

ISSUE 477

CEO

The text in the issue list

During **the 46th joint meeting of the CIDOC CRM SIG and ISO/TC46/SC4/WG9**; 39th FRBR - CIDOC CRM Harmonization meeting and in the context of [issue 465](#), upon discussing the inference for P101, the sig decided to start a new issue to change the scope of P101 in order to reflect the axiom above. The new issue must also cover the use of the terms General and Specific, in all the labels where they appear and eradicate all ambiguities related to these terms.

Athens, February 2020

Comment

This is a follow up issue from [issue 465 fol for properties with range type](#). The purpose of Issue 465 was to check the relationships between the properties from E7 Activity to E55 Type documenting a general characteristic of the activity and properties from E7 Activity to (subclasses of) E70 Thing documenting an instance specifically used in the activity. In the meeting the following was accepted:

P125 used object of type (was type of object used in): $P125(x,y) \text{ iff } (\exists z)[E70(z) \wedge P16(x,z) \wedge P2(z,y)]$

The FOL states that the shortcut P125 and the long path are equivalent. This is obvious.

P186 produced thing of product type (is produced by): $P186(x,y) \supset (\exists z)[E24(z) \wedge P108(x,z) \wedge P2(z,y)]$

The FOL states that if an instance of E12 Production produced instances of a given (production)type then there existed at least one instance of E24 Physical Human-Made Thing which had that type. The past tense in the label and the present tense in the scope note is a little confusing. The FOL implies that P186 states a completed fact and not an intention.

P101 had as general use (was use of): $P101(x,y) \supset (\exists z)[E7(z) \wedge P16(z,x) \wedge P2(z,y)]$

This corresponds to P186. Scope note: "This property associates an instance of E70 Thing with an instance of E55 Type describing its general usage." The FOL requires that there must be at least one instance of E7 Activity of the given type in which the instance of was used. Therefore an unused object, say a baseball bat (as in the scope note) can never be connected to the type "had a general use for sport". As for P125, an instance of P101 documents observed completed facts and not intended general use. An unused coin in a numismatic collection (which is not infrequent) cannot be linked to a "mean of payment" type via P101 or the unused baseball bat found in an attic cannot be connected to a "used in sport" type via P101. Is this the intention?

What should be done in the issue

The first part of Issue 447 is to adjust the scope note of P101

This seems to be a HW for SS.

The second part is to go through the model and find other general-specific pairs and adjust scope notes.

This may also be a HW for SS. I checked the model and found only one additional pair, see below.

The scope notes of this pair differ from the others. It is clear that for an instance x of E7 Activity there

must exist an instance y of E5 Event if $P20(x,y)$. The scope note of $P21$ *had general purpose (was purpose of)* states

“This may involve activities intended as preparation for some type of activity or event. $P21$ *had general purpose (was purpose of)* differs from $P20$ *had specific purpose (was purpose of)* in that no occurrence of an event is implied as the purpose”

So this is different from P186 and P101 where the new FOL expressions imply the existence of instances of the analogue classes. Harmonization is needed. Maybe the new axioms for P186 and P101 should be deleted?

P20 had specific purpose (was purpose of)

Domain: [E7](#) Activity

Range: [E5](#) Event

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

Scope note: This property identifies the relationship between a preparatory activity, an instance of E7 Activity and the instance of E7 Event it is intended to be preparation for.

This includes activities, orders and other organisational actions, taken in preparation for other activities or events.

$P20$ *had specific purpose (was purpose of)* implies that an activity succeeded in achieving its aim. If it does not succeed, such as the setting of a trap that did not catch anything, one may document the unrealized intention using $P21$ *had general purpose (was purpose of)*:E55 Type and/or $P33$ *used specific technique (was used by)*: E29 Design or Procedure.

Examples:

- Van Eyck's pigment grinding in 1432 (E7) *had specific purpose* the painting of the Ghent altar piece (E12)

In First Order Logic:

$P20(x,y) \Rightarrow E7(x)$

$P20(x,y) \Rightarrow E5(y)$

P21 had general purpose (was purpose of)

Domain: [E7](#) Activity

Range: [E55](#) Type

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

Scope note: This property describes an intentional relationship between an instance of E7 Activity and some general goal or purpose, described as an instance of E55 Type.

This may involve activities intended as preparation for some type of activity or event. $P21$ *had general purpose (was purpose of)* differs from $P20$ *had specific purpose (was purpose of)* in that no occurrence of an event is implied as the purpose.

Examples:

- Van Eyck's pigment grinding (E7) *had general purpose* painting (E55)
- The setting of trap 2742 on May 17th 1874 (E7) *had general purpose* Catching Moose (E55) (Activity type)

In First Order Logic:

$P21(x,y) \Rightarrow E7(x)$

$P21(x,y) \Rightarrow E55(y)$