

## **Definition of the CRMntp**

# An Extension of CIDOC CRM to support negative statements

Proposal for approval by CIDOC CRM-SIG

Version 0.1

May 2015

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## Index

### Introduction

This document describes work which uses and extends the CIDOC Conceptual Reference Model (CRM, ISO21127). The CIDOC-CRM definition document should be read before this document. References to the CRM in this document are taken from CRM version XX maintained by CIDOC.

### **Scope**

### **Status**

# CRMntp class hierarchy, aligned with portions from the CIDOC CRM class hierarchies

This class hierarchy lists:

- all classes declared in <Current Family model>
- all classes declared in <other Family model/s¹> and CIDOC CRM that are declared as superclasses of classes declared in the <Current Family model>,
- all classes declared in <other Family model/s> or CIDOC CRM that are either domain or range for a property declared in the <Current Family model>,
- all classes declared in <other Family model/s> and CIDOC CRM that are either domain or range for a property declared in <other Family model/s> or CIDOC CRM that is declared as superproperty of a property declared in the <Current Family model>
- all classes declared in <other Family model/s> and CIDOC CRM that are either domain or range for a property that is part of a complete path of which a property declared in <Current Family model> is declared to be a shortcut.

<sup>&</sup>lt;sup>1</sup> It should be clearly mentioned the versions of other models. For example: CRM <family model name> ver. XX

List of external classes used in <Current Family model>

Class identifier	Class name	Model	Version
S4	Observation	CRMsci	1.2

# CRMntp property hierarchy, aligned with portions from the CIDOC CRM property hierarchies

This property hierarchy lists:

- all properties declared in <Current Family model>,
- all properties declared in <Other Family model/s>², and CIDOC CRM that are declared as superproperties of properties declared in <Current Family model>,
- all properties declared in <Other Family model/s> and CIDOC CRM that are part of a complete path of which a property declared in <Current Family model>, is declared to be a shortcut.

 $<sup>^{\</sup>rm 2}$  It should be clearly mentioned the versions of other models. For example: CRM <family model name> ver. XX

List of external properties used in <Current Family model>

Property identifier	Property name	Model	Version
P9	consists of (forms part of)	CRM base	6.2

## **CRMntp Class Declarations**

## **CRMntp Property Declarations**

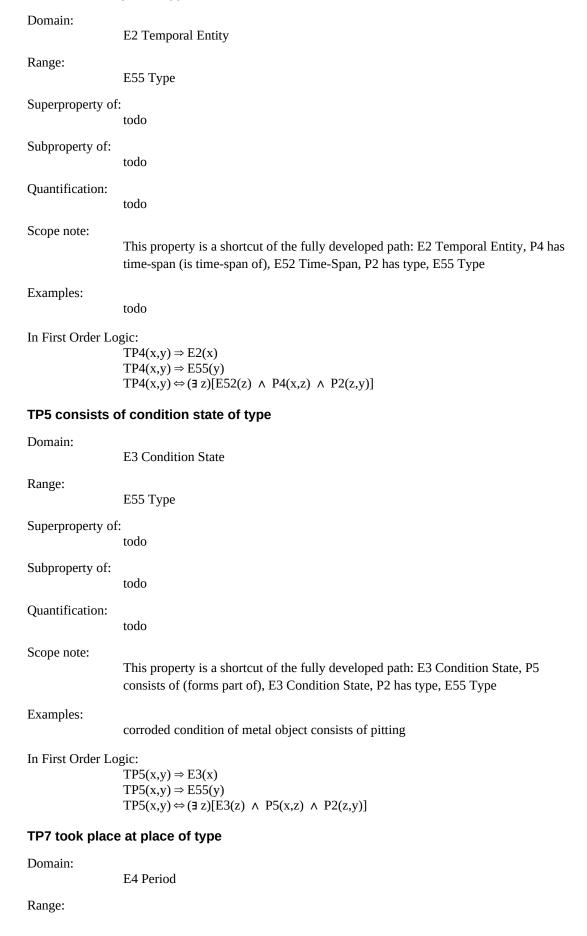
E1 CRM Entity

### **TP1** is identified by appellation type

Domain:

	· ·	
Range:	E55 Type	
Superproperty of: todo		
Subproperty of:	todo	
Quantification:	todo	
Scope note:	This property is a shortcut of the fully developed path: E1 CRM Entity, P1 is identified by (identifies), E41 Appellation, P2 has type, E55 Type	
Examples:	book is identified by an ISBN number	
In First Order Lo	gic: $TP1(x,y) \Rightarrow E1(x)$ $TP1(x,y) \Rightarrow E55(y)$ $TP1(x,y) \Leftrightarrow (\exists z)[E41(z) \land P1(x,z) \land P2(z,y)]$	
TP3 has note of type		
Domain:	E1 CRM Entity	
Range:	E55 Type	
Superproperty of: todo		
Subproperty of:	todo	
Quantification:	todo	
Scope note:	This property is a shortcut of the fully developed path: E1 CRM Entity, P3 has note, E62 String, P2 has type, E55 Type	
Examples:	todo	
In First Order Lo	gic: $TP3(x,y) \Rightarrow E1(x)$ $TP3(x,y) \Rightarrow E55(y)$ $TP3(x,y) \Leftrightarrow (\exists z)[E62(z) \land P3(x,z) \land P2(z,y)]$	

#### TP4 has time-span of type



E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E4 Period, P7 took place at (witnessed), E53 Place, P2 has type, E55 Type Examples: battle took place at a city In First Order Logic:  $TP7(x,y) \Rightarrow E4(x)$  $TP7(x,y) \Rightarrow E55(y)$  $TP7(x,y) \Leftrightarrow (\exists z)[E53(z) \land P7(x,z) \land P2(z,y)]$ TP8 took place on or within physical thing of type Domain: E4 Period Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E4 Period, P8 took place on or within (witnessed), E18 Physical Thing, P2 has type, E55 Type Examples: Nelson died on a ship In First Order Logic:  $TP8(x,y) \Rightarrow E4(x)$  $TP8(x,y) \Rightarrow E55(y)$  $TP8(x,y) \Leftrightarrow (\exists z)[E18(z) \land P8(x,z) \land P2(z,y)]$ TP11 had participant of type Domain: E5 Event

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E5 Event, P11 had participant

(participated in), E39 Actor, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP11(x,y) \Rightarrow E5(x)$  $TP11(x,y) \Rightarrow E55(y)$ 

 $TP11(x,y) \Leftrightarrow (\exists z)[E39(z) \land P11(x,z) \land P2(z,y)]$ 

#### TP12 occurred in the presence of persistent item of type

Domain:

E5 Event

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E5 Event, P12 occurred in the

presence of (was present at), E77 Persistent Item, P2 has type, E55 Type

Examples:

Kennedy was assassinated in his presidential car

In First Order Logic:

 $TP12(x,y) \Rightarrow E5(x)$  $TP12(x,y) \Rightarrow E55(y)$ 

 $TP12(x,y) \Leftrightarrow (\exists z)[E77(z) \land P12(x,z) \land P2(z,y)]$ 

#### TP13 destroyed physical thing of type

Domain:

E6 Destruction

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E6 Destruction, P13 destroyed (was destroyed by), E18 Physical Thing, P2 has type, E55 Type

Examples:

volcano eruption destroyed houses

In First Order Logic:

 $TP13(x,y) \Rightarrow E6(x)$   $TP13(x,y) \Rightarrow E55(y)$  $TP13(x,y) \Leftrightarrow (\exists z)[E18(z) \land P13(x,z) \land P2(z,y)]$ 

#### TP14 carried out by actor of type

Domain:

