurassic (Hallam, 1975)
* Populated Period of Nineveh
* Imperial Rome under Marcus Aurelius
* European Bronze Age (Harrison, c2004)
* Italian Renaissance (Macdonald, 1992)
* Thirty Years War (Lee, 1991)
* Sturm und Drang (Berkoff, 2013)
* Cubism (Cox, 2000)

In First Order Logic:

E4(x) ⊃ E2(x)

E4(x) ⊃ E92(x)

Properties**:**

[P7](#_P7_took_place) took place at (witnessed): [E53](#_E53_Place) Place

[P8](#_P8_took_place) took place on or within (witnessed): [E18](#_E19_Physical_Object) Physical Thing

[P9](#_P9_consists_of_(forms part of)) consists of (forms part of): [E4](#_E4_Period) Period

TO (new)

**E4 Period**

Subclass of: [E2](#_E2_Temporal_Entity) Temporal Entity

Subclass of [E92](#_E91_Co-Reference_Assignment) Spacetime volume

Superclass of: [E5](#_E5_Event) Event

Scope note: This class comprises sets of coherent phenomena or cultural manifestations occurring in time and space.

It is the social or physical coherence of these phenomena that identify an instance of E4 Period and not the associated spatiotemporal extent. This extent is only the “ground” or space in an abstract physical sense that the actual process of growth, spread and retreat has covered. Consequently, different periods can overlap and coexist in time and space, such as when a nomadic culture exists in the same area and time as a sedentary culture. This also means that overlapping land use rights, common among first nations, amounts to overlapping periods.

Often, this class is used to describe prehistoric or historic periods such as the “Neolithic Period”, the “Ming Dynasty” or the “McCarthy Era”, but also geopolitical units and activities of settlements are regarded as special cases of E4 Period. However, there are no assumptions about the scale of the associated phenomena. In particular all events are seen as synthetic processes consisting of coherent phenomena. Therefore, E4 Period is a superclass of E5 Event. For example, a modern clinical birth, an instance of E67 Birth, can be seen as both a single event, i.e., an instance of E5 Event, and as an extended period, i.e., an instance of E4 Period, that consists of multiple physical processes and complementary activities performed by multiple instances of E39 Actor.

As the actual extent of an instance of E4 Period in spacetime we regard the trajectories of the participating physical things during their participation in an instance of E4 Period. This includes the open spaces via which these things have interacted and the spaces by which they had the potential to interact during that period or event in the way defined by the type of the respective period or event. Examples include the air in a meeting room transferring the voices of the participants. Since these phenomena are fuzzy, we assume the spatiotemporal extent to be contiguous, except for cases of phenomena spreading out over islands or other separated areas, including geopolitical units distributed over disconnected areas such as islands or colonies.

Whether the trajectories necessary for participants to travel between these areas are regarded as part of the spatiotemporal extent or not has to be decided in each case based on a concrete analysis, taking use of the sea for other purposes than travel, such as fishing, into consideration. One may also argue that the activities to govern disconnected areas imply travelling through spaces connecting them and that these areas hence are spatially connected in a way, but it appears counterintuitive to consider for instance travel routes in international waters as extensions of geopolitical units.

We model E4 Period as a subclass of E2 Temporal Entity and of E92 Spacetime Volume. The latter is intended as a phenomenal spacetime volume as defined in CIDOC CRMgeo (Doerr and Hiebel, 2013). By virtue of this multiple inheritance we can discuss the physical extent of an instance of E4 Period without representing each instance of it together with an instance of its associated spacetime volume. This model combines two quite different kinds of substance: an instance of E4 Period is a phenomenon, while an instance of E92 Spacetime Volume is an aggregation of points in spacetime. However, the real spatiotemporal extent of an instance of E4 Period is regarded to be unique to it due to all its details and fuzziness; its identity and existence depends uniquely on the identity of the instance of E4 Period. Therefore, this multiple inheritance is unambiguous and effective and furthermore corresponds to the intuitions of natural language.

The typical use of this class in cultural heritage documentation is for documenting cultural and artistic periods. There are two different conceptualizations of ‘artistic style’, defined either by physical features or by historical context. For example, “Impressionism” can be viewed as a period in the European sphere of influence lasting from approximately 1870 to 1905 during which paintings with particular characteristics were produced by a group of artists that included (among others) Monet, Renoir, Pissarro, Sisley and Degas. Alternatively, it can be regarded as a style applicable to all paintings sharing the characteristics of the works produced by the Impressionist painters, regardless of historical context. The first interpretation is an instance of E4 Period, and the second defines morphological object types that fall under E55 Type.

A geopolitical unit as a specific case of an instance of E4 Period is the set of activities and phenomena related to the claim of power, the consequences of belonging to a jurisdictional area and an administrative system that establishes a geopolitical unit. Examples from the modern period are countries or administrative areas of countries such as districts whose actions and structures define activities and phenomena in the area that they intend to govern. The borders of geopolitical units are often defined in contracts or treaties although they may deviate from the actual practice. The spatiotemporal properties of Geopolitical units can be modelled through the properties inherited from E92 Spacetime Volume.

Another specific case of an instance of E4 Period is the actual extent of the set of activities and phenomena as evidenced by their physical traces that define a settlement, such as the populated period of Nineveh.

Examples:

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* Italian Renaissance (Macdonald, 1992)
* Thirty Years War (Lee, 1991)
* Sturm und Drang (Berkoff, 2013)
* Cubism (Cox, 2000)

In First Order Logic:

E4(x) ⊃ E2(x)

E4(x) ⊃ E92(x)

Properties**:**

[P7](#_P7_took_place) took place at (witnessed): [E53](#_E53_Place) Place

[P8](#_P8_took_place) took place on or within (witnessed): [E18](#_E19_Physical_Object) Physical Thing

[P9](#_P9_consists_of_(forms part of)) consists of (forms part of): [E4](#_E4_Period) Period

##### E6 Destruction

**DECISION**: The sig accepted CEO & GB’s proposal to ignore the comment on E6. The definition of E6 Destruction remains as it were in v.6.2.7/8.

##### E11 Modification

**DECISION**: The sig accepted CEO’s edit (i.e. deletion of “all” from first sentence) on the scope note. E11 Modification changed

###### FROM (old)

**E11 Modification**

Subclass of: [E7](#_E7_Activity) Activity

Superclass of: [E12](#_E12_Production) Production

 [E79](#_E79_Part_Addition) Part Addition

 [E80](#_E80_Part_Removal) Part Removal

Scope note: This class comprises all instances of E7 Activity that create, alter or change instances of E24 Physical Human-Made Thing.

This class includes the production of an item from raw materials, and other so far undocumented objects, and the preventive treatment or restoration of an object for conservation.

Since the distinction between modification and production is not always clear, modification is regarded as the more generally applicable concept. This implies that some items may be consumed or destroyed in an instance of E11 Modification, and that others may be produced as a result of it. An event should also be documented using an instance of E81 Transformation if it results in the destruction of one or more objects and the simultaneous production of others using parts or material from the originals. In this case, the new items have separate identities.

If the instance of E29 Design or Procedure utilized for the modification prescribes the use of specific materials, they should be documented using property *P68 foresees use of (use foreseen by):* E57 Material of E29 Design or Procedure, rather than via *P126 employed (was employed in*): E57 Material.

Examples:

* the construction of the SS Great Britain (E12) (Gregor, 1971)
* the impregnation of the Vasa warship in Stockholm for preservation after 1956 (Håfors, c2010)
* the transformation of the Enola Gay into a museum exhibit by the National Air and Space Museum in Washington DC between 1993 and 1995 (E12, E81) (Yakel, 2000)
* the last renewal of the gold coating of the Toshogu shrine in Nikko, Japan (Cali and Dougil, 2012)

In First Order Logic:

 E11(x) ⊃ E7(x)

Properties:

[P31](#_P31_has_modified_(was modified by)) has modified (was modified by): [E18](#_E18_Physical_Thing) Physical Thing

[P126](#_P126_employed_(was_employed in)) employed (was employed in: E57 Material

###### TO (new)

**E11 Modification**

Subclass of: [E7](#_E7_Activity) Activity

Superclass of: [E12](#_E12_Production) Production

 [E79](#_E79_Part_Addition) Part Addition

 [E80](#_E80_Part_Removal) Part Removal

Scope note: This class comprises instances of E7 Activity that create, alter or change instances of E24 Physical Human-Made Thing.

This class includes the production of an item from raw materials, and other so far undocumented objects, and the preventive treatment or restoration of an object for conservation.

Since the distinction between modification and production is not always clear, modification is regarded as the more generally applicable concept. This implies that some items may be consumed or destroyed in an instance of E11 Modification, and that others may be produced as a result of it. An event should also be documented using an instance of E81 Transformation if it results in the destruction of one or more objects and the simultaneous production of others using parts or material from the originals. In this case, the new items have separate identities.

If the instance of E29 Design or Procedure utilized for the modification prescribes the use of specific materials, they should be documented using property *P68 foresees use of (use foreseen by):* E57 Material of E29 Design or Procedure, rather than via *P126 employed (was employed in*): E57 Material.

Examples:

* the construction of the SS Great Britain (E12) (Gregor, 1971)
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* the last renewal of the gold coating of the Toshogu shrine in Nikko, Japan (Cali and Dougil, 2012)

In First Order Logic:

 E11(x) ⊃ E7(x)

Properties:

[P31](#_P31_has_modified_(was modified by)) has modified (was modified by): [E18](#_E18_Physical_Thing) Physical Thing

[P126](#_P126_employed_(was_employed in)) employed (was employed in: E57 Material

##### E13 Attribute Assignment

**DECISION**: The sig accepted CEO’s edit (i.e. introduction of “instances of” in the phrase *the use of 13 Attribute Assignment marks the fact, that …*) on the scope note. E13 Attribute Assignment changed

###### FROM (old)

**E13 Attribute Assignment**

Subclass of: E7 Activity

Superclass of: E14 Condition Assessment

E15 Identifier Assignment

E16 Measurement

E17 Type Assignment

Scope note: This class comprises the actions of making assertions about one property of an object or any single relation between two items or concepts. The type of the property asserted to hold between two items or concepts can be described by the property P177 assigned property type: E55 Type.

For example, the class describes the actions of people making propositions and statements during certain scientific/scholarly 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 structures of a schema rather than free text, depends on whether this information should be accessible by structured queries.

This class allows for the documentation of how the respective assignment came about, and whose opinion it was. Note that all instances of properties described in a knowledge base are the opinion of someone. Per default, they are the opinion of the team maintaining the knowledge base. This fact must not individually be registered for all instances of properties provided by the maintaining team, because it would result in an endless recursion of whose opinion was the description of an opinion. Therefore, the use of E13 Attribute Assignment marks the fact, that the maintaining team is in general neutral to the validity of the respective assertion, but registers someone else’s opinion and how it came about.

