## ISSUE 410: Layout of CIDOC CRM official version (part 1)

## Tuesday March 26th

1. outline of changes
2. CB informed the sig that she has separated the CIDOC Conceptual Reference Model document (version 6.2.5) in two volumes, the first containing the definition of the model and the other the amendments, as it was gradually becoming impossible to browse through.  
   **DECISION**: the sig accepted CB’s proposal. They insisted that the document should be given a title (the same for both volumes) and then each volume should bear a number and what it is about:
   1. Volume A: *Definition of the CIDOC Conceptual Reference Model*
   2. Volume B: *Amendments of the CIDOC Conceptual reference Model*

## The CRM-sig reviewed edits by CEO in the FOL representation and listing of the properties:

**DECISION**: the sig agreed on listing the [sub-/super-]classes and [sub-/super-]properties in the definitions by increasing numerical order. The same applies to listing the inferences drawn among classes in the FOL representation of the CRM.

1. The sig reviewed the inconsistencies pointed by CEO
2. The universal quantification assumed in all FOL representations has undesirable ramifications when it comes to E59 Primitive Value: E59(x) is interpreted by saying that everything in the universe is a primitive value, which is neither intended, nor true.   
   **DECISION**: The sig decided to delete the axiom E59(x) from the definition of E59 Primitive Value. The notation E59(x) appears in the FOL representation of inferences from subclasses of E59 to E59, without problems   
   (f.i. E62(x) ⊃ E59(x))
3. Based on the rule that has been proposed and accepted by the CRM-sig, properties having a deprecated class as range are to be deleted as long as they have no special semantic purport (f.i. properties with no distinct label, such as “is identified by”). On the contrary, properties whose range is a deprecated class but whose label is distinct are to be kept in the model (f.i. P76 has contact point ⊆ <E39 Actor x E51 Contact Point>).

**DECISION**: subproperties of P1 is identified by (identifies) ⊆ <E1 CRM Entity x E41 Appellation> are to be deprecated, in accordance with the rule above. The affected properties include:

* + - P78 *is identified by (identifies)*  ⊆ <E52 TimeSpan x E41 Appellation>,
    - P87 *is identified by (identifies)*  ⊆ <E53 Place x E41 Appellation>,
    - P131 *is identified by (identifies)* ⊆ <E39 Actor x E41 Appellation>

DECISION: Whenever a class or property is deprecated, its definition should be listed in the amendements.

1. The sig reviewed CEO’s proposal to add E41 Appellation in the list of Superclasses of E94 Space Primitive.

**DECISION**: Discussion of this proposal is to be deferred to the discussion of CRMgeo –in view of the decision of the sig to harmonize CRMgeo with CRMbase.

1. The sig reviewed CEO’s proposal to:
   1. add the inverse superproperty of P9 consists of (forms part of) –namely P10i contains (falls within) –in the definition of P9, and
   2. add the FOL representation of the inference among P10 falls within (contains) and P132 spatiotemporally overlaps with –namely P10 (x,y) ⊃ P132 (x,y).  
      **DECISION**: both proposals were accepted.
2. P11 had participant (participated in) & P12 occurred in the presence of (was present at):

**DECISION**: the CRM-sig accepted CEO’s proposal to delete E50 Date from the scope notes of P11 & P12 (deprecated class). The sig assigned MD to redraft the scope notes, seeing as they mistakenly associate actors (P11) and things (P12) with the Place of the event, rather than the event itself.

**HW**: MD is to rewrite the scope note for P11 had participant and P12 occurred in the presence of.

1. P26 moved to (was destination of) & P27 moved from (was origin of).

**DECISION**: The crm-sig accepted CEO’s suggestions for the FOL representation of the relevant properties. Further, it was decided that the spatiotemporal topological relations between E9 Move and P7 took place at (witnessed), P26 moved to (was destination of), P27 moved from (was origin of) and P161 has spatial projection (is spatial projection of) be defined. (Unassigned)

1. P31 has modified:

**DECISION**: the sig has accepted CEO’s proposal to update the scope note of P31 so that it matches the classes in its domain and range.

1. P92 brought into existence (was brought into existence by) & P93 took out of existence (was taken out of existence by)

**DECISION**: The CRM-sig accepted CEO’s proposal to delete E51 Contact Point from the scope note definition of P92 & P93. The new scope notes read:

***P92 brought into existence (was brought into existence by)***

Scope note: This property allows an E63 Beginning of Existence event to be linked to the E77 Persistent Item brought into existence by it.

It allows a “start” to be attached to any Persistent Item being documented i.e. E70 Thing, E72 Legal Object, E39 Actor, E41 Appellation and E55 Type.

***P93 took out of existence (was taken out of existence by)***

Scope note: This property allows an E64 End of Existence event to be linked to the E77 Persistent Item taken out of existence by it.

In the case of immaterial things, the E64 End of Existence is considered to take place with the destruction of the last physical carrier.