E7 Activity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E7 Activity, P14 carried out by (performed), E39 Actor, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP14(x,y) \Rightarrow E7(x)$   $TP14(x,y) \Rightarrow E55(y)$  $TP14(x,y) \Leftrightarrow (\exists z)[E39(z) \land P14(x,z) \land P2(z,y)]$ 

#### TP15 was influenced by entity of type

Domain:

E7 Activity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E7 Activity, P15 was

influenced by (influenced), E1 CRM Entity, P2 has type, E55 Type

Examples:

production was influenced by a document of type "production planning document"

```
In First Order Logic:
```

```
TP15(x,y) \Rightarrow E7(x)
TP15(x,y) \Rightarrow E55(y)
```

 $TP15(x,y) \Leftrightarrow (\exists z)[E1(z) \land P15(x,z) \land P2(z,y)]$ 

#### TP17 was motivated by entity of type

Domain:

E7 Activity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E7 Activity, P17 was

motivated by (motivated), E1 CRM Entity, P2 has type, E55 Type

Examples:

conservation work was motivated by condition state of type "poor"

In First Order Logic:

 $TP17(x,y) \Rightarrow E7(x)$  $TP17(x,y) \Rightarrow E55(y)$ 

 $TP17(x,y) \Leftrightarrow (\exists z)[E1(z) \land P17(x,z) \land P2(z,y)]$ 

#### TP20 had specific purpose of event of type

Domain:

E7 Activity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E7 Activity, P20 had specific

purpose (was purpose of), E5 Event, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP20(x,y) \Rightarrow E7(x)$ 

 $TP20(x,y) \Rightarrow E55(y)$ 

 $TP20(x,y) \Leftrightarrow (\exists z)[E5(z) \land P20(x,z) \land P2(z,y)]$ 

#### TP22 transferred title to actor of type

Domain: E8 Acquisition Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E8 Acquisition, P22 transferred title to (acquired title through), E39 Actor, P2 has type, E55 Type Examples: todo In First Order Logic:  $TP22(x,y) \Rightarrow E8(x)$  $TP22(x,y) \Rightarrow E55(y)$  $TP22(x,y) \Leftrightarrow (\exists z)[E39(z) \land P22(x,z) \land P2(z,y)]$ TP23 transferred title from actor of type Domain: E8 Acquisition Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E8 Acquisition, P23 transferred title from (surrendered title through), E39 Actor, P2 has type, E55 Type Examples: todo In First Order Logic:  $TP23(x,y) \Rightarrow E8(x)$  $TP23(x,y) \Rightarrow E55(y)$  $TP23(x,y) \Leftrightarrow (\exists z)[E39(z) \land P23(x,z) \land P2(z,y)]$ TP24 transferred title of physical thing of type Domain: E8 Acquisition Range:

E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E8 Acquisition, P24 transferred title of (changed ownership through), E18 Physical Thing, P2 has type, E55 Type Examples: purchase bought object of type book In First Order Logic:  $TP24(x,y) \Rightarrow E8(x)$  $TP24(x,y) \Rightarrow E55(y)$  $TP24(x,y) \Leftrightarrow (\exists z)[E18(z) \land P24(x,z) \land P2(z,y)]$ TP25 moved physical object of type Domain: E9 Move Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E9 Move, P25 moved (moved by), E19 Physical Object, P2 has type, E55 Type Examples: shipment contains books In First Order Logic:  $TP25(x,y) \Rightarrow E9(x)$  $TP25(x,y) \Rightarrow E55(y)$  $TP25(x,y) \Leftrightarrow (\exists z)[E19(z) \land P25(x,z) \land P2(z,y)]$ TP26 moved to place of type

Domain:

E9 Move

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E9 Move, P26 moved to (was

destination of), E53 Place, P2 has type, E55 Type

Examples:

collection move to a store room

In First Order Logic:

 $TP26(x,y) \Rightarrow E9(x)$  $TP26(x,y) \Rightarrow E55(y)$ 

 $TP26(x,y) \Leftrightarrow (\exists z)[E53(z) \land P26(x,z) \land P2(z,y)]$ 

#### TP27 moved from place of type

Domain:

E9 Move

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E9 Move, P27 moved from

(was origin of), E53 Place, P2 has type, E55 Type

Examples:

collection move from a gallery

In First Order Logic:

 $TP27(x,y) \Rightarrow E9(x)$  $TP27(x,y) \Rightarrow E55(y)$ 

 $TP27(x,y) \Leftrightarrow (\exists z)[E53(z) \land P27(x,z) \land P2(z,y)]$ 

#### TP28 custody surrendered by actor of type

Domain:

E10 Transfer of Custody

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E10 Transfer of Custody, P28 custody surrendered by (surrendered custody through), E39 Actor, P2 has type, E55

Type

Examples:

todo

In First Order Logic:

 $TP28(x,y) \Rightarrow E10(x)$   $TP28(x,y) \Rightarrow E55(y)$  $TP28(x,y) \Leftrightarrow (\exists z)[E39(z) \land P28(x,z) \land P2(z,y)]$ 

#### TP29 custody received by actor of type

Domain:

E10 Transfer of Custody

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E10 Transfer of Custody, P29 custody received by (received custody through), E39 Actor, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP29(x,y) \Rightarrow E10(x)$   $TP29(x,y) \Rightarrow E55(y)$  $TP29(x,y) \Rightarrow (3.7)(E39(x))$ 

 $TP29(x,y) \Leftrightarrow (\exists z)[E39(z) \land P29(x,z) \land P2(z,y)]$ 

#### TP30 transferred custody of physical thing of type

Domain:

E10 Transfer of Custody

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E10 Transfer of Custody, P30 transferred custody of (custody transferred through), E18 Physical Thing, P2 has

type, E55 Type

Examples:

borrowed object of type book for the exhibition

In First Order Logic:

TP30(x,y)  $\Rightarrow$  E10(x) TP30(x,y)  $\Rightarrow$  E55(y) TP30(x,y)  $\Leftrightarrow$  ( $\exists$  z)[E18(z)  $\land$  P30(x,z)  $\land$  P2(z,y)]

#### TP31 has modified physical thing of type

Domain:

E11 Modification

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E11 Modification, P31 has modified (was modified by), E18 Physical Thing, P2 has type, E55 Type

Examples:

conservation work consolidated book boards

In First Order Logic:

TP31(x,y)  $\Rightarrow$  E11(x) TP31(x,y)  $\Rightarrow$  E55(y) TP31(x,y)  $\Leftrightarrow$  ( $\exists$  z)[E18(z)  $\land$  P31(x,z)  $\land$  P2(z,y)]

#### TP34 concerned physical thing of type

Domain:

E14 Condition Assessment

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E14 Condition Assessment, P34 concerned (was assessed by), E18 Physical Thing, P2 has type, E55 Type

Examples:

assessed object of type book

In First Order Logic:

```
TP34(x,y) \Rightarrow E14(x)

TP34(x,y) \Rightarrow E55(y)

TP34(x,y) \Leftrightarrow (\exists z)[E18(z) \land P34(x,z) \land P2(z,y)]
```

#### TP35 has identified condition state of type

Domain:

E14 Condition Assessment

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E14 Condition Assessment, P35 has identified (identified by), E3 Condition State, P2 has type, E55 Type

Examples:

has identified mould on the book

In First Order Logic:

TP35(x,y)  $\Rightarrow$  E14(x) TP35(x,y)  $\Rightarrow$  E55(y) TP35(x,y)  $\Leftrightarrow$  ( $\exists$  z)[E3(z)  $\land$  P35(x,z)  $\land$  P2(z,y)]

#### TP37 assigned identifier of type

Domain:

E15 Identifier Assignement

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E15 Identifier Assignement, P37 assigned (was assigned by), E42 Identifier, P2 has type, E55 Type

Examples:

assigned an ISBN to the book

In First Order Logic:

 $TP37(x,y) \Rightarrow E15(x)$  $TP37(x,y) \Rightarrow E55(y)$ 

 $TP37(x,y) \Leftrightarrow (\exists z)[E42(z) \land P37(x,z) \land P2(z,y)]$ 

#### TP38 deassigned identifier of type

Domain: E15 Identifier Assignement Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E15 Identifier Assignement, P38 deassigned (was deassigned by), E42 Identifier, P2 has type, E55 Type Examples: deassigned the ISBN of the book In First Order Logic:  $TP38(x,y) \Rightarrow E15(x)$  $TP38(x,y) \Rightarrow E55(y)$  $TP38(x,y) \Leftrightarrow (\exists z)[E42(z) \land P38(x,z) \land P2(z,y)]$ TP39 measured entity of type Domain: E16 Measurement Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E16 Measurement, P39 measured (was measured by), E1 CRM Entity, P2 has type, E55 Type Examples: measured a book In First Order Logic:  $TP39(x,y) \Rightarrow E16(x)$  $TP39(x,y) \Rightarrow E55(y)$  $TP39(x,y) \Leftrightarrow (\exists z)[E1(z) \land P39(x,z) \land P2(z,y)]$ TP40 observed dimension of type

Domain:

E16 Measurement

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E16 Measurement, P40 observed dimension (was observed in), E54 Dimension, P2 has type, E55 Type

Examples:

observed dimension of radius

In First Order Logic:

 $TP40(x,y) \Rightarrow E16(x)$  $TP40(x,y) \Rightarrow E55(y)$ 

 $TP40(x,y) \Leftrightarrow (\exists z)[E54(z) \land P40(x,z) \land P2(z,y)]$ 

#### TP41 classified entity of type

Domain:

E17 Type Assignment

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E17 Type Assignment, P41  $\,$ 

classified (was classified by), E1 CRM Entity, P2 has type, E55 Type

Examples:

classified a book

In First Order Logic:

 $TP41(x,y) \Rightarrow E17(x)$  $TP41(x,y) \Rightarrow E55(y)$ 

 $TP41(x,y) \Leftrightarrow (\exists z)[E1(z) \land P41(x,z) \land P2(z,y)]$ 

#### TP43 has dimension of type

Domain:

E70 Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E70 Thing, P43 has dimension (is dimension of), E54 Dimension, P2 has type, E55 Type

Examples:

book has dimension of type radius (for semicircular books)

In First Order Logic:

 $TP43(x,y) \Rightarrow E70(x)$  $TP43(x,y) \Rightarrow E55(y)$ 

 $TP43(x,y) \Leftrightarrow (\exists z)[E54(z) \land P43(x,z) \land P2(z,y)]$ 

#### TP44 has condition of type

Domain:

E18 Physical Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E18 Physical Thing, P44 has condition (is condition of), E3 Condition State, P2 has type, E55 Type

Examples:

book has condition of type "tears"

In First Order Logic:

 $TP44(x,y) \Rightarrow E18(x)$  $TP44(x,y) \Rightarrow E55(y)$ 

 $TP44(x,y) \Leftrightarrow (\exists z)[E3(z) \land P44(x,z) \land P2(z,y)]$ 

#### TP46 is composed of physical thing of type

Domain:

E18 Physical Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E18 Physical Thing, P46 is composed of (forms part of), E18 Physical Thing, P2 has type, E55 Type

Examples:

binding is composed of boards

In First Order Logic:

 $TP46(x,y) \Rightarrow E18(x)$   $TP46(x,y) \Rightarrow E55(y)$   $TP46(x,y) \Rightarrow (7-x)(F18(x)) \Rightarrow P46(x-x)$ 

 $TP46(x,y) \Leftrightarrow (\exists z)[E18(z) \land P46(x,z) \land P2(z,y)]$ 

#### TP48 has preferred identifier of type

Domain:

E1 CRM Entity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E1 CRM Entity, P48 has preferred identifier (is preferred identifier of), E42 Identifier, P2 has type, E55 Type

Examples:

MS Sinai XX has preferred identifier Kamil XXX

In First Order Logic:

 $TP48(x,y) \Rightarrow E1(x)$   $TP48(x,y) \Rightarrow E55(y)$  $TP48(x,y) \Leftrightarrow (\exists z)[E42(z) \land P48(x,z) \land P2(z,y)]$ 

#### TP49 has former or current keeper of type

Domain:

E18 Physical Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E18 Physical Thing, P49 has former or current keeper (is former or current keeper of), E39 Actor, P2 has type, E55 Type

Examples:

todo

```
In First Order Logic:
```

```
TP49(x,y) \Rightarrow E18(x)

TP49(x,y) \Rightarrow E55(y)
```

 $TP49(x,y) \Leftrightarrow (\exists z)[E39(z) \land P49(x,z) \land P2(z,y)]$ 

#### TP50 has current keeper of type

Domain:

E18 Physical Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E18 Physical Thing, P50 has

current keeper (is current keeper of), E39 Actor, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP50(x,y) \Rightarrow E18(x)$  $TP50(x,y) \Rightarrow E55(y)$ 

 $TP50(x,y) \Leftrightarrow (\exists z)[E39(z) \land P50(x,z) \land P2(z,y)]$ 

#### TP51 has former or current owner of type

Domain:

E18 Physical Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E18 Physical Thing, P51 has former or current owner (is former or current owner of), E39 Actor, P2 has type, E55

Type

Examples:

todo

In First Order Logic:

```
TP51(x,y) \Rightarrow E18(x)

TP51(x,y) \Rightarrow E55(y)

TP51(x,y) \Leftrightarrow (\exists z)[E39(z) \land P51(x,z) \land P2(z,y)]
```

#### TP52 has current owner of type

Domain:

E18 Physical Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E18 Physical Thing, P52 has

current owner (is current owner of), E39 Actor, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP52(x,y) \Rightarrow E18(x)$  $TP52(x,y) \Rightarrow E55(y)$ 

 $TP52(x,y) \Leftrightarrow (\exists z)[E39(z) \land P52(x,z) \land P2(z,y)]$ 

#### TP53 has former or current location of type

Domain:

E18 Physical Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E18 Physical Thing, P53 has former or current location (is former or current location of), E53 Place, P2 has type,

E55 Type

Examples:

book is located in a gallery space

In First Order Logic:

 $TP53(x,y) \Rightarrow E18(x)$  $TP53(x,y) \Rightarrow E55(y)$ 

 $TP53(x,y) \Leftrightarrow (\exists z)[E53(z) \land P53(x,z) \land P2(z,y)]$ 

#### TP54 has current permanent location of type

Domain: E19 Physical Object Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E19 Physical Object, P54 has current permanent location (is current permanent location of), E53 Place, P2 has type, E55 Type Examples: book is located in a gallery space In First Order Logic:  $TP54(x,y) \Rightarrow E19(x)$  $TP54(x,y) \Rightarrow E55(y)$  $TP54(x,y) \Leftrightarrow (\exists z)[E53(z) \land P54(x,z) \land P2(z,y)]$ TP55 has current location of type Domain: E19 Physical Object Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E19 Physical Object, P55 has current location (currently holds), E53 Place, P2 has type, E55 Type Examples: book is located in a gallery space In First Order Logic:  $TP55(x,y) \Rightarrow E19(x)$  $TP55(x,y) \Rightarrow E55(y)$  $TP55(x,y) \Leftrightarrow (\exists z)[E53(z) \land P55(x,z) \land P2(z,y)]$ 