All properties assigned in such an action can also be seen as directly relating the respective pair of items or concepts. Multiple use of instances of E13 Attribute Assignment may possibly lead to a collection of contradictory values.

All cases of properties in this model that are also described indirectly through a subclass of E13 Attribute Assignment are characterised as "short cuts" of a path via this subclass. This redundant modelling of two alternative views is preferred because many implementations may have good reasons to model either the action of assertion or the short cut, and the relation between both alternatives can be captured by simple rules.

Examples:

* + the assessment of the current ownership of Martin Doerr’s silver cup in February 1997

In First Order Logic:

 E13(x) ⊃ E7(x)

Properties:

P140 assigned attribute to (was attributed by): E1 CRM Entity

P141 assigned (was assigned by): E1 CRM Entity

 P177 assigned property type E55 Type

###### TO (new)

**E13 Attribute Assignment**

Subclass of: E7 Activity

Superclass of: E14 Condition Assessment

E15 Identifier Assignment

E16 Measurement

E17 Type Assignment

Scope note: This class comprises the actions of making assertions about one property of an object or any single relation between two items or concepts. The type of the property asserted to hold between two items or concepts can be described by the property P177 assigned property type: E55 Type.

For example, the class describes the actions of people making propositions and statements during certain scientific/scholarly 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 structures of a schema rather than free text, depends on whether this information should be accessible by structured queries.

This class allows for the documentation of how the respective assignment came about, and whose opinion it was. Note that all instances of properties described in a knowledge base are the opinion of someone. Per default, they are the opinion of the team maintaining the knowledge base. This fact must not individually be registered for all instances of properties provided by the maintaining team, because it would result in an endless recursion of whose opinion was the description of an opinion. Therefore, the use of instances of E13 Attribute Assignment marks the fact, that the maintaining team is in general neutral to the validity of the respective assertion, but registers someone else’s opinion and how it came about.

All properties assigned in such an action can also be seen as directly relating the respective pair of items or concepts. Multiple use of instances of E13 Attribute Assignment may possibly lead to a collection of contradictory values.

All cases of properties in this model that are also described indirectly through a subclass of E13 Attribute Assignment are characterised as "short cuts" of a path via this subclass. This redundant modelling of two alternative views is preferred because many implementations may have good reasons to model either the action of assertion or the short cut, and the relation between both alternatives can be captured by simple rules.

Examples:

* + the assessment of the current ownership of Martin Doerr’s silver cup in February 1997

In First Order Logic:

 E13(x) ⊃ E7(x)

Properties:

P140 assigned attribute to (was attributed by): E1 CRM Entity

P141 assigned (was assigned by): E1 CRM Entity

 P177 assigned property type E55 Type

##### E14 Condition Assessment

**DECISION**: The sig agreed that an improvement of the scope note would be useful, however, due to time limitations, the scope note should do as is.

**HW** (but **not** for version 7.0): The sig appointed MD to do the rewrite. TV, MA & DF can also be involved in this HW.

##### E16 Measurement

**DECISION**: The sig did some editorial work on the scope note, to make it more legible. The scope note changed

###### FROM (old)

**E16 Measurement**

Subclass of: E13 Attribute Assignment

Scope note: This class comprises actions measuring quantitative physical properties and other values that can be determined by a systematic, objective procedure of direct observation of particular states of physical reality. Properties of instances of E90 Symbolic Object may be measured by observing some of their representative carriers which may or may not be named explicitly. In the former case, the property P16 used specific object (was used for): E70 Thing should be used to specify the information carriers used as empirical basis for the measurement activity.

Examples include measuring the nominal monetary value of a collection of coins or the running time of a movie on a specific video cassette.

The E16 Measurement may use simple counting or tools, such as yardsticks or radiation detection devices. The interest is in the method and care applied, so that the reliability of the result may be judged at a later stage, or research continued on the associated documents. The date of the event is important for dimensions, which may change value over time, such as the length of an object subject to shrinkage. Methods and devices employed should be associated with instances of E16 Measurement by properties such as P33 used specific technique: E29 Design or Procedure, P125 used object of type: E55 Type, P16 used specific object (was used for): E70 Thing, whereas basic techniques such as "carbon 14 dating" should be encoded using P2 has type (is type of): E55 Type. Details of methods and devices reused or reusable in other instances of E16 Measurement should be documented for these entities rather than the measurements themselves, whereas details of particular execution may be documented by free text or by instantiating adequate sub-activities, if the detail may be of interest for an overarching query.

Regardless whether a measurement is made by an instrument or by human senses, it represents the initial transition from physical reality to information without any other documented information object in between within the reasoning chain that would represent the result of the interaction of the observer or device with reality. Therefore, inferring properties of depicted items using image material, such as satellite images, is not regarded as an instance of E16 Measurement, but as a subsequent instance of E13 Attribute Assignment. Rather, only the production of the images, understood as arrays of radiation intensities, is regarded as an instance of E16 Measurement. The same reasoning holds for other sensor data.

Examples:

* measurement of height of silver cup 232 on the 31st August 1997
* the carbon 14 dating of the “Schoeninger Speer II” in 1996 [an about 400.000 years old Palaeolithic complete wooden spear found in Schoeningen, Niedersachsen, Germany in 1995] (Kouwenhoven, 1997)
* The pixel size of the jpeg version of Titian’s painting Bacchus and Ariadne from 1520–3, as freely downloadable from the National Gallery in London’s web page <https://www.nationalgallery.org.uk/paintings/titian-bacchus-and-ariadne> is 581600 pixels.
* The scope note of E21 Person in the Definition of the CIDOC Conceptual Reference Model Version 5.0.4 as downloaded from <http://www.cidoc-crm.org/sites/default/files/cidoc\_crm\_version\_5.0.4.pdf> consists of 77 words.

In First Order Logic:

 E16(x) ⊃ E13(x)

Properties:

P39 measured (was measured by): E1 CRM Entity

P40 observed dimension (was observed in): E54 Dimension

###### TO (new)

**E16 Measurement**

Subclass of: E13 Attribute Assignment

Scope note: This class comprises actions measuring quantitative physical properties and other values that can be determined by a systematic, objective procedure of direct observation of particular states of physical reality. Properties of instances of E90 Symbolic Object may be measured by observing some of their representative carriers which may or may not be named explicitly. In the case that the carrier can be named, the property *P16 used specific object (was used for)* should be used to indicate the instance(s) of E18 Physical Thing that used as the empirical basis for the measurement activity.

Examples include measuring the nominal monetary value of a collection of coins or the running time of a movie on a specific video cassette.

The E16 Measurement may use simple counting or tools, such as yardsticks or radiation detection devices. The interest is in the method and care applied, so that the reliability of the result may be judged at a later stage, or research continued on the associated documents. The date of the event is important for dimensions, which may change value over time, such as the length of an object subject to shrinkage. Methods and devices employed should be associated with instances of E16 Measurement by properties such as P33 used specific technique: E29 Design or Procedure, P125 used object of type: E55 Type, P16 used specific object (was used for): E70 Thing, whereas basic techniques such as "carbon 14 dating" should be encoded using P2 has type (is type of): E55 Type. Details of methods and devices reused or reusable in other instances of E16 Measurement should be documented for these entities rather than the measurements themselves, whereas details of particular execution may be documented by free text or by instantiating adequate sub-activities, if the detail may be of interest for an overarching query.

Regardless whether a measurement is made by an instrument or by human senses, it represents the initial transition from physical reality to information without any other documented information object in between within the reasoning chain that would represent the result of the interaction of the observer or device with reality. Therefore, inferring properties of depicted items using image material, such as satellite images, is not regarded as an instance of E16 Measurement, but as a subsequent instance of E13 Attribute Assignment. Rather, only the production of the images, understood as arrays of radiation intensities, is regarded as an instance of E16 Measurement. The same reasoning holds for other sensor data.

Examples:

* measurement of height of silver cup 232 on the 31st August 1997
* the carbon 14 dating of the “Schoeninger Speer II” in 1996 [an about 400.000 years old Palaeolithic complete wooden spear found in Schoeningen, Niedersachsen, Germany in 1995] (Kouwenhoven, 1997)
* The pixel size of the jpeg version of Titian’s painting Bacchus and Ariadne from 1520–3, as freely downloadable from the National Gallery in London’s web page <https://www.nationalgallery.org.uk/paintings/titian-bacchus-and-ariadne> is 581600 pixels.
* The scope note of E21 Person in the Definition of the CIDOC Conceptual Reference Model Version 5.0.4 as downloaded from <http://www.cidoc-crm.org/sites/default/files/cidoc\_crm\_version\_5.0.4.pdf> consists of 77 words.

In First Order Logic:

 E16(x) ⊃ E13(x)

Properties:

P39 measured (was measured by): E1 CRM Entity

P40 observed dimension (was observed in): E54 Dimension

##### E25 Human-Made Feature

**DECISION**: The sig fixed a typo in the scope note. The scope note changed

###### FROM (old)

**E25 Human-Made Feature**

Subclass of: [E24](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E24_Physical_Man-Made_Thing) Physical Human-Made Thing

[E26](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E26_Physical_Feature) Physical Feature

Scope Note: This class comprises physical features that are purposely created by human activity, such as scratches, artificial caves, artificial water channels, etc. In particular, it includes the information encoding features on mechanical or digital carriers.

No assumptions are made as to the extent of modification required to justify regarding a feature as human-made. For example, rock art or even “cup and ring” carvings on bedrock a regarded as types of E25 Human-Made Feature.

Examples:

* the Manchester Ship Canal (Famie, 1980)
* Michael Jackson’s nose following plastic surgery
* The laser-readable “pits” engraved June 2014 on Martin Doerr’s CD-R, copying songs of Edith Piaf’s.
* The carved letters on the Rosetta Stone

In First Order Logic:

 E25(x) ⊃ E24(x)

 E25(x) ⊃ E26(x)

###### TO (new)

**E25 Human-Made Feature**

Subclass of: [E24](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E24_Physical_Man-Made_Thing) Physical Human-Made Thing

[E26](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E26_Physical_Feature) Physical Feature

Scope Note: This class comprises physical features that are purposely created by human activity, such as scratches, artificial caves, artificial water channels, etc. In particular, it includes the information encoding features on mechanical or digital carriers.

No assumptions are made as to the extent of modification required to justify regarding a feature as human-made. For example, rock art or even “cup and ring” carvings on bedrock are regarded as types of E25 Human-Made Feature.