This allows an “end” to be attached to any Persistent Item being documented i.e. E70 Thing, E72 Legal Object, E39 Actor, E41 Appellation and E55 Type. For many Persistent Items we know the maximum life-span and can infer, that they must have ended to exist. We assume in that case an End of Existence, which may be as unnoticeable as forgetting the secret knowledge by the last representative of some indigenous nation.

1. P114 is equal in time to

**DECISION**: The CRM-sig accepted CEO’s proposal to add FOL representations for the superproperties of P114 is equal in time to, namely:

* P114(x,y) ⊃ P175(y,x)
* P114(x,y) ⊃ P184(y,x)

1. P164 during (was time-span of)

**DECISION**: The crm-sig accepted CEO’s proposal regarding the FOL representation of the superproperty of P164 during (was time span of), namely:

* P164(x,y) ⊃ P160(x,y)

1. P128 carries (is carried by):

**DECISION**: The CRM-sig accepted CEO’s proposal to edit the domain class in the example for P128 carries (is carried by). The example now reads:

Examples:

* Matthew’s paperback copy of Reach for the Sky (E18) *carries* the text of Reach for the Sky (E73)

1. P156 occupies (is occupied by):

The sig rejected CEO’s proposal that the FOL representation of P156 occupies (is occupied by) and the inferences that can be drawn from it be stated as a set of statements rather than a conjunction of the said statements. These are not independently holding propositions weakly inferred from the property at hand; rather they must all hold for P156 to also hold (P156(x,) entails that E18(x) ⋀ E53(y) ⋀ P161(x,y) ∧ P157(y,x) .

1. P169 defines spacetime volume (spacetime volume is defined by) through P190 has symboliccontent:

**HW**: The crm-sig assigned MD with reviewing the FOL notation by CEO for properties P169 through P190.

## ISSUE 410: Layout of CIDOC CRM official version (part 2)

## Thursday March 28th

The sig reviewed the introductory text of CIDOC CRM (version 6.2.5) and did some rearranging in the order of the material plus additions and deletions in order to produce a text that will form the basis of the text to be submitted to ISO. Editorial work is still pending.

**DECISIONS**:

1. Chapter “Property Quantifiers” needs be revised, it should also reference this paper:   
   Meghini, C. and Doerr, M. (2015) **A First-Order Logic Expression of the CIDOC Conceptual Reference Model**. Available online at: http://new.cidoc-crm.org/sites/default/files/20150805-

document.pdf

1. Property quantifiers’ notation should also be made more readable (Chapter “Property Quantifiers”).
2. Chapter “Applied Form” (minus the “Terminology” part) should be moved to the end of the introductory text.
3. The introductory part of Chapter “Applied Form” (1st paragraph) must be brought to date with formats currently in use
4. Paragraph “Terminology” should be raised to Chapter status (i.e. to be taken out of the chapter “Applied form”). It is to immediately follow chapter “Scope of the CIDOC CRM”.
5. The FOL representations should be checked for consistency throughout the text –use of logical constants and quantifiers (**HW: CEO**)
6. The examples throughout the text need be made more relevant.
7. Sections “Monotonicity”, “Extensions”, “Coverage” and “Conservative Extension of the Scope of CIDOC CRM by Model Extensions” should all be merged –they cover different aspects of the same topic. (**HW: CEO, MD**)
8. An **Overview of the model** (or **Introduction to the basic concepts**) and **examples** to help illustrate (containing graphical representations) is to be placed right before the chapter “Specific Modelling Constructs”.
   1. a summary of the discussion points regarding the overview of the model and the examples to be used can be found below:
      1. This section should help the reader grasp on what grounds are E2 Temporal Entities and E77 Persistent Items kept distinct and the properties associated with each class
      2. It should comprise of three sub-sections, each of them to including relevant examples, namely:
         * events and periods (and their relations to actors/participants)
         * persistent items, things and the like
         * space-time volumes (and how they differ from both temporal and spatial entities of the CRM)
      3. Regarding Spacetime volumes, it should be made clear that invoking an E92 Spacetime Volume is not the standard (or the preferred) way to model entities of interest in the CRM, but that it is in fact a representation consistent with physics which exploits the full possibilities of the model. This note to the reader should not only be found in the introductory text (Overview of the model) but also in the relevant scope note.   
         That being said, it will be included in the official version.
      4. The “examples” must be carefully planned –i.e. they should be more than a listing of classes and the properties linking them to one another: they should also comprise INSTANCES thereof. Proposed examples:
         * MD: Egyptian amphora found interred in Crete,
         * CEO: a copy of a painting by a relatively unacclaimed 19th century Norwegian painter found at the back of the ticket to an exhibition of a famous painter in Germany.
         * CEO: examples of digitized objects (manuscripts as e-books) could also come in handy.

**HW**: TV is to write the introductory part of this chapter, bearing in mind that it’s not to serve as an examples section, but as a graphical representation of the classes and the relations among them.

**HW**: MD, CEO, AK to provide examples

1. A new section dubbed “Reality and Knowledge Bases” designated for the handling of Appellations is to be inserted in the chapter “Modelling Principles”.