#### TP56 bears feature of type

Domain:

E19 Physical Object

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E19 Physical Object, P56

bears feature (is found on), E26 Physical Feature, P2 has type, E55 Type

Examples:

cover bears feature of type blind tooling

In First Order Logic:

 $TP56(x,y) \Rightarrow E19(x)$  $TP56(x,y) \Rightarrow E55(y)$ 

 $TP56(x,y) \Leftrightarrow (\exists z)[E26(z) \land P56(x,z) \land P2(z,y)]$ 

#### TP59 has section of type

Domain:

E18 Physical Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E18 Physical Thing, P59 has

section (is located on or within), E53 Place, P2 has type, E55 Type

Examples:

book spine has section of type "panels"

In First Order Logic:

 $TP59(x,y) \Rightarrow E18(x)$  $TP59(x,y) \Rightarrow E55(y)$ 

 $TP59(x,y) \Leftrightarrow (\exists z)[E53(z) \land P59(x,z) \land P2(z,y)]$ 

#### TP62 depicts entity of type

Domain:

E24 Physical Human-Made Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E24 Physical Human-Made Thing, P62 depicts (is depicted by), E1 CRM Entity, P2 has type, E55 Type

Examples:

painting depicts flowers

In First Order Logic:

 $TP62(x,y) \Rightarrow E24(x)$  $TP62(x,y) \Rightarrow E55(y)$ 

 $TP62(x,y) \Leftrightarrow (\exists z)[E1(z) \land P62(x,z) \land P2(z,y)]$ 

#### TP65 shows visual item of type

Domain:

E24 Physical Human-Made Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E24 Physical Human-Made Thing, P65 shows visual item (is shown by), E36 Visual Item, P2 has type, E55 Type

Examples:

my coin shows visual item of type portrait

In First Order Logic:

 $TP65(x,y) \Rightarrow E24(x)$  $TP65(x,y) \Rightarrow E55(y)$ 

 $TP65(x,y) \Leftrightarrow (\exists z)[E36(z) \land P65(x,z) \land P2(z,y)]$ 

#### TP67 refers to entity of type

Domain:

E89 Propositional Object

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E89 Propositional Object, P67

refers to ( is referred to by), E1 CRM Entity, P2 has type, E55 Type

Examples:

text refers to events of type war

In First Order Logic:

 $TP67(x,y) \Rightarrow E89(x)$  $TP67(x,y) \Rightarrow E55(y)$ 

 $TP67(x,y) \Leftrightarrow (\exists z)[E1(z) \land P67(x,z) \land P2(z,y)]$ 

#### TP69 has association with design or procedure of type

Domain:

E29 Design or Procedure

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E29 Design or Procedure, P69 has association with (is associated with), E29 Design or Procedure, P2 has type, E55

Type

Examples:

cleaning instructions for the book include cleaning instructions for textblocks

In First Order Logic:

 $TP69(x,y) \Rightarrow E29(x)$  $TP69(x,y) \Rightarrow E55(y)$ 

 $TP69(x,y) \Leftrightarrow (\exists z)[E29(z) \land P69(x,z) \land P2(z,y)]$ 

#### TP70 documents entity of type

Domain:

E31 Document

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E31 Document, P70 documents (is documented in), E1 CRM Entity, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP70(x,y) \Rightarrow E31(x)$  $TP70(x,y) \Rightarrow E55(y)$ 

 $TP70(x,y) \Leftrightarrow (\exists z)[E1(z) \land P70(x,z) \land P2(z,y)]$ 

#### TP71 lists entity of type

Domain:

E32 Authority Document

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E32 Authority Document, P71

lists (is listed in), E1 CRM Entity, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP71(x,y) \Rightarrow E32(x)$  $TP71(x,y) \Rightarrow E55(y)$ 

 $TP71(x,y) \Leftrightarrow (\exists z)[E1(z) \land P71(x,z) \land P2(z,y)]$ 

#### TP73 has translation linguistic object of type

Domain:

E33 Linguistic Object

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E33 Linguistic Object, P73  $\,$ 

has translation, E33 Linguistic Object, P2 has type, E55 Type

Examples:

my translation is translation of welsh poetry

In First Order Logic:

```
TP73(x,y) \Rightarrow E33(x)

TP73(x,y) \Rightarrow E55(y)

TP73(x,y) \Leftrightarrow (\exists z)[E33(z) \land P73(x,z) \land P2(z,y)]
```

#### TP74 has current of former residence of type

Domain:

E39 Actor

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E39 Actor, P74 has current or former residence (is current or former residence of), E53 Place, P2 has type, E55

Type

Examples:

my friend lives in a flat

In First Order Logic:

 $TP74(x,y) \Rightarrow E39(x)$  $TP74(x,y) \Rightarrow E55(y)$ 

 $TP74(x,y) \Leftrightarrow (\exists z)[E53(z) \land P74(x,z) \land P2(z,y)]$ 

#### TP75 possesses right of type

Domain:

E39 Actor

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E39 Actor, P75 possesses (is

possessed by), E30 Right, P2 has type, E55 Type

Examples:

the author of the book possesses right of type "copyright"

In First Order Logic:

 $TP75(x,y) \Rightarrow E39(x)$  $TP75(x,y) \Rightarrow E55(y)$ 

 $TP75(x,y) \Leftrightarrow (\exists z)[E30(z) \land P75(x,z) \land P2(z,y)]$ 

#### TP76 has contact point of type

Domain:

E39 Actor Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E39 Actor, P76 has contact point (provides access to), E41 Appellation, P2 has type, E55 Type Examples: my friend has contact point of type email In First Order Logic:  $TP76(x,y) \Rightarrow E39(x)$  $TP76(x,y) \Rightarrow E55(y)$  $TP76(x,y) \Leftrightarrow (\exists z)[E41(z) \land P76(x,z) \land P2(z,y)]$ TP79 beginning is qualified by note of type Domain: E52 Time-Span Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E52 Time-Span, P79 beginning is qualified by, E62 String, P2 has type, E55 Type Examples: todo In First Order Logic:  $TP79(x,y) \Rightarrow E52(x)$  $TP79(x,y) \Rightarrow E55(y)$  $TP79(x,y) \Leftrightarrow (\exists z)[E62(z) \land P79(x,z) \land P2(z,y)]$ TP80 end is qualified by note of type Domain: E52 Time-Span Range:

```
E55 Type
Superproperty of:
                  todo
Subproperty of:
                  todo
Quantification:
                  todo
Scope note:
                  This property is a shortcut of the fully developed path: E52 Time-Span, P80 end is
                   qualified by, E62 String, P2 has type, E55 Type
Examples:
                  todo
In First Order Logic:
                   TP80(x,y) \Rightarrow E52(x)
                  TP80(x,y) \Rightarrow E55(y)
                  TP80(x,y) \Leftrightarrow (\exists z)[E62(z) \land P80(x,z) \land P2(z,y)]
TP89 falls within place of type
Domain:
                  E53 Place
Range:
                  E55 Type
Superproperty of:
                  todo
Subproperty of:
                  todo
Quantification:
                  todo
Scope note:
                  This property is a shortcut of the fully developed path: E53 Place, P89 falls within
                   (contains), E53 Place, P2 has type, E55 Type
Examples:
                   the place of my house is on an island
In First Order Logic:
                   TP89(x,y) \Rightarrow E53(x)
                  TP89(x,y) \Rightarrow E55(y)
                  TP89(x,y) \Leftrightarrow (\exists z)[E53(z) \land P89(x,z) \land P2(z,y)]
TP92 brought into existence persistent item of type
Domain:
                  E63 Beginning of Existence
Range:
                  E55 Type
```