Examples:

* the Manchester Ship Canal (Famie, 1980)
* Michael Jackson’s nose following plastic surgery
* The laser-readable “pits” engraved June 2014 on Martin Doerr’s CD-R, copying songs of Edith Piaf’s.
* The carved letters on the Rosetta Stone

In First Order Logic:

 E25(x) ⊃ E24(x)

 E25(x) ⊃ E26(x)

##### E27 Site

**DECISION**: The sig decided not to edit the scope note. It is left as is.

##### E31 Document

**DECISION**: The sig accepted the changes proposed by CEO. The scope note changed

###### FROM (old)

**E31 Document**

Subclass of: [E73](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E73_Information_Object) Information Object

Superclass of: [E32](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E32_Authority_Document) Authority Document

Scope note: This class comprises identifiable immaterial items that make propositions about reality.

These propositions may be expressed in text, graphics, images, audiograms, videograms or by other similar means. Documentation databases are regarded as a special case of E31 Document. This class should not be confused with the term concept “document” in Information Technology, which is compatible with E73 Information Object.

Examples:

* the Encyclopaedia Britannica (E32) (Kogan, 1958)
* The image content of the photo of the Allied Leaders at Yalta published by UPI, 1945 (E36 )
* the Doomsday Book

In First Order Logic:

 E31(x) ⊃ E73(x)

Properties:

[P70](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P70_documents_(is_documented in)) documents (is documented in): [E1](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E1_CRM_Entity) CRM Entity

###### TO (new)

**E31 Document**

Subclass of: [E73](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E73_Information_Object) Information Object

Superclass of: [E32](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E32_Authority_Document) Authority Document

Scope note: This class comprises identifiable immaterial items that make propositions about reality.

These propositions may be expressed in text, graphics, images, audiograms, videograms or by other similar means. Documentation databases are regarded as instances of E31 Document. This class should not be confused with the concept “document” in Information Technology, which is compatible with E73 Information Object.

Examples:

* the Encyclopaedia Britannica (E32) (Kogan, 1958)
* The image content of the photo of the Allied Leaders at Yalta published by UPI, 1945 (E36 )
* the Doomsday Book

In First Order Logic:

 E31(x) ⊃ E73(x)

Properties:

[P70](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P70_documents_(is_documented in)) documents (is documented in): [E1](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E1_CRM_Entity) CRM Entity

##### E33 Linguistic Object

**DECISION**: The sig decided to review this class and harmonize it with P190 has symbolic object.

**HW**: MD and RS to do the rewrite, SS and CEO to assist them.

**HW:** PR will contribute with respect to the different levels of symbolic specificity.

**HW**: NC to implement in RDF.

##### E34 Inscription

**DECISION**: The sig accepted the change proposed by CEO (too restrictive, if not just wrong that inscriptions are short texts). The scope note changed

###### FROM (old)

**E34 Inscription**

Subclass of: [E33](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E33_Linguistic_Object) Linguistic Object

[E37](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E37_Mark) Mark

Scope note: This class comprises recognisable, short texts attached to instances of E24 Physical Human-Made Thing.

The transcription of the text can be documented in a note by P3 has note: E62 String. The alphabet used can be documented by P2 has type: E55 Type. This class does not intend to describe the idiosyncratic characteristics of an individual physical embodiment of an inscription, but the underlying prototype. The physical embodiment is modelled in the CIDOC CRM as instances of E24 Physical Human-Made Thing.

The relationship of a physical copy of a book to the text it contains is modelled using E18 Physical Thing. P128 carries (is carried by): E33 Linguistic Object.

Examples:

* “keep off the grass” on a sign stuck in the lawn of the quad of Balliol College
* The text published in Corpus Inscriptionum Latinarum V 895
* Kilroy was here

In First Order Logic:

 E34(x) ⊃ E33(x)

 E34(x) ⊃ E37(x)

###### TO (new)

 **E34 Inscription**

Subclass of: [E33](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E33_Linguistic_Object) Linguistic Object

[E37](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E37_Mark) Mark

Scope note: This class comprises recognisable, texts attached to instances of E24 Physical Human-Made Thing.

The transcription of the text can be documented in a note by P3 has note: E62 String. The alphabet used can be documented by P2 has type: E55 Type. This class does not intend to describe the idiosyncratic characteristics of an individual physical embodiment of an inscription, but the underlying prototype. The physical embodiment is modelled in the CIDOC CRM as instances of E24 Physical Human-Made Thing.

The relationship of a physical copy of a book to the text it contains is modelled using E18 Physical Thing. P128 carries (is carried by): E33 Linguistic Object.

Examples:

* “keep off the grass” on a sign stuck in the lawn of the quad of Balliol College
* The text published in Corpus Inscriptionum Latinarum V 895
* Kilroy was here

In First Order Logic:

 E34(x) ⊃ E33(x)

 E34(x) ⊃ E37(x)

##### E36 Visual Item

**DECISION**: The sig accepted the rephrasing proposed by CEO . The scope note changed

###### FROM (old)

E36 Visual Item

Subclass of: [E73](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E73_Information_Object) Information Object

Superclass of: [E37](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E37_Mark) Mark

Scope Note: This class comprises the intellectual or conceptual aspects of recognisable marks and images.

This class does not intend to describe the idiosyncratic characteristics of an individual physical embodiment of a visual item, but the underlying prototype. For example, a mark such as the ICOM logo is generally considered to be the same logo when used on any number of publications. The size, orientation and colour may change, but the logo remains uniquely identifiable. The same is true of images that are reproduced many times. This means that visual items are independent of their physical support.

The class E36 Visual Item provides a means of identifying and linking together instances of E24 Physical Human-Made Thing that carry the same visual symbols, marks or images etc. The property *P62 depicts (is depicted by)* between E24 Physical Human-Made Thing and depicted subjects (E1 CRM Entity) can be regarded as a short cut of the more fully developed path from E24 Physical Human-Made Thing through *P65 shows visual item (is shown by)*, E36 Visual Item, *P138 represents (has representation)* to E1CRM Entity, which in addition captures the optical features of the depiction.

Examples:

* the visual appearance of Monet’s “La Pie”
* the Coca-Cola logo (E34)
* the Chi-Rho (E37)
* the communist red star (E37)

In First Order Logic:

 E36(x) ⊃ E73(x)

Properties:

[P138](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P138_represents_(has_representation) represents (has representation): [E1](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E1_CRM_Entity) CRM Entity

(P138.1 mode of representation: [E55](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E55_Type) Type)

###### TO (new)

E36 Visual Item

Subclass of: [E73](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E73_Information_Object) Information Object

Superclass of: [E37](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E37_Mark) Mark

Scope Note: This class comprises the intellectual or conceptual aspects of recognisable marks and images.

This class does not intend to describe the idiosyncratic characteristics of an individual physical embodiment of a visual item, but the underlying prototype. For example, a mark such as the ICOM logo is generally considered to be the same logo when used on any number of publications. The size, orientation and colour may change, but the logo remains uniquely identifiable. The same is true of images that are reproduced many times. This means that visual items are independent of their physical support.

The class E36 Visual Item provides a means of identifying and linking together instances of E24 Physical Human-Made Thing that carry the same visual symbols, marks or images etc. The property *P62 depicts (is depicted by)* between E24 Physical Human-Made Thing and depicted subjects (E1 CRM Entity) is a shortcut of the more fully developed path from E24 Physical Human-Made Thing through *P65 shows visual item (is shown by)*, E36 Visual Item, *P138 represents (has representation)* to E1CRM Entity, which in addition captures the optical features of the depiction.

Examples:

* the visual appearance of Monet’s “La Pie”
* the Coca-Cola logo (E34)
* the Chi-Rho (E37)
* the communist red star (E37)

In First Order Logic:

 E36(x) ⊃ E73(x)

Properties:

[P138](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P138_represents_(has_representation) represents (has representation): [E1](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E1_CRM_Entity) CRM Entity

(P138.1 mode of representation: [E55](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E55_Type) Type)

##### E53 Place

**DECISION**: The sig accepted the editorial change proposed by CEO. The scope note changed

###### FROM (old)

**E53 Place**

Subclass of: [E1](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E1_CRM_Entity) CRM Entity

Scope note: This class comprises extents in space, in particular on the surface of the earth, in the pure sense of physics: independent from temporal phenomena and matter.

The instances of E53 Place are usually determined by reference to the position of “immobile” objects such as buildings, cities, mountains, rivers, or dedicated geodetic marks. A Place can be determined by combining a frame of reference and a location with respect to this frame.

 It is sometimes argued that instances of E53 Place are best identified by global coordinates or absolute reference systems. However, relative references are often more relevant in the context of cultural documentation and tend to be more precise. In particular, we are often interested in position in relation to large, mobile objects, such as ships. For example, 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 would require knowledge of the movements of the vessel and the precise time of death, either of which may be revised, and the result would lack historical and cultural relevance.

Any instance of E18 Physical Thing can serve as a frame of reference for an instance of E53 Place. This may be documented using the property *P157 is at rest relative to (provides reference space for)*.

Examples:

* the extent of the UK in the year 2003
* the position of the hallmark on the inside of my wedding ring
* the place referred to in the phrase: “Fish collected at three miles north of the confluence of the Arve and the Rhone”
* here -> <-

In First Order Logic:

 E53(x) ⊃ E1(x)

Properties:

[P89](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P89_falls_within) falls within (contains): [E53](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E53_Place) Place

[P121](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P121_overlaps_with) overlaps with: [E53](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E53_Place) Place

[P122](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P122_borders_with) borders with: [E53](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E53_Place) Place

[P157](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P157(Px2)_is_at) is at rest relative to (provides reference space for): [E18](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E18_Physical_Thing) Physical Thing

[P168](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P168_place_is) place is defined by (defines place) : [E94](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E94_Space_Primitive) Space Primitive

[P171](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P171_at_some) at some place within : [E94](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E94_Space_Primitive) Space Primitive

[P172](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P172_contains) contains : [E94](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E94_Space_Primitive) Space Primitive

###### TO (new)

**E53 Place**

Subclass of: [E1](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E1_CRM_Entity) CRM Entity

Scope note: This class comprises extents in space, in particular on the surface of the earth, in the pure sense of physics: independent from temporal phenomena and matter.

The instances of E53 Place are usually determined by reference to the position of “immobile” objects such as buildings, cities, mountains, rivers, or dedicated geodetic marks, but may also be determined by reference to mobile objects. A Place can be determined by combining a frame of reference and a location with respect to this frame.

 It is sometimes argued that instances of E53 Place are best identified by global coordinates or absolute reference systems. However, relative references are often more relevant in the context of cultural documentation and tend to be more precise. In particular, we are often interested in position in relation to large, mobile objects, such as ships. For example, 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 would require knowledge of the movements of the vessel and the precise time of death, either of which may be revised, and the result would lack historical and cultural relevance.

Any instance of E18 Physical Thing can serve as a frame of reference for an instance of E53 Place. This may be documented using the property *P157 is at rest relative to (provides reference space for)*.

Examples:

* the extent of the UK in the year 2003
* the position of the hallmark on the inside of my wedding ring
* the place referred to in the phrase: “Fish collected at three miles north of the confluence of the Arve and the Rhone”
* here -> <-

In First Order Logic:

 E53(x) ⊃ E1(x)

Properties:

[P89](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P89_falls_within) falls within (contains): [E53](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E53_Place) Place

[P121](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P121_overlaps_with) overlaps with: [E53](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E53_Place) Place

[P122](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P122_borders_with) borders with: [E53](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E53_Place) Place

[P157](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P157(Px2)_is_at) is at rest relative to (provides reference space for): [E18](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E18_Physical_Thing) Physical Thing

[P168](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P168_place_is) place is defined by (defines place) : [E94](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E94_Space_Primitive) Space Primitive

[P171](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P171_at_some) at some place within : [E94](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E94_Space_Primitive) Space Primitive

[P172](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P172_contains) contains : [E94](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E94_Space_Primitive) Space Primitive

##### Ε55 Type

**DECISION**: There is a missing property (CEO’s comment mentions that it should include an extra property, discussed in issue 401). However, the reference to the issue has a typo.

**HW**: CEO is to find the right issue, and add the property to the set of properties connecting FROM E55 Type TO some class.

##### E58 Measurement Unit

**DECISION**: The sig accepted the editorial change proposed by CEO. The scope note changed

###### FROM (old)

**E58 Measurement Unit**

Subclass of: [E55](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E55_Type) Type

Superclass of: [E98](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E98_Currency) Currency

Scope Note: This class is a specialization of E55 Type and comprises the types of measurement units: feet, inches, centimetres, litres, lumens, etc.

This type is used categorically in the model without reference to instances of it, i.e. the Model does not foresee the description of instances of instances of E58 Measurement Unit, e.g.: “instances of cm”.

Système International (SI) units or internationally recognized non-SI terms should be used whenever possible. (ISO80000:2009). Archaic Measurement Units used in historical records should be preserved.

Examples:

* cm [centimetre]
* km [kilometre]
* m [meter]
* m/s [meters per second] (Hau, 1999)
* A [Ampere]
* GRD [Greek Drachme] (Daniel, 2014) (E98)
* °C [degrees centigrade] (Beckman, 1998)

In First Order Logic:

 E58(x) ⊃ E55(x)

###### TO (new)

**E58 Measurement Unit**

Subclass of: [E55](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E55_Type) Type

Superclass of: [E98](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E98_Currency) Currency

Scope Note: This class is a specialization of E55 Type and comprises the types of measurement units: feet, inches, centimetres, litres, lumens, etc.

This type is used categorically in the model without reference to instances of it, i.e. the Model does not foresee the description of instances of instances of E58 Measurement Unit, e.g.: “instances of cm”.

Système International (SI) units or internationally recognized non-SI terms should be used whenever possible, such as those defined by ISO80000:2009. Archaic Measurement Units used in historical records should be preserved.

Examples:

* cm [centimetre]
* km [kilometre]
* m [meter]
* m/s [meters per second] (Hau, 1999)
* A [Ampere]
* GRD [Greek Drachme] (Daniel, 2014) (E98)
* °C [degrees centigrade] (Beckman, 1998)

In First Order Logic:

 E58(x) ⊃ E55(x)

##### Ε62 String

**DECISION**: The sig decided not to implement any changes. The definition of E62 String is to remain as is.

##### Ε68 Dissolution

**DECISION**: The sig accepted the change proposed by CEO. The scope note changed

###### FROM (old)

**E68 Dissolution**

Subclass of: [E64](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E64_End_of_Existence) End of Existence

Scope note: This class comprises the events that result in the formal or informal termination of an instance of E74 Group of people.

If the dissolution was deliberate, the Dissolution event should also be instantiated as an instance of E7 Activity.

Examples:

* the fall of the Roman Empire (Whittington, 1964)
* the liquidation of Enron Corporation (Atlas, 2001)

In First Order Logic:

 E68(x) ⊃ E64(x)

Properties:

[P99](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P99_dissolved_(was_dissolved by)) dissolved (was dissolved by): [E74](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E74_Group) Group

###### TO (new)

**E68 Dissolution**

Subclass of: [E64](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E64_End_of_Existence) End of Existence

Scope note: This class comprises the events that result in the formal or informal termination of an instance of E74 Group.

If the dissolution was deliberate, the Dissolution event should also be instantiated as an instance of E7 Activity.

Examples:

* the fall of the Roman Empire (Whittington, 1964)
* the liquidation of Enron Corporation (Atlas, 2001)

In First Order Logic:

 E68(x) ⊃ E64(x)

Properties:

[P99](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P99_dissolved_(was_dissolved by)) dissolved (was dissolved by): [E74](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E74_Group) Group

##### E89 Propositional Object.

**DECISION**: The sig accepted CEO’s proposal to add the reference to their existence irrespective of a physical carrier (inherited from E28 Conceptual Object, no need to be repeated in the scope note of its subclasses) –i.e. the sentence “An instance of E89 Propositional Object does not depend on a specific physical carrier, which can include human memory, and it can exist on one or more carriers simultaneously”. The scope note for E89 Propositional Object did not change.

##### E90 Symbolic Object.

**DECISION**: The sig accepted CEO’s proposal to add a reference to the property P190 has symbolic content and to delete the reference to their existence irrespective of a physical carrier (inherited from E28 Conceptual Object, no need to be repeated in the scope note of its subclasses) –i.e. the sentence “An instance of E89 Propositional Object does not depend on a specific physical carrier, which can include human memory, and it can exist on one or more carriers simultaneously”. The scope note for E90 Symbolic Object changed

###### FROM (old)

**E90 Symbolic Object**

Subclass of: [E28](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E28_Conceptual_Object) Conceptual Object

 [E72](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E72_Legal_Object) Legal Object

Superclass of: [E73](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E73_Information_Object) Information Object

 [E41](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E41_Appellation) Appellation

Scope note: This class comprises identifiable symbols and any aggregation of symbols, such as characters, identifiers, traffic signs, emblems, texts, data sets, images, musical scores, multimedia objects, computer program code or mathematical formulae that have an objectively recognizable structure and that are documented as single units.

It includes sets of signs of any nature, which may serve to designate something, or to communicate some propositional content.

An instance of E89 Propositional Object does not depend on a specific physical carrier, which can include human memory, and it can exist on one or more carriers simultaneously. An instance of E90 Symbolic Object may or may not have a specific meaning, for example an arbitrary character string.

In some cases, the content of an instance of E90 Symbolic Object may completely be represented by a serialized digital content model, such as a sequence of ASCII-encoded characters, an XML or HTML document, or a TIFF image. The property *P3 has note* allows for the description of this content model. In order to disambiguate which symbolic level is the carrier of the meaning, the property *P3.1 has type* can be used to specify the encoding (e.g. "bit", "Latin character", RGB pixel).

Examples:

* ‘ecognizabl’
* The “no-smoking” sign (E36)
* “BM000038850.JPG” (E41)
* image BM000038850.JPG from the Clayton Herbarium in London (E36)
* The distribution of form, tone and colour found on Leonardo da Vinci’s painting named “Mona Lisa” in daylight (E36)
* The Italian text of Dante’s “Divina Commedia” as found in the authoritative critical edition *La Commedia secondo l’antica vulgata a cura di Giorgio Petrocchi*, Milano: Mondadori, 1966-67 (= Le Opere di Dante Alighieri, Edizione Nazionale a cura della Società Dantesca Italiana, VII, 1-4) (E33)

In First Order Logic:

 E90(x) ⊃ E28(x)

 E90(x) ⊃ E72(x)

Properties:

[P106](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P106_is_composed_of (forms part of)) is composed of (forms part of): [E90](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E90_Symbolic_Object) Symbolic Object

[P190](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P190_has_symbolic) has symbolic content: E62 String

###### TO (new)

**E90 Symbolic Object**

Subclass of: [E28](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E28_Conceptual_Object) Conceptual Object

 [E72](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E72_Legal_Object) Legal Object

Superclass of: [E73](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E73_Information_Object) Information Object

 [E41](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E41_Appellation) Appellation

Scope note: This class comprises identifiable symbols and any aggregation of symbols, such as characters, identifiers, traffic signs, emblems, texts, data sets, images, musical scores, multimedia objects, computer program code or mathematical formulae that have an objectively recognizable structure and that are documented as single units.

It includes sets of signs of any nature, which may serve to designate something, or to communicate some propositional content. An instance of E90 Symbolic Object may or may not have a specific meaning, for example an arbitrary character string.

In some cases, the content of an instance of E90 Symbolic Object may completely be represented by a serialized digital content model, such as a sequence of ASCII-encoded characters, an XML or HTML document, or a TIFF image. The property *P3 has note* and its subproperty *P190 has symbolic content* allow for the description of this content model. In order to disambiguate which symbolic level is the carrier of the meaning, the property *P3.1 has type* can be used to specify the encoding (e.g. "bit", "Latin character", RGB pixel).

Examples:

* ‘ecognizabl’
* The “no-smoking” sign (E36)
* “BM000038850.JPG” (E41)
* image BM000038850.JPG from the Clayton Herbarium in London (E36)
* The distribution of form, tone and colour found on Leonardo da Vinci’s painting named “Mona Lisa” in daylight (E36)
* The Italian text of Dante’s “Divina Commedia” as found in the authoritative critical edition *La Commedia secondo l’antica vulgata a cura di Giorgio Petrocchi*, Milano: Mondadori, 1966-67 (= Le Opere di Dante Alighieri, Edizione Nazionale a cura della Società Dantesca Italiana, VII, 1-4) (E33)

In First Order Logic:

 E90(x) ⊃ E28(x)

 E90(x) ⊃ E72(x)

Properties:

[P106](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P106_is_composed_of (forms part of)) is composed of (forms part of): [E90](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E90_Symbolic_Object) Symbolic Object

[P190](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P190_has_symbolic) has symbolic content: E62 String

#### Properties

##### P1 is identified by

**DECISION**: The sig accepted the edit by CEO (deletion of the wrong part of the shortcut). The scope note for P1 is identified by changed

###### FROM (old)

**P1 is identified by (identifies)**

Domain: E1 CRM Entity

Range: E41 Appellation

Superproperty of: E1 CRM Entity. P48 has preferred identifier (is preferred identifier of): E42 Identifier

 E71 Human-Made Thing. P102 has title (is title of): E35 Title

Quantification: many to many (0,n:0,n)

Scope note: This property describes the naming or identification of any real world item by a name or any other identifier.

This property is intended for identifiers in general use, which form part of the world the model intends to describe, and not merely for internal database identifiers which are specific to a technical system, unless these latter also have a more general use outside the technical context. This property includes in particular identification by mathematical expressions such as coordinate systems used for the identification of instances of E53 Place. The property does not reveal anything about when, where and by whom this identifier was used. A more detailed representation can be made using the fully developed (i.e. indirect) path through E15 Identifier Assignment.