Superproperty of:

Subproperty of:

todo

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E63 Beginning of Existence, P92 brought into existence (was brought into existence by), E77 Persistent Item, P2

has type, E55 Type

Examples:

binding work produced an inboard binding

In First Order Logic:

TP92(x,y)  $\Rightarrow$  E63(x) TP92(x,y)  $\Rightarrow$  E55(y) TP92(x,y)  $\Leftrightarrow$  ( $\exists$  z)[E77(z)  $\land$  P92(x,z)  $\land$  P2(z,y)]

#### TP93 took out of existence persistent item of type

Domain:

E64 End of Existence

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E64 End of Existence, P93 took out of existence (was taken out of existence by), E77 Persistent Item, P2 has

type, E55 Type

Examples:

volcano eruption destroyed houses

In First Order Logic:

TP93(x,y)  $\Rightarrow$  E64(x) TP93(x,y)  $\Rightarrow$  E55(y) TP93(x,y)  $\Leftrightarrow$  ( $\exists$  z)[E77(z)  $\land$  P93(x,z)  $\land$  P2(z,y)]

#### TP94 has created conceptual object of type

Domain:

E65 Creation

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E65 Creation, P94 has created

(was created by), E28 Conceptual Object, P2 has type, E55 Type

Examples:

iliad's composition created epic poem

In First Order Logic:

 $TP94(x,y) \Rightarrow E65(x)$  $TP94(x,y) \Rightarrow E55(y)$ 

 $TP94(x,y) \Leftrightarrow (\exists z)[E28(z) \land P94(x,z) \land P2(z,y)]$ 

#### TP95 has formed group of type

Domain:

E66 Formation

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E66 Formation, P95 has

formed (was formed by), E74 Group, P2 has type, E55 Type

Examples:

elections has formed group of type government

In First Order Logic:

 $TP95(x,y) \Rightarrow E66(x)$  $TP95(x,y) \Rightarrow E55(y)$ 

 $TP95(x,y) \Leftrightarrow (\exists z)[E74(z) \land P95(x,z) \land P2(z,y)]$ 

#### TP96 by mother of type

Domain:

E67 Birth

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E67 Birth, P96 by mother

(gave birth), E21 Person, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP96(x,y) \Rightarrow E67(x)$  $TP96(x,y) \Rightarrow E55(y)$ 

 $TP96(x,y) \Leftrightarrow (\exists z)[E21(z) \land P96(x,z) \land P2(z,y)]$ 

## TP97 from father of type

Domain:

E67 Birth

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E67 Birth, P97 from father

(was father for), E21 Person, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP97(x,y) \Rightarrow E67(x)$  $TP97(x,y) \Rightarrow E55(y)$ 

 $TP97(x,y) \Leftrightarrow (\exists z)[E21(z) \land P97(x,z) \land P2(z,y)]$ 

## TP98 brought into life person of type

Domain:

E67 Birth

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E67 Birth, P98 brought into

life (was born), E21 Person, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

```
TP98(x,y) \Rightarrow E67(x)
TP98(x,y) \Rightarrow E55(y)
TP98(x,y) \Leftrightarrow (3 z)[E21(z) \land P98(x,z) \land P2(z,y)]
```

## TP99 dissolved group of type

Domain:

E68 Dissolution

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E68 Dissolution, P99

dissolved (was dissolved by), E74 Group, P2 has type, E55 Type

Examples:

civil war dissolved political parties

In First Order Logic:

 $TP99(x,y) \Rightarrow E68(x)$  $TP99(x,y) \Rightarrow E55(y)$ 

 $TP99(x,y) \Leftrightarrow (\exists z)[E74(z) \land P99(x,z) \land P2(z,y)]$ 

#### TP100 was death of person of type

Domain:

E69 Death

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E69 Death, P100 was death of

(died in), E21 Person, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP100(x,y) \Rightarrow E69(x)$ 

 $TP100(x,y) \Rightarrow E55(y)$ 

 $TP100(x,y) \Leftrightarrow (\exists z)[E21(z) \land P100(x,z) \land P2(z,y)]$ 

TP102 has title of type Domain: E71 Human-Made Thing Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E71 Human-Made Thing, P102 has title (is title of), E35 Title, P2 has type, E55 Type Examples: text has a chapter title In First Order Logic:  $TP102(x,y) \Rightarrow E71(x)$  $TP102(x,y) \Rightarrow E55(y)$  $TP102(x,y) \Leftrightarrow (\exists z)[E35(z) \land P102(x,z) \land P2(z,y)]$ TP104 is subject to right of type Domain: E72 Legal Object Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E72 Legal Object, P104 is subject to (applies to), E30 Right, P2 has type, E55 Type Examples: this book is in copyright In First Order Logic:  $TP104(x,y) \Rightarrow E72(x)$  $TP104(x,y) \Rightarrow E55(y)$  $TP104(x,y) \Leftrightarrow (\exists z)[E30(z) \land P104(x,z) \land P2(z,y)]$ 

# TP105 right held by actor of type

Domain:

E72 Legal Object

Range:

E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E72 Legal Object, P105 right held by (has right on), E39 Actor, P2 has type, E55 Type Examples: todo In First Order Logic:  $TP105(x,y) \Rightarrow E72(x)$  $TP105(x,y) \Rightarrow E55(y)$  $TP105(x,y) \Leftrightarrow (\exists z)[E39(z) \land P105(x,z) \land P2(z,y)]$ TP106 is composed of symbolic object of type Domain: E90 Symbolic Object Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E90 Symbolic Object, P106 is composed of (forms part of), E90 Symbolic Object, P2 has type, E55 Type Examples: CocaCola logo is composed of symbols of type "letter" In First Order Logic:  $TP106(x,y) \Rightarrow E90(x)$  $TP106(x,y) \Rightarrow E55(y)$  $TP106(x,y) \Leftrightarrow (\exists z)[E90(z) \land P106(x,z) \land P2(z,y)]$ TP107 has current or former member of type Domain: E74 Group Range: E55 Type

Superproperty of:

Subproperty of:

todo

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E74 Group, P107 has current or former member (is current or former member of), E39 Actor, P2 has type, E55

Type

Examples:

todo

In First Order Logic:

 $TP107(x,y) \Rightarrow E74(x)$   $TP107(x,y) \Rightarrow E55(y)$  $TP107(x,y) \Leftrightarrow (\exists z)[E39(z) \land P107(x,z) \land P2(z,y)]$ 

#### TP108 has produced physical human-made thing of type

Domain:

E12 Production

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E12 Production, P108 has produced (was produced by), E24 Physical Human-Made Thing, P2 has type, E55

Type

Examples:

binding work produced an inboard binding

In First Order Logic:

 $TP108(x,y) \Rightarrow E12(x)$   $TP108(x,y) \Rightarrow E55(y)$  $TP108(x,y) \Leftrightarrow (\exists z)[E24(z) \land P108(x,z) \land P2(z,y)]$ 

# TP109 has current or former curator of type

Domain:

E78 Curated Holding

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E78 Curated Holding, P109 has current or former curator (is current or former curator of), E39 Actor, P2 has

type, E55 Type

Examples:

todo

In First Order Logic:

 $TP109(x,y) \Rightarrow E78(x)$  $TP109(x,y) \Rightarrow E55(y)$ 

 $TP109(x,y) \Leftrightarrow (\exists z)[E39(z) \land P109(x,z) \land P2(z,y)]$ 

## TP110 augmented physical human-made thing of type

Domain:

E79 Part Addition

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E79 Part Addition, P110 augmented (was augmented by), E24 Physical Human-Made Thing, P2 has type, E55