P1 is identified by (identifies), is a shortcut for the path from ‘E1 CRM Entity’ through ‘P140i was attributed by’, ‘E15 Identifier Assignment’, ‘P37 assigned’, ‘E42 Identifier’, ‘P139 has alternative form’ to ‘E41 Appellation’.

Examples:

the capital of Italy (E53) is identified by “Rome” (E41)

text 25014–32 (E33) is identified by “The Decline and Fall of the Roman Empire” (E35)

In First Order Logic:

 P1(x,y) ⊃ E1(x)

 P1(x,y) ⊃ E41(y)

###### TO (new)

**P1 is identified by (identifies)**

Domain: E1 CRM Entity

Range: E41 Appellation

Superproperty of: E1 CRM Entity. P48 has preferred identifier (is preferred identifier of): E42 Identifier

 E71 Human-Made Thing. P102 has title (is title of): E35 Title

Quantification: many to many (0,n:0,n)

Scope note: This property describes the naming or identification of any real world item by a name or any other identifier.

This property is intended for identifiers in general use, which form part of the world the model intends to describe, and not merely for internal database identifiers which are specific to a technical system, unless these latter also have a more general use outside the technical context. This property includes in particular identification by mathematical expressions such as coordinate systems used for the identification of instances of E53 Place. The property does not reveal anything about when, where and by whom this identifier was used. A more detailed representation can be made using the fully developed (i.e. indirect) path through E15 Identifier Assignment.

P1 is identified by (identifies), is a shortcut for the path from ‘E1 CRM Entity’ through ‘P140i was attributed by’, ‘E15 Identifier Assignment’, ‘P37 assigned’, ‘E42 Identifier’.

Examples:

the capital of Italy (E53) is identified by “Rome” (E41)

text 25014–32 (E33) is identified by “The Decline and Fall of the Roman Empire” (E35)

In First Order Logic:

 P1(x,y) ⊃ E1(x)

 P1(x,y) ⊃ E41(y)

##### P2 has type

**DECISION**: The scope note is to be kept as is. The yellow highlight seems random and is to be removed.

##### P50 has current keeper

**DECISION**: The sig accepted the edit by CEO. The scope note forP50 has current keeper changed

###### FROM (old)

**P50 has current keeper (is current keeper of)**

Domain: E18 Physical Thing

Range: E39 Actor

Subproperty of: E18 Physical Thing. P49 has former or current keeper (is former or current keeper of): E39 Actor

Quantification: many to many (0,n:0,n)

Scope note: This property identifies the E39 Actor or Actors who had custody of an instance of E18 Physical Thing at the time of validity of the record or database containing the statement that uses this property.

P50 has current keeper (is current keeper of) is a shortcut for the more detailed path from ‘E18 Physical Thing’ through, ‘P30i custody transferred through’, ‘E10 Transfer of Custody’, ‘P29 custody received by’, to ‘E39 Actor’.

Examples:

* + - paintings from The Iveagh Bequest (E18) has current keeper The National Gallery (E74)

In First Order Logic:

 P50(x,y) ⊃ E18(x)

 P50(x,y) ⊃ E39(y)

 P50(x,y) ⊃ P49(x,y)

###### TO (new)

**P50 has current keeper (is current keeper of)**

Domain: E18 Physical Thing

Range: E39 Actor

Subproperty of: E18 Physical Thing. P49 has former or current keeper (is former or current keeper of): E39 Actor

Quantification: many to many (0,n:0,n)

Scope note: This property identifies an instance E39 Actor that had custody of an instance of E18 Physical Thing at the time of validity of the record or database containing the statement that uses this property.

P50 has current keeper (is current keeper of) is a shortcut for the more detailed path from ‘E18 Physical Thing’ through, ‘P30i custody transferred through’, ‘E10 Transfer of Custody’, ‘P29 custody received by’, to ‘E39 Actor’.

Examples:

* + - paintings from The Iveagh Bequest (E18) has current keeper The National Gallery (E74)

In First Order Logic:

 P50(x,y) ⊃ E18(x)

 P50(x,y) ⊃ E39(y)

 P50(x,y) ⊃ P49(x,y)

##### P51 has former or current owner

**DECISION**: The sig accepted the edits by CEO. The scope note for P51 has former or current owner changed

###### FROM (old)

**P51 has former or current owner (is former or current owner of)**

Domain: [E18](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E18_Physical_Thing) Physical Thing

Range: [E39](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E39_Actor) Actor

Superproperty of: [E18](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E18_Physical_Thing) Physical Thing. [P52](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P52_has_current) has current owner (is current owner of): [E39](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E39_Actor) Actor

Quantification: many to many (0,n:0,n)

Scope note: This property identifies the E39 Actor that is or has been the legal owner (i.e. title holder) of an instance of E18 Physical Thing at some time.

The distinction with *P52 has current owner (is current owner of)* is that *P51 has former or current owner (is former or current owner of)* does not indicate whether the specified owners are current. *P51 has former or current owner (is former or current owner of)* is a shortcut for the more detailed path from ‘*E18 Physical Thing’* through *‘P24i changed ownership through’, ‘E8 Acquisition’, ‘P23 transferred title from’, or ‘P22 transferred title to’,* to *‘E39 Actor*.’

Examples:

* paintings from the Iveagh Bequest (E18) *has former or current owner* Lord Iveagh (E21)

In First Order Logic:

 P51(x,y) ⊃ E18(x)

 P51(x,y) ⊃ E39(y)

###### TO (new)

**P51 has former or current owner (is former or current owner of)**

Domain: [E18](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E18_Physical_Thing) Physical Thing

Range: [E39](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E39_Actor) Actor

Superproperty of: [E18](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E18_Physical_Thing) Physical Thing. [P52](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_P52_has_current) has current owner (is current owner of): [E39](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E39_Actor) Actor

Quantification: many to many (0,n:0,n)

Scope note: This property identifies an instance E39 Actor that is or had been the legal owner (i.e. title holder) of an instance of E18 Physical Thing at some time.

The distinction with *P52 has current owner (is current owner of)* is that *P51 has former or current owner (is former or current owner of)* does not indicate whether the specified owners are current. *P51 has former or current owner (is former or current owner of)* is a shortcut for the more detailed path from ‘*E18 Physical Thing’* through *‘P24i changed ownership through’, ‘E8 Acquisition’, ‘P23 transferred title from’, or ‘P22 transferred title to’,* to *‘E39 Actor*.’

Examples:

* paintings from the Iveagh Bequest (E18) *has former or current owner* Lord Iveagh (E21)

In First Order Logic:

 P51(x,y) ⊃ E18(x)

 P51(x,y) ⊃ E39(y)

##### P53 has former or current location

**DECISION**: The sig accepted the edit by CEO. The scope note for P53 has former or current location changed

###### FROM (old)

**P53 has former or current location (is former or current location of)**

Domain: E18 Physical Thing

Range: E53 Place

Superproperty of: E19 Physical Object. P55 has current location (currently holds): E53 Place

Quantification: many to many, necessary (1,n:0,n)

Scope note: This property associates an instance of E53 Place as the former or current location of an instance of E18 Physical Thing.

In the case of E19 Physical Objects, the property does not allow any indication of the Time-Span during which the E19 Physical Object was located at this Place, nor if this is the current location.

In the case of immobile objects, the Place would normally correspond to the Place of creation.

P53 has former or current location (is former or current location of) is a shortcut. A more detailed representation can make use of the fully developed (i.e. indirect) path from ‘E19 Physical Object’, though, ‘P25i moved by’, ‘E9 Move’, ‘P26 moved to’ or ‘P27 moved from’, to ‘ E53 Place’.

Examples:

* + silver cup 232 (E22) has former or current location Display Case 4, Room 23, Museum of Oxford (E53)

In First Order Logic:

 P53(x,y) ⊃ E18(x)

 P53(x,y) ⊃ E53(y)

###### TO (new)

**P53 has former or current location (is former or current location of)**

Domain: E18 Physical Thing

Range: E53 Place

Superproperty of: E19 Physical Object. P55 has current location (currently holds): E53 Place

Quantification: many to many, necessary (1,n:0,n)

Scope note: This property identifies an instance of E53 Place as the former or current location of an instance of E18 Physical Thing.

In the case of instances of E19 Physical Object, the property does not allow any indication of the Time-Span during which the instance of E19 Physical Object was located at this instance of E53 Place, nor if this is the current location.

In the case of immobile objects, the Place would normally correspond to the Place of creation.

P53 has former or current location (is former or current location of) is a shortcut. A more detailed representation can make use of the fully developed (i.e. indirect) path from ‘E19 Physical Object’, though, ‘P25i moved by’, ‘E9 Move’, ‘P26 moved to’ or ‘P27 moved from’, to ‘ E53 Place’.

Examples:

* + silver cup 232 (E22) has former or current location Display Case 4, Room 23, Museum of Oxford (E53)

In First Order Logic:

 P53(x,y) ⊃ E18(x)

 P53(x,y) ⊃ E53(y)

##### P54 has current permanent location

**DECISION**: P54 has current permanent location is to be kept as is for v.7.0. The [issue 455](http://www.cidoc-crm.org/Issue/ID-455-deprecate-the-property-p54-has-current-permanent-location-is-current-permanent-location) will remain open. MD has an issue to try to deprecate it by proving it is useless.

##### P59 has section

**DECISION**: The extra text regarding the sig meeting and issue 397 was deleted from the scope note. It should have never been there. The scope note for P59 has section is:

###### P59 has section (is located on or within)

Domain: E18 Physical Thing

Range: E53 Place

Quantification: one to many (0,n:0,1)

Scope note: This property links an area, i.e., an instance of E53 Place to the instance of E18 Physical Thing upon which it is found. This area may either be identified by a name, or by a geometry in terms of a coordinate system adapted to the shape of the respective instance of E18 Physical Thing. Typically, names identifying sections of physical objects are composed of the name of a kind of part and the name of the object itself, such as "The poop deck of H.M.S. Victory", which is composed of "poop deck" and "H.M.S. Victory".

Examples:

* HMS Victory (E22) has section HMS Victory section B347.6 (E53)

In First Order Logic:

 P59(x,y) ⊃ E18(x)

 P59(x,y) ⊃ E53(y)

##### P71 lists

**DECISION**: the sig edited the scope note for P71 lists. The scope note for P71 lists changed

###### FROM (old)

**P71 lists (is listed in)**

Domain: E32 Authority Document

Range: E1 CRM Entity

Subproperty of: E89 Propositional Object. P67 refers to (is referred to by): E1 CRM Entity

Quantification: many to many (0,n:0,n)

Scope note: This property documents a source E32 Authority Document for an instance of an E1 CRM Entity.

Examples:

* the Art & Architecture Thesaurus (E32) lists alcazars (E55)

In First Order Logic:

 P71(x,y) ⊃ E32(x)

 P71(x,y) ⊃ E1(y)

 P71(x,y) ⊃ P67(x,y)

###### TO (new)

**P71 lists (is listed in)**

Domain: E32 Authority Document

Range: E1 CRM Entity

Subproperty of: E89 Propositional Object. P67 refers to (is referred to by): E1 CRM Entity

Quantification: many to many (0,n:0,n)

Scope note: This property associates an instance of E32 Authority Document with an instance of E1 CRM entity which it lists for reference purposes.

Examples:

* the Art & Architecture Thesaurus (E32) lists alcazars (E55)

In First Order Logic:

 P71(x,y) ⊃ E32(x)

 P71(x,y) ⊃ E1(y)

 P71(x,y) ⊃ P67(x,y)

##### P72 has language

**DECISION**: The sig edited the scope note for P72 has language, taking CEO’s suggestions into account. The scope note for P72 has language changed

###### FROM (old)

**P72 has language (is language of)**

Domain: E33 Linguistic Object

Range: E56 Language

Quantification: many to many, necessary (1,n:0,n)

Scope note: This property describes the instance(s) of E56 Language of an instance of E33 Linguistic Object.

Linguistic Objects are composed in one or more human Languages. This property allows these languages to be documented.

Examples:

* the American Declaration of Independence (E33) has language 18th Century English (E56)

In First Order Logic:

 P72(x,y) ⊃ E33(x)

 P72(x,y) ⊃ E56(y

###### TO (new)

**P72 has language (is language of)**

Domain: E33 Linguistic Object

Range: E56 Language

Quantification: many to many, necessary (1,n:0,n)

Scope note: This property associates an instance of E33 Linguistic Object with an instance of E56 Language, in which it is at least partially expressed.

Linguistic Objects are composed in one or more human Languages. This property allows these languages to be documented.

Examples:

* the American Declaration of Independence (E33) has language 18th Century English (E56)

In First Order Logic:

 P72(x,y) ⊃ E33(x)

 P72(x,y) ⊃ E56(y

##### P73 has translation

**DECISION**: The sig reformulated the scope note according to CEO’s suggestions. The scope note for P73 has translation changed

###### FROM (old)

**P73 has translation (is translation of)**

Domain: E33 Linguistic Object

Range: E33 Linguistic Object

Subproperty of: E70 Thing. P130i features are also found on: E70 Thing

Quantification: one to many (0,n:0,1)

Scope note: This property describes the source and target of instances of E33Linguistic Object involved in a translation.

When a Linguistic Object is translated into a new language it becomes a new Linguistic Object, despite being conceptually similar to the source object.

This property is transitive

Examples:

* + - “Les Baigneurs” (E33) has translation “The Bathers” (E33)

In First Order Logic:

 P73(x,y) ⊃ E33(x)

 P73(x,y) ⊃ E33(y)

 P73(x,y) ⊃ P130(y,x)

###### TO (new)

**P73 has translation (is translation of)**

Domain: E33 Linguistic Object

Range: E33 Linguistic Object

Subproperty of: E70 Thing. P130i features are also found on: E70 Thing

Quantification: one to many (0,n:0,1)

Scope note: This property links an instance of a E33 Linguistic Objet (A) to another instance of E33 Linguistic Object (B) which is the translation of A.

When an instance of E33 Linguistic Object is translated into a new language a new instance of E33 Linguistic Object is created, despite the translation being conceptually similar to the source object.

This property is transitive.

Examples:

* + - “Les Baigneurs” (E33) has translation “The Bathers” (E33)

In First Order Logic:

 P73(x,y) ⊃ E33(x)

 P73(x,y) ⊃ E33(y)

 P73(x,y) ⊃ P130(y,x)

##### P75 possesses

**DECISION**: The sig reformulated the scope note according to CEO’s suggestions. The scope note for P75 possessed changed

###### FROM (old)

**P75 possesses (is possessed by)**

Domain: E39 Actor

Range: E30 Right

Quantification: many to many (0,n:0,n)

Scope note: This property identifies former or current instances of E30 Rights held by an E39 Actor.

Examples:

* + - Michael Jackson (E21) possesses Intellectual property rights on the Beatles’ back catalogue (E30).

In First Order Logic:

 P75(x,y) ⊃ E39(x)

 P75(x,y) ⊃ E30(y)

###### TO (new)

**P75 possesses (is possessed by)**

Domain: E39 Actor

Range: E30 Right

Quantification: many to many (0,n:0,n)

Scope note: This property associates an instance of E39 Actor to an instance of E30 Right over which the actor holds or has held a legal claim.

Examples:

* + - Michael Jackson (E21) possesses Intellectual property rights on the Beatles’ back catalogue (E30).

In First Order Logic:

 P75(x,y) ⊃ E39(x)

 P75(x,y) ⊃ E30(y)

##### P76 has contact point

**DECISION**: The sig reformulated the scope note according to CEO’s suggestions. The scope note for P76 has contact point changed

###### FROM (old)

**P76 has contact point (provides access to)**

Domain: E39 Actor

Range: E41 Appellation

Quantification: many to many (0,n:0,n)

Scope note: This property identifies an instance of E51 Contact Point of any type that provides access to an instance of E39 Actor by any communication method, such as e-mail or fax.

Examples:

* + - RLG (E40) has contact point “bl.ric@rlg.org” (E41)

In First Order Logic:

 P76(x,y) ⊃ E39(x)

 P76(x,y) ⊃ E41(y)

###### TO (new)

**P76 has contact point (provides access to)**

Domain: E39 Actor

Range: E41 Appellation

Quantification: many to many (0,n:0,n)

Scope note: This property associates an instance of E39 Actor to an instance of E41 Appellation, which a communication service uses to direct communications to this actor, such as e-mail address, fax number or postal address.

Examples:

* + - RLG (E40) has contact point “bl.ric@rlg.org” (E41)

In First Order Logic:

 P76(x,y) ⊃ E39(x)

 P76(x,y) ⊃ E41(y)

##### P86 falls within (contains)

**DECISION**: The sig edited the scope note according to CEO’s suggestions. The scope note for P86 has formed changed

FROM (old)

Domain: [E52](#_E52_Time-Span) Time-Span

Range: [E52](#_E52_Time-Span) Time-Span

Quantification: many to many (0,n:0,n)

Scope note: This property describes the inclusion relationship between two instances of E52 Time-Span.

This property supports the notion that a Time-Span’s temporal extent falls within the temporal extent of another Time-Span. It addresses temporal containment only, and no contextual link between the two instances of Time-Span is implied.

This property is transitive.

Examples:

* the time-span of the Apollo 11 moon mission (E52) *falls within* the time-span of the reign of Queen Elizabeth II (E52)

In First Order Logic:

 P86(x,y) ⊃ E52(x)

 P86(x,y) ⊃ E52(y)

##### TO (new)

Domain: [E52](#_E52_Time-Span) Time-Span

Range: [E52](#_E52_Time-Span) Time-Span

Quantification: many to many (0,n:0,n)

Scope note: This property describes the inclusion relationship between two instances of E52 Time-Span.

This property supports the notion that a the temporal extent of an instance of E52 Time-Span falls within the temporal extent of another instance of E52 Time-Span. It addresses temporal containment only, and no contextual link between the two instances of E52 Time-Span is implied.

This property is transitive.

Examples:

* the time-span of the Apollo 11 moon mission (E52) *falls within* the time-span of the reign of Queen Elizabeth II (E52)

In First Order Logic:

 P86(x,y) ⊃ E52(x)

 P86(x,y) ⊃ E52(y)

##### P95 has formed

**DECISION**: The sig edited the scope note according to CEO’s suggestions. The scope note for P95 has formed changed

###### FROM (old)

**P95 has formed (was formed by)**

Domain: E66 Formation

Range: E74 Group

Subproperty of: E63 Beginning of Existence. P92 brought into existence (was brought into existence by): E77 Persistent Item

Quantification: one to many, necessary, dependent (1,n:1,1)

Scope note: This property links the founding or E66 Formation for an E74 Group with the Group itself.

Examples:

* + - the formation of the CIDOC CRM SIG at the August 2000 CIDOC Board meeting (E66) has formed the CIDOC CRM Special Interest Group (E74)

In First Order Logic:

 P95(x,y) ⊃ E66(x)

 P95(x,y) ⊃ E74(y)

 P95(x,y) ⊃ P92(x,y)

###### TO (new)

**P95 has formed (was formed by)**

Domain: E66 Formation

Range: E74 Group

Subproperty of: E63 Beginning of Existence. P92 brought into existence (was brought into existence by): E77 Persistent Item

Quantification: one to many, necessary, dependent (1,n:1,1)

Scope note: This property associates the instance of E66 Formation with the instance of Group that it founded.

Examples:

* + - the formation of the CIDOC CRM SIG at the August 2000 CIDOC Board meeting (E66) has formed the CIDOC CRM Special Interest Group (E74)

In First Order Logic:

 P95(x,y) ⊃ E66(x)

 P95(x,y) ⊃ E74(y)

 P95(x,y) ⊃ P92(x,y)

##### P99 dissolved

**DECISION**: The sig edited the scope note according to CEO’s suggestions. The scope note for P99 dissolved changed

###### FROM (old)

**P99 dissolved (was dissolved by)**

Domain: E68 Dissolution

Range: E74 Group

Subproperty of: E5 Event. P11 had participant (participated in): E39 Actor

E64 End of Existence. P93 took out of existence (was taken out of existence by): E77 Persistent Item

Quantification: one to many, necessary (1,n:0,n)

Scope note: This property links the disbanding or E68 Dissolution of an E74 Group to the Group itself.

Examples:

* + - the end of The Hole in the Wall Gang (E68) dissolved The Hole in the Wall Gang (E74)

In First Order Logic:

 P99(x,y) ⊃ E68(x)

 P99(x,y) ⊃ E74(y)

 P99(x,y) ⊃ P11(x,y)

 P99(x,y) ⊃ P93(x,y)

###### TO (new)

**P99 dissolved (was dissolved by)**

Domain: E68 Dissolution

Range: E74 Group

Subproperty of: E5 Event. P11 had participant (participated in): E39 Actor

E64 End of Existence. P93 took out of existence (was taken out of existence by): E77 Persistent Item

Quantification: one to many, necessary (1,n:0,n)

Scope note: This property associates the instance of E68 Dissolution with the instance of an E74 Group that it disbanded.