Type

Examples:

endleaf addition augmented an inboard binding

In First Order Logic:

 $TP110(x,y) \Rightarrow E79(x)$  $TP110(x,y) \Rightarrow E55(y)$ 

 $TP110(x,y) \Leftrightarrow (\exists z)[E24(z) \land P110(x,z) \land P2(z,y)]$ 

## TP111 added physical thing of type

Domain:

E79 Part Addition

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E79 Part Addition, P111 added (was added by), E18 Physical Thing, P2 has type, E55 Type

Examples:

rebinding added blind tooling decoration to the book

In First Order Logic:

```
TP111(x,y) \Rightarrow E79(x)

TP111(x,y) \Rightarrow E55(y)

TP111(x,y) \Leftrightarrow (\exists z)[E18(z) \land P111(x,z) \land P2(z,y)]
```

#### TP112 diminished physical human-made thing of type

Domain:

E80 Part Removal

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E80 Part Removal, P112 diminished (was diminished by), E24 Physical Human-Made Thing, P2 has type, E55 Type

Examples:

endleaf removal diminished an inboard binding

In First Order Logic:

```
TP112(x,y) \Rightarrow E80(x)

TP112(x,y) \Rightarrow E55(y)

TP112(x,y) \Leftrightarrow (\exists z)[E24(z) \land P112(x,z) \land P2(z,y)]
```

#### TP113 removed physical thing of type

Domain:

E80 Part Removal

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E80 Part Removal, P113 removed (was removed by), E18 Physical Thing, P2 has type, E55 Type

Examples:

rebinding removed boards from the book

In First Order Logic:

```
TP113(x,y) \Rightarrow E80(x)

TP113(x,y) \Rightarrow E55(y)

TP113(x,y) \Leftrightarrow (\exists z)[E18(z) \land P113(x,z) \land P2(z,y)]
```

## TP121 overlaps with place of type

Domain:

E53 Place

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E53 Place, P121 overlaps

with, E53 Place, P2 has type, E55 Type

Examples:

my village overlaps with a river

In First Order Logic:

 $TP121(x,y) \Rightarrow E53(x)$   $TP121(x,y) \Rightarrow E55(y)$   $TP121(x,y) \Leftrightarrow (3.2)(E52(x), A.2)$ 

 $TP121(x,y) \Leftrightarrow (\exists z)[E53(z) \land P121(x,z) \land P2(z,y)]$ 

## TP122 borders with place of type

Domain:

E53 Place

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E53 Place, P122 borders with,

E53 Place, P2 has type, E55 Type

Examples:

my village borders with a river

In First Order Logic:

```
TP122(x,y) \Rightarrow E53(x)

TP122(x,y) \Rightarrow E55(y)

TP122(x,y) \Leftrightarrow (\exists z)[E53(z) \land P122(x,z) \land P2(z,y)]
```

## TP123 resulted in persistent item of type

Domain:

**E81** Transformation

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E81 Transformation, P123

resulted in (resulted from), E77 Persistent Item, P2 has type, E55 Type

Examples:

the church refurbishment resulted in accommodation

In First Order Logic:

 $TP123(x,y) \Rightarrow E81(x)$  $TP123(x,y) \Rightarrow E55(y)$ 

 $TP123(x,y) \Leftrightarrow (\exists z)[E77(z) \land P123(x,z) \land P2(z,y)]$ 

#### TP124 transformed persistent item of type

Domain:

E81 Transformation

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E81 Transformation, P124 transformed (was transformed by), E77 Persistent Item, P2 has type, E55 Type

Examples:

refurbishment transformed building of type church

In First Order Logic:

 $TP124(x,y) \Rightarrow E81(x)$ 

 $TP124(x,y) \Rightarrow E55(y)$ 

 $TP124(x,y) \Leftrightarrow (\exists z)[E77(z) \land P124(x,z) \land P2(z,y)]$ 

## TP128 carries symbolic object of type

Domain:

E18 Physical Thing Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E18 Physical Thing, P128 carries (is carried by), E90 Symbolic Object, P2 has type, E55 Type Examples: my book of poetry In First Order Logic:  $TP128(x,y) \Rightarrow E18(x)$  $TP128(x,y) \Rightarrow E55(y)$  $TP128(x,y) \Leftrightarrow (\exists z)[E90(z) \land P128(x,z) \land P2(z,y)]$ TP129 is about entity of type Domain: E89 Propositional Object Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E89 Propositional Object, P129 is about (is subject of), E1 CRM Entity, P2 has type, E55 Type Examples: todo In First Order Logic:  $TP129(x,y) \Rightarrow E89(x)$  $TP129(x,y) \Rightarrow E55(y)$  $TP129(x,y) \Leftrightarrow (\exists z)[E1(z) \land P129(x,z) \land P2(z,y)]$ TP130 shows features of thing of type Domain: E70 Thing Range:

E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E70 Thing, P130 shows features of (features are also found on), E70 Thing, P2 has type, E55 Type Examples: todo In First Order Logic:  $TP130(x,y) \Rightarrow E70(x)$  $TP130(x,y) \Rightarrow E55(y)$  $TP130(x,y) \Leftrightarrow (\exists z)[E70(z) \land P130(x,z) \land P2(z,y)]$ TP134 continued activity of type Domain: E7 Activity Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E7 Activity, P134 continued (was continued by), E7 Activity, P2 has type, E55 Type Examples: todo In First Order Logic:  $TP134(x,y) \Rightarrow E7(x)$  $TP134(x,y) \Rightarrow E55(y)$  $TP134(x,y) \Leftrightarrow (\exists z)[E7(z) \land P134(x,z) \land P2(z,y)]$ TP138 represents entity of type Domain: E36 Visual Item Range: E55 Type

Superproperty of:

Subproperty of:

todo

47

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E36 Visual Item, P138 represents (has representation), E1 CRM Entity, P2 has type, E55 Type

Examples:

image represents manuscript text

In First Order Logic:

 $TP138(x,y) \Rightarrow E36(x)$  $TP138(x,y) \Rightarrow E55(y)$ 

 $TP138(x,y) \Leftrightarrow (\exists z)[E1(z) \land P138(x,z) \land P2(z,y)]$ 

## TP139 has alternative form of type

Domain:

E41 Appellation

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E41 Appellation, P139 has alternative form, E41 Appellation, P2 has type, E55 Type

Examples:

Martin Doerr has alternative form of type alternate spelling

In First Order Logic:

 $TP139(x,y) \Rightarrow E41(x)$  $TP139(x,y) \Rightarrow E55(y)$ 

 $TP139(x,y) \Leftrightarrow (\exists z)[E41(z) \land P139(x,z) \land P2(z,y)]$ 

## TP140 assigned attribute to entity of type

Domain:

E13 Attribute Assignment

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E13 Attribute Assignment, P140 assigned attribute to (was attributed by), E1 CRM Entity, P2 has type, E55 Type

Examples:

assessed object of type book

In First Order Logic:

 $TP140(x,y) \Rightarrow E13(x)$  $TP140(x,y) \Rightarrow E55(y)$ 

 $TP140(x,y) \Leftrightarrow (\exists z)[E1(z) \land P140(x,z) \land P2(z,y)]$ 

## TP141 assigned entity of type

Domain:

E13 Attribute Assignement

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E13 Attribute Assignement,

P141 assigned (was assigned by), E1 CRM Entity, P2 has type, E55 Type

Examples:

assessed condition

In First Order Logic:

 $TP141(x,y) \Rightarrow E13(x)$  $TP141(x,y) \Rightarrow E55(y)$ 

 $TP141(x,y) \Leftrightarrow (\exists z)[E1(z) \land P141(x,z) \land P2(z,y)]$ 

## TP142 used constituent of type

Domain:

E15 Identifier Assignment

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E15 Identifier Assignment, P142 used constituent (was used in), E90 Symbolic Object, P2 has type, E55 Type

Examples:

todo

```
In First Order Logic:
```

```
TP142(x,y) \Rightarrow E15(x)

TP142(x,y) \Rightarrow E55(y)
```

 $TP142(x,y) \Leftrightarrow (\exists z)[E90(z) \land P142(x,z) \land P2(z,y)]$ 

## TP143 joined actor of type

Domain:

E85 Joining

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E85 Joining, P143 joined (was

joined by), E39 Actor, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP143(x,y) \Rightarrow E85(x)$  $TP143(x,y) \Rightarrow E55(y)$ 

 $TP143(x,y) \Leftrightarrow (\exists z)[E39(z) \land P143(x,z) \land P2(z,y)]$ 

## TP144 joined with group of type

Domain:

E85 Joining

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E85 Joining, P144 joined with

(gained member by), E74 Group, P2 has type, E55 Type

Examples:

footballer joined a football team

In First Order Logic:

```
TP144(x,y) \Rightarrow E85(x)

TP144(x,y) \Rightarrow E55(y)

TP144(x,y) \Leftrightarrow (\exists z)[E74(z) \land P144(x,z) \land P2(z,y)]
```

## TP145 separated actor of type

Domain:

E86 Leaving

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E86 Leaving, P145 separated  $\,$ 

(left by), E39 Actor, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP145(x,y) \Rightarrow E86(x)$  $TP145(x,y) \Rightarrow E55(y)$ 

 $TP145(x,y) \Leftrightarrow (\exists z)[E39(z) \land P145(x,z) \land P2(z,y)]$ 

#### TP146 separated from group of type

Domain:

E86 Leaving

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E86 Leaving, P146 separated

from (lost member by), E74 Group, P2 has type, E55 Type

Examples:

footballer separated from a football team

In First Order Logic:

 $TP146(x,y) \Rightarrow E86(x)$ 

 $TP146(x,y) \Rightarrow E55(y)$ 

 $TP146(x,y) \Leftrightarrow (\exists z)[E74(z) \land P146(x,z) \land P2(z,y)]$ 

#### TP147 curated curated holding of type

Domain: E87 Curation Activity Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E87 Curation Activity, P147 curated (was curated by), E78 Curated Holding, P2 has type, E55 Type Examples: curated collection of pottery In First Order Logic:  $TP147(x,y) \Rightarrow E87(x)$  $TP147(x,y) \Rightarrow E55(y)$  $TP147(x,y) \Leftrightarrow (\exists z)[E78(z) \land P147(x,z) \land P2(z,y)]$ TP148 has component of type Domain: E89 Propositional Object Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E89 Propositional Object, P148 has component (is component of), E89 Propositional Object, P2 has type, E55 Type Examples: my thesis has component of type appendix In First Order Logic:  $TP148(x,y) \Rightarrow E89(x)$  $TP148(x,y) \Rightarrow E55(y)$  $TP148(x,y) \Leftrightarrow (\exists z)[E89(z) \land P148(x,z) \land P2(z,y)]$ 

#### TP151 was formed from group of type

Domain:

E66 Formation

Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E66 Formation, P151 was formed from (participated in), E74 Group, P2 has type, E55 Type Examples: todo In First Order Logic:  $TP151(x,y) \Rightarrow E66(x)$  $TP151(x,y) \Rightarrow E55(y)$  $TP151(x,y) \Leftrightarrow (\exists z)[E74(z) \land P151(x,z) \land P2(z,y)]$ TP152 has parent of type Domain: E21 Person Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: This property is a shortcut of the fully developed path: E21 Person, P152 has parent(is parent of), E21 Person, P2 has type, E55 Type Examples: todo In First Order Logic:  $TP152(x,y) \Rightarrow E21(x)$  $TP152(x,y) \Rightarrow E55(y)$  $TP152(x,y) \Leftrightarrow (\exists z)[E21(z) \land P152(x,z) \land P2(z,y)]$ TP157 is at rest relative to physical thing of type Domain: E53 Place

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E53 Place, P157 is at rest relative to (provides reference space for), E18 Physical Thing, P2 has type, E55 Type

Examples:

Nelson's place of death is at rest relative to a ship

In First Order Logic:

 $TP157(x,y) \Rightarrow E53(x)$  $TP157(x,y) \Rightarrow E55(y)$ 

 $TP157(x,y) \Leftrightarrow (\exists z)[E18(z) \land P157(x,z) \land P2(z,y)]$ 

## TP165 incorporates symbolic object of type

Domain:

E73 Information Object

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E73 Information Object, P165 incorporates (is incorporated in), E90 Symbolic Object, P2 has type, E55 Type

Examples:

Iliad incorporates symbolic objects of type "letters"

In First Order Logic:

 $TP165(x,y) \Rightarrow E73(x)$  $TP165(x,y) \Rightarrow E55(y)$ 

 $TP165(x,y) \Leftrightarrow (\exists z)[E90(z) \land P165(x,z) \land P2(z,y)]$ 

## TP179 had sales price of monetary amount of type

Domain:

E96 Purchase

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E96 Purchase, P179 had sales

price (was sales price of), E97 Monetary Amount, P2 has type, E55 Type

Examples:

book sold at auction starter price

In First Order Logic:

 $TP179(x,y) \Rightarrow E96(x)$  $TP179(x,y) \Rightarrow E55(y)$ 

 $TP179(x,y) \Leftrightarrow (\exists z)[E97(z) \land P179(x,z) \land P2(z,y)]$ 

#### TP187 has production plan of type

Domain:

E99 Product Type

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E99 Product Type, P187 has production plan (is production plan for), E29 Design or Procedure, P2 has type, E55

Type

Examples:

volswagen beetle production has electrics plan

In First Order Logic:

 $TP187(x,y) \Rightarrow E99(x)$  $TP187(x,y) \Rightarrow E55(y)$ 

 $TP187(x,y) \Leftrightarrow (\exists z)[E29(z) \land P187(x,z) \land P2(z,y)]$ 

## TP188 requires production tool of type

Domain:

E99 Product Type

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E99 Product Type, P188 requires production tool (is production tool for), E19 Physical Object, P2 has type,

E55 Type

Examples:

volkswagen beetle production requires metal press

In First Order Logic:

 $TP188(x,y) \Rightarrow E99(x)$   $TP188(x,y) \Rightarrow E55(y)$  $TP188(x,y) \Leftrightarrow (\exists z)[E19(z) \land P188(x,z) \land P2(z,y)]$ 

## TP190 has symbolic content of type

Domain:

E90 Symbolic Object

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

This property is a shortcut of the fully developed path: E90 Symbolic Object, P190

has symbolic content, E62 String, P2 has type, E55 Type

Examples:

todo

In First Order Logic:

 $TP190(x,y) \Rightarrow E90(x)$  $TP190(x,y) \Rightarrow E55(y)$ 

 $TP190(x,y) \Leftrightarrow (\exists z)[E62(z) \land P190(x,z) \land P2(z,y)]$ 

## NTP1 is not identified by appellation type

Domain:

E1 CRM Entity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

book is not identified by ISBN (it does not have an ISBN number)

In First Order Logic:

 $NTP1(x,y) \Rightarrow E1(x)$   $NTP1(x,y) \Rightarrow E55(y)$ 

# NTP2 does not have type

Domain:	E1 CRM Entity	
Range:	E55 Type	
Superproperty of: todo		
Subproperty of:	todo	
Quantification:	todo	
Scope note:	scope note goes here	
Examples:	book is not of binding type "inboard binding"	
In First Order Lo	ogic: $NTP2(x,y) \Rightarrow E1(x)$ $NTP2(x,y) \Rightarrow E55(y)$	
NTP3 does not have note of type		
Domain:	E1 CRM Entity	
Range:	E55 Type	
Superproperty of: todo		
Subproperty of:	todo	
Quantification:	todo	
Scope note:	scope note goes here	
Examples:	todo	
In First Order Lo	ogic: NTP3(x,y) $\Rightarrow$ E1(x) NTP3(x,y) $\Rightarrow$ E55(y)	
NTP4 does not have time-span of type		
Domain:	E2 Temporal Entity	
Range:	E55 Type	
Superproperty of	f: todo	

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

 $NTP4(x,y) \Rightarrow E2(x)$   $NTP4(x,y) \Rightarrow E55(y)$ 

## NTP5 does not consist of condition state of type

Domain:

E3 Condition State

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

corroded condition of metal object does not consist of pitting

In First Order Logic:

 $NTP5(x,y) \Rightarrow E3(x)$   $NTP5(x,y) \Rightarrow E55(y)$ 

## NTP7 did not take place at place of type

Domain:

E4 Period

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

battle did not take place at a city

In First Order Logic:

$$NTP7(x,y) \Rightarrow E4(x)$$
  
 $NTP7(x,y) \Rightarrow E55(y)$ 

## NTP8 did not take place on or within physical thing of type

Domain:

E4 Period

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

Nelson did not die on a coach

In First Order Logic:

 $NTP8(x,y) \Rightarrow E4(x)$   $NTP8(x,y) \Rightarrow E55(y)$ 

## NTP11 did not have participant of type

Domain:

E5 Event

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

 $NTP11(x,y) \Rightarrow E5(x)$  $NTP11(x,y) \Rightarrow E55(y)$ 

## NTP12 occurred not in the presence of persistent item of type

Domain:

E5 Event

Range: E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

Kennedy was assassinated not on his bike

In First Order Logic:

 $NTP12(x,y) \Rightarrow E5(x)$   $NTP12(x,y) \Rightarrow E55(y)$ 

## NTP13 did not destroy physical thing of type

Domain:

E6 Destruction

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

volcano eruption did not destroy villas

In First Order Logic:

 $NTP13(x,y) \Rightarrow E6(x)$   $NTP13(x,y) \Rightarrow E55(y)$ 

## NTP14 was not carried out by actor of type

Domain:

E7 Activity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

 $NTP14(x,y) \Rightarrow E7(x)$  $NTP14(x,y) \Rightarrow E55(y)$ 

# NTP15 was not influenced by entity of type

Domain:

E7 Activity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

production was not influenced by reports of type "market predictions"

In First Order Logic:

 $NTP15(x,y) \Rightarrow E7(x)$   $NTP15(x,y) \Rightarrow E55(y)$ 

## NTP17 was not motivated by entity of type

Domain:

E7 Activity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

conservation work was not motivated by activity of type "exhibition"

In First Order Logic:

$$NTP17(x,y) \Rightarrow E7(x)$$
  
 $NTP17(x,y) \Rightarrow E55(y)$ 

## NTP20 did not have specific purpose of event of type

Domain:

E7 Activity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

 $NTP20(x,y) \Rightarrow E7(x)$  $NTP20(x,y) \Rightarrow E55(y)$ 

# NTP21 did not have general purpose

Domain:

E7 Activity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

conservation work did not have purpose to restore (i.e. only to consolidate)

In First Order Logic:

 $NTP21(x,y) \Rightarrow E7(x)$   $NTP21(x,y) \Rightarrow E55(y)$ 

## NTP22 did not transfer title to actor of type

Domain:

E8 Acquisition

Range:

E55 Type

Subproperty of:	todo	
Quantification:	todo	
Scope note:	scope note goes here	
Examples:	todo	
In First Order Lo	gic: NTP22(x,y) $\Rightarrow$ E8(x) NTP22(x,y) $\Rightarrow$ E55(y)	
NTP23 did not transfer title from actor of type		
Domain:	E8 Acquisition	
Range:	E55 Type	
Superproperty of	: todo	
Subproperty of:	todo	
Quantification:	todo	
Scope note:	scope note goes here	
Examples:	todo	
In First Order Lo	gic: NTP23(x,y) $\Rightarrow$ E8(x) NTP23(x,y) $\Rightarrow$ E55(y)	
NTP24 did not transfer title of physical thing of type		
Domain:	E8 Acquisition	
Range:	E55 Type	
Superproperty of	: todo	
Subproperty of:	todo	
Quantification:	todo	
Scope note:		

Superproperty of:

todo

scope note goes here

Examples:

purchase did not buy objects of type musical instrument

In First Order Logic:

 $NTP24(x,y) \Rightarrow E8(x)$   $NTP24(x,y) \Rightarrow E55(y)$ 

## NTP25 did not move physical object of type

Domain:

E9 Move

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

shipment does not contain hazardous materials

In First Order Logic:

 $NTP25(x,y) \Rightarrow E9(x)$  $NTP25(x,y) \Rightarrow E55(y)$ 

## NTP26 did not move to place of type

Domain:

E9 Move

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

collection did not move to place of type store room

In First Order Logic:

 $NTP26(x,y) \Rightarrow E9(x)$  $NTP26(x,y) \Rightarrow E55(y)$ 

# NTP27 did not move from place of type

Domain:	E9 Move	
Range:	E55 Type	
Superproperty of	f: todo	
Subproperty of:	todo	
Quantification:	todo	
Scope note:	scope note goes here	
Examples:	collection did not move from a place of type gallery	
In First Order Lo	ogic: $NTP27(x,y) \Rightarrow E9(x)$ $NTP27(x,y) \Rightarrow E55(y)$	
NTP28 custody was not surrendered by actor of type		
Domain:	E10 Transfer of Custody	
Range:	E55 Type	
Superproperty of: todo		
Subproperty of:	todo	
Quantification:	todo	
Scope note:	scope note goes here	
Examples:	todo	
In First Order Lo	ogic: $NTP28(x,y) \Rightarrow E10(x)$ $NTP28(x,y) \Rightarrow E55(y)$	
NTP29 custody was not received by actor of type		
Domain:	E10 Transfer of Custody	
Range:	E55 Type	
Superproperty of	f: todo	

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

 $NTP29(x,y) \Rightarrow E10(x)$  $NTP29(x,y) \Rightarrow E55(y)$ 

# NTP30 did not transfer custody of physical thing of type

Domain:

E10 Transfer of Custody

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

did not borrow object of type book for the exhibition

In First Order Logic:

NTP30(x,y)  $\Rightarrow$  E10(x) NTP30(x,y)  $\Rightarrow$  E55(y)

## NTP31 has not modified physical thing of type

Domain:

E11 Modification

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

conservation work did not affect leather cover

In First Order Logic:

 $NTP31(x,y) \Rightarrow E11(x)$   $NTP31(x,y) \Rightarrow E55(y)$ 

## NTP32 did not use general technique

Domain:

E7 Activity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

the binding did not use stitching technique

In First Order Logic:

 $NTP32(x,y) \Rightarrow E7(x)$  $NTP32(x,y) \Rightarrow E55(y)$ 

## NTP34 did not concern physical thing of type

Domain:

E14 Condition Assessment

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

did not assess object of type book

In First Order Logic:

 $NTP34(x,y) \Rightarrow E14(x)$   $NTP34(x,y) \Rightarrow E55(y)$ 

## NTP35 has not identified condition state of type

Domain:

E14 Condition