Examples:

* + - the end of The Hole in the Wall Gang (E68) dissolved The Hole in the Wall Gang (E74)

In First Order Logic:

 P99(x,y) ⊃ E68(x)

 P99(x,y) ⊃ E74(y)

 P99(x,y) ⊃ P11(x,y)

 P99(x,y) ⊃ P93(x,y)

##### P101 had as general use

**DECISION**: The sig edited the scope note according to CEO’s suggestions. However, the scope note needs be tuned to any decision concerning the use of the terms \*general vs. specific\* and the scope note of P101 see [[NEW ISSUE](#_[NEW_ISSUE]:_scope)] above. The scope note for P101 had as general use changed

###### FROM (old)

**P101 had as general use (was use of)**

Domain: E70 Thing

Range: E55 Type

Quantification: many to many (0,n:0,n)

Scope note: This property links an instance of E70 Thing to an E55 Type of usage.

It allows the relationship between particular things, both physical and immaterial, and general methods and techniques of use to be documented. Thus it can be asserted that a baseball bat had a general use for sport and a specific use for threatening people during the Great Train Robbery.

Examples:

* + - Tony Gill’s Ford Mustang (E22) had as general use transportation (E55)

In First Order Logic:

 P101(x,y) ⊃ E70(x)

 P101(x,y) ⊃ E55(y)

###### TO (new)

**P101 had as general use (was use of)**

Domain: E70 Thing

Range: E55 Type

Quantification: many to many (0,n:0,n)

Scope note: This property associates an instance of E70 Thing with an instance of E55 Type describing the general usage.

It allows the relationship between particular things, both physical and immaterial, and general methods and techniques of use to be documented. Thus it can be asserted that a baseball bat had a general use for sport and a specific use for threatening people during the Great Train Robbery.

Examples:

* + - Tony Gill’s Ford Mustang (E22) had as general use transportation (E55)

In First Order Logic:

 P101(x,y) ⊃ E70(x)

 P101(x,y) ⊃ E55(y)

##### P102 has title

Reviewing of this property initiated an open discussion regarding its usefulness. MD suggested to deprecate it, but what was decided instead was to look for a better example to confirm (or disprove) its usefulness.

**DECISION**: The sig edited the scope note according to CEO’s suggestions and appointed MD to provide a better example [HW]. The scope note for P102 has title changed

###### FROM (old)

**P102 has title (is title of)**

Domain: E71 Human-Made Thing

Range: E35 Title

Subproperty of: E1 CRM Entity. P1 is identified by (identifies): E41 Appellation

Quantification: many to many (0,n:0,n)

Scope note: This property describes the E35 Title applied to an instance of E71 Human-Made Thing. The E55 Type of Title is assigned in a sub property.

The P102.1 has type property of the P102 has title (is title of) property enables the relationship between the Title and the thing to be further clarified, for example, if the Title was a given Title, a supplied Title etc.

It allows any human-made material or immaterial thing to be given a Title. It is possible to imagine a Title being created without a specific object in mind.

Examples:

* + - the first book of the Old Testament (E33) has title “Genesis” (E35)

has type translated (E55)

In First Order Logic:

 P102(x,y) ⊃ E71(x)

 P102(x,y) ⊃ E35(y)

 P102(x,y,z) ⊃ [P102(x,y) ∧ E55(z)]

 P102(x,y) ⊃ P1(x,y)

Properties: P102.1 has type: E55 Type

###### TO (new)

**P102 has title (is title of)**

Domain: E71 Human-Made Thing

Range: E35 Title

Subproperty of: E1 CRM Entity. P1 is identified by (identifies): E41 Appellation

Quantification: many to many (0,n:0,n)

Scope note: This property associates an instance of E35 Title that has been applied to an instance of E71 Human-Made Thing.

The P102.1 has type property of the P102 has title (is title of) property enables the relationship between the Title and the thing to be further clarified, for example, if the Title was a given title, a supplied title etc.

It allows any human-made material or immaterial thing to be given a Title. It is possible to imagine a title being created without a specific object in mind.

Examples:

* + - the first book of the Old Testament (E33) has title “Genesis” (E35)

has type translated (E55)

In First Order Logic:

 P102(x,y) ⊃ E71(x)

 P102(x,y) ⊃ E35(y)

 P102(x,y,z) ⊃ [P102(x,y) ∧ E55(z)]

 P102(x,y) ⊃ P1(x,y)

Properties: P102.1 has type: E55 Type

##### P103 was intended for

**DECISION**: the scope note of P103 needs be further reviewed in the context of the new issue above on defining the meaning of the terms \*general vs. specific\* in the CRM universe.
**HW** to SS to revise.

**DECISION**: For version 7.0, the cope note edited by the sig according to CEO’s suggestions, will do. The scope note for P103 was intended for changed

###### FROM (old)

**P103 was intended for (was intention of)**

Domain: E71 Human-Made Thing

Range: E55 Type

Quantification: many to many (0,n:0,n)

Scope note: This property links an instance of E71 Human-Made Thing to an E55 Type of usage.

It creates a property between specific human-made things, both physical and immaterial, to types of intended methods and techniques of use. Note: A link between specific human-made things and a specific use activity should be expressed using P19 was intended use of (was made for).

Examples:

* this plate (E22) was intended for being destroyed at wedding reception (E55)

In First Order Logic:

 P103(x,y) ⊃ E71(x)

 P103(x,y) ⊃ E55(y)

###### TO (new)

**P103 was intended for (was intention of)**

Domain: E71 Human-Made Thing

Range: E55 Type

Quantification: many to many (0,n:0,n)

Scope note: This property links an instance of E71 Human-Made Thing to an instance of E55 Type describing its intended usage.

It creates a relation between specific human-made things, both physical and immaterial, to Types of intended methods and techniques of use. Note: A link between specific human-made things and a specific use activity should be expressed using P19 was intended use of (was made for).

Examples:

* this plate (E22) was intended for being destroyed at wedding reception (E55)

In First Order Logic:

 P103(x,y) ⊃ E71(x)

 P103(x,y) ⊃ E55(y)

##### P107 has current or former member

**DECISION**: The sig edited the scope note according to CEO’s suggestions. The scope note changed

###### FROM (old)

**P107 has current or former member (is current or former member of)**

Domain: [E74](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E74_Group) Group

Range: [E39](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E39_Actor) Actor

Quantification: many to many (0,n:0,n)

Scope note: This property relates an E39 Actor to the E74 group of which that E39 Actor is a member.

Groups, Legal Bodies and Persons, may all be members of Groups. A Group necessarily consists of more than one member.

This property is a shortcut of the more fully developed path *E74 Group, P144i gained member by, E85 Joining, P143 joined, E39 Actor*

The property P107.1 *kind of member* can be used to specify the type of membership or the role the member has in the group.

Examples:

* Moholy Nagy (E21) *is current or former* *member of* Bauhaus (E74)
* National Museum of Science and Industry (E40) *has current or former member* The National Railway Museum (E40)
* The married couple Queen Elisabeth and Prince Phillip (E74) *has current or former member* Prince Phillip (E21) with P107.1 *kind of member* husband (E55 Type)

In First Order Logic:

 P107(x,y) ⊃ E74(x)

 P107(x,y) ⊃ E39(y)

 P107(x,y,z) ⊃ [P107(x,y) ∧ E55(z)]

Properties: P107.1 kind of member: E55 Type

###### TO (new)

**P107 has current or former member (is current or former member of)**

Domain: [E74](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E74_Group) Group

Range: [E39](file:///C%3A%5CUsers%5CEleni%5CDropbox%5CET_46th%20crm-sig%20meeting%2C%20Athens%2C%2025-28%20Feb%202020%5Cday_4%5CCIDOC%20CRM_v6.2.8%20Definition_esIP-draft%202_ceo_comments.docx#_E39_Actor) Actor

Quantification: many to many (0,n:0,n)

Scope note: This property associates an instance of E74 Group with the instance of E39 Actor that is a member thereof.

Instances of E74 Group and E21 Person may all be members of instances of E74 Groups. An instance of E74 Group may be founded initially without any member.

This property is a shortcut of the more fully developed path *E74 Group, P144i gained member by, E85 Joining, P143 joined, E39 Actor*

The property P107.1 *kind of member* can be used to specify the type of membership or the role the member has in the group.

Examples:

* Moholy Nagy (E21) *is current or former* *member of* Bauhaus (E74)
* National Museum of Science and Industry (E74) *has current or former member* The National Railway Museum (E74)
* The married couple Queen Elisabeth and Prince Phillip (E74) *has current or former member* Prince Phillip (E21) with P107.1 *kind of member* husband (E55 Type)

In First Order Logic:

 P107(x,y) ⊃ E74(x)

 P107(x,y) ⊃ E39(y)

 P107(x,y,z) ⊃ [P107(x,y) ∧ E55(z)]

Properties: P107.1 kind of member: E55 Type

##### P121 overlaps with

**DECISION**: The scope note needs be updated. The property is compared to a class –which it shouldn’t –and hence needs be edited. Reference must be made to properties of temporal overlap, not time primitives. Reference must also be made to P132 spatiotemporally overlaps.
**HW** to MD to reformulate the scope note.

##### P122 borders with

**DECISION**: The scope note needs be updated. The property is compared to a class –which it shouldn’t –and hence needs be edited. Reference must be made to properties of temporal overlap, not time primitives.

**HW** to MD to reformulate the scope note.

##### P125 used object of type

**DECISION**: The scope note needs redrafting. SS is to provide a new scope note [**HW**]. Make sure that the order of the classes appears in the forward rather than the inverse order (as are now).

##### P137 exemplifies

**DECISION**: The sig edited the scope note according to CEO’s suggestions. The scope note for P137 exemplifies changed

###### FROM (old)

**P137 exemplifies (is exemplified by)**

Domain: E1 CRM Entity

Range: E55 Type

Subproperty of: E1 CRM Entity. P2 has type (is type of):E55 Type

Quantification: many to many (0,n:0,n)

Scope note: This property allows an item to be declared as a particular example of an E55 Type or taxon)

 The *P137.1 in the taxonomic role* property of *P137 exemplifies (is exemplified by)* allows differentiation of taxonomic roles. The taxonomic role renders the specific relationship of this example to the Type, such as "prototypical", "archetypical", "lectotype", etc. The taxonomic role "lectotype" is not associated with the Type Creation itself (E83), but selected in a later phase.

Examples:

* + - Object BM000098044 of the Clayton Herbarium (E20) *exemplifies* Spigelia marilandica (L.) L. (E55) in the taxonomic role lectotype

In First Order Logic:

 P137(x,y) ⊃ E1(x)

 P137(x,y) ⊃ E55(y)

 P137(x,y,z) ⊃ [P137(x,y) ∧ E55(z)]

 P137(x,y) ⊃ P2(x,y)

Properties: P137.1 in the taxonomic role: E55 Type

###### TO (new)

**P137 exemplifies (is exemplified by)**

Domain: E1 CRM Entity

Range: E55 Type

Subproperty of: E1 CRM Entity. P2 has type (is type of):E55 Type

Quantification: many to many (0,n:0,n)

Scope note: This property associates an instance of E1 CRM Entity with an instance of E55 Type, for which it has been declared to be a particularly characteristic example.

The *P137.1 in the taxonomic role* property of *P137 exemplifies (is exemplified by)* allows differentiation of taxonomic roles. The taxonomic role renders the specific relationship of this example to the type, such as "prototypical", "archetypical", "lectotype", etc. The taxonomic role "lectotype" is not associated with the instance of E83 Type Creation itself, but selected in a later phase.

Examples:

* + - Object BM000098044 of the Clayton Herbarium (E20) *exemplifies* Spigelia marilandica (L.) L. (E55) in the taxonomic role lectotype

In First Order Logic:

 P137(x,y) ⊃ E1(x)

 P137(x,y) ⊃ E55(y)

 P137(x,y,z) ⊃ [P137(x,y) ∧ E55(z)]

 P137(x,y) ⊃ P2(x,y)

Properties: P137.1 in the taxonomic role: E55 Type

##### P140 assigned attribute to

**DECISION**: The sig edited the scope note according to CEOs proposal. The scope note for P140 assigned attribute to changed

###### FROM (old)

**P140 assigned attribute to (was attributed by)**

Domain: E13 Attribute Assignment

Range: E1 CRM Entity

Superproperty of: E14 Condition Assessment. P34 concerned (was assessed by): E18 Physical Thing

 E16 Measurement. P39 measured (was measured by): E70 Thing

 E17 Type Assignment. P41 classified (was classified by): E1 CRM Entity

Quantification: many to many (0,n:0,n)

Scope note: This property indicates the item to which an attribute or relation is assigned.

Examples:

* + - February 1997 Current Ownership Assessment of Martin Doerr’s silver cup (E13) assigned attribute to Martin Doerr’s silver cup (E19)
		- 01 June 1997 Identifier Assignment of the silver cup donated by Martin Doerr (E15) assigned attribute to silver cup 232 (E19)

In First Order Logic:

 P140(x,y) ⊃ E13(x)

 P140(x,y) ⊃ E1(y)

###### TO (new)

**P140 assigned attribute to (was attributed by)**

Domain: E13 Attribute Assignment

Range: E1 CRM Entity

Superproperty of: E14 Condition Assessment. P34 concerned (was assessed by): E18 Physical Thing

 E16 Measurement. P39 measured (was measured by): E70 Thing

 E17 Type Assignment. P41 classified (was classified by): E1 CRM Entity

Quantification: many to many (0,n:0,n)

Scope note: This property associates an instance of E13 Attribute Assignment with the instance of E1 CRM Entity about which the attribution was made. The instance of E1 CRM Entity plays the role of the domain of the attribution.

The kind of attribution made should be documented using P177 assigned property type.

Examples:

* + - February 1997 Current Ownership Assessment of Martin Doerr’s silver cup (E13) *assigned attribute to* Martin Doerr’s silver cup (E19)
		- 01 June 1997 Identifier Assignment of the silver cup donated by Martin Doerr (E15) *assigned attribute to* silver cup 232 (E19)

In First Order Logic:

 P140(x,y) ⊃ E13(x)

 P140(x,y) ⊃ E1(y)

##### P141 assigned

**DECISION**: The sig edited the scope note according to CEOs proposal. The scope note for P141 assigned changed

###### FROM (old)

Domain: E13 Attribute Assignment

Range: E1 CRM Entity

Superproperty of: E14 Condition Assessment. P35 has identified (identified by): E3 Condition State

 E15 Identifier Assignment. P37 assigned (was assigned by): E42 Identifier

 E15 Identifier Assignment. P38 deassigned (was deassigned by): E42 Identifier

E16 Measurement. P40 observed dimension (was observed in): E54 Dimension

 E17 Type Assignment. P42 assigned (was assigned by): E55 Type

Quantification: many to many (0,n:0,n)

Scope note: This property indicates the attribute that was assigned or the item that was related to the item denoted by a property P140 assigned attribute to in an instance of E13 Attribute Assignment.

Examples:

* February 1997 Current Ownership Assessment of Martin Doerr’s silver cup (E13) *assigned* Martin Doerr (E21)
* 01 June 1997 Identifier Assignment of the silver cup donated by Martin Doerr (E15) *assigned* object identifier 232

In First Order Logic:

 P141(x,y) ⊃ E13(x)

 P141(x,y) ⊃ E1(y)

###### TO (new)

**P141 assigned (was assigned by)**

Domain: E13 Attribute Assignment

Range: E1 CRM Entity

Superproperty of: E14 Condition Assessment. P35 has identified (identified by): E3 Condition State

 E15 Identifier Assignment. P37 assigned (was assigned by): E42 Identifier

 E15 Identifier Assignment. P38 deassigned (was deassigned by): E42 Identifier

E16 Measurement. P40 observed dimension (was observed in): E54 Dimension

 E17 Type Assignment. P42 assigned (was assigned by): E55 Type

Quantification: many to many (0,n:0,n)

Scope note: This property identifies the instance of E1 CRM Entity that was assigned as an attribute to another instance of E1 CRM Entity in an instance of E13 Attribute Assignment

The kind of attribution made should be documented using p177 assigned property type.

Examples:

* February 1997 Current Ownership Assessment of Martin Doerr’s silver cup (E13) *assigned* Martin Doerr (E21)
* 01 June 1997 Identifier Assignment of the silver cup donated by Martin Doerr (E15) *assigned* object identifier 232

In First Order Logic:

 P141(x,y) ⊃ E13(x)

 P141(x,y) ⊃ E1(y)

##### P142 used constituent

**DECISION**: The sig edited the scope note according to CEOs proposal. The scope note for P142 used constituent changed

###### FROM (old)

**P142 used constituent (was used in)**

Domain: E15 Identifier Assignment

Range: E90 Symbolic Object

Subproperty of: E7 Activity. P16 used specific object (was used for): E70 Thing

Quantification: (0:n,0:n)

Scope note: This property associates the event of assigning an instance of E42 Identifier with the instances of E90 Symbolic Object that were used as constituents of the identifier.

Examples:

* On June 1, 2001 assigning the personal name identifier “Guillaume, de Machaut, ca. 1300-1377” (E15) *used constituen*t “ca. 1300-1377” (E41)
* Assigning a uniform title to the anonymous textual work known as ‘The Adoration of the Shepherds’(E15) *used constituent* ‘Coventry’ (E41)
* Assigning a uniform title to Pina Bausch’s choreographic work entitled ‘Rite of spring’ (E15) used constituent ‘(Choreographic Work: Bausch)’(E90)
* Assigning a uniform title to the motion picture directed in 1933 by Merian C. Cooper and Ernest B. Schoedsack and entitled ‘King Kong’ (E15) *used constituent* ‘1933’ (E41)
* Assigning the corporate name identifier ‘Univerza v Ljubljani. Oddelek za bibliotekarstvo’ to The Department for library science of the University of Ljubljana (E15) *used constituent* ‘Univerza v Ljubljani’ (E42)

In First Order Logic:

 P142(x,y) ⊃ E15(x)

 P142(x,y) ⊃ E90(y)

 P142(x,y) ⊃ P16(x,y)

###### TO (new)

**P142 used constituent (was used in)**

Domain: E15 Identifier Assignment

Range: E90 Symbolic Object

Subproperty of: E7 Activity. P16 used specific object (was used for): E70 Thing

Quantification: (0:n,0:n)

Scope note: This property associates an instance of E15 Identifier Assignment with the instance of E90 Symbolic Object used as constituent of an instance of E42 Identifier in this act of assignment.

Examples:

* On June 1, 2001 assigning the personal name identifier “Guillaume, de Machaut, ca. 1300-1377” (E15) *used constituen*t “ca. 1300-1377” (E41)
* Assigning a uniform title to the anonymous textual work known as ‘The Adoration of the Shepherds’(E15) *used constituent* ‘Coventry’ (E41)
* Assigning a uniform title to Pina Bausch’s choreographic work entitled ‘Rite of spring’ (E15) used constituent ‘(Choreographic Work: Bausch)’(E90)
* Assigning a uniform title to the motion picture directed in 1933 by Merian C. Cooper and Ernest B. Schoedsack and entitled ‘King Kong’ (E15) *used constituent* ‘1933’ (E41)
* Assigning the corporate name identifier ‘Univerza v Ljubljani. Oddelek za bibliotekarstvo’ to The Department for library science of the University of Ljubljana (E15) *used constituent* ‘Univerza v Ljubljani’ (E42)

In First Order Logic:

 P142(x,y) ⊃ E15(x)

 P142(x,y) ⊃ E90(y)

 P142(x,y) ⊃ P16(x,y)

##### P167 at (was at place of) [D: E93 Presence, R: E53 Place]

**DECISION**: The sig added the quantification that was previously missing from the property definition. The quantification was set to (1,n:0,n).

The decision must inform issues [459](#_ISSUE_459:_Modelling_1) (intro to the CRM, modelling principles), as the property appears on figure 5(current). It must also inform issues [471](#_ISSUE_471:_graphical) and [457](#_ISSUE_457:_harmonization) because the figures that need be produced must include the cardinality of the properties.

##### P179 had sales price

**DECISION**: The sig added the quantification that was previously missing from the property definition. The quantification was set to (0,n:1,n).

DECISION: the definition of P179 changed

###### FROM (old)

**P179 had sales price (was sales price of)**

Domain: E96 Purchase

Range: E97 Monetary Amount

Subproperty of:

Quantification:

Scope note: This property establishes the relationship between an instance of E96 Purchase and the instance of E97 Monetary Amount that forms the compensation for the transaction.

Examples:

* + - The sale of Vincent van Gogh’s “Vase with Fifteen Sunflowers” on 1987/03/30 (E96) had sales price Christies’ hammer price for “Vase with Fifteen Sunflowers” (E97).

In First Order Logic:

 P179(x,y) ⊃ E96(x)

 P179(x,y) ⊃ E97(y)

###### TO (new)

**P179 had sales price (was sales price of)**

Domain: E96 Purchase

Range: E97 Monetary Amount

Subproperty of:

Quantification: 0,n:1,n

Scope note: This property establishes the relationship between an instance of E96 Purchase and the instance of E97 Monetary Amount that forms the compensation for the transaction.

The monetary amount agreed on may change in the course of the purchace activity.

Examples:

* + - The sale of Vincent van Gogh’s “Vase with Fifteen Sunflowers” on 1987/03/30 (E96) had sales price Christies’ hammer price for “Vase with Fifteen Sunflowers” (E97).

In First Order Logic:

 P179(x,y) ⊃ E96(x)

 P179(x,y) ⊃ E97(y)

##### P180 has currency (was currency of) [D: E97 Monetary Amount, R: E98 Currency]

**DECISION**: The sig added the quantification that was previously missing from the property definition. The quantification was set to (1,1:0,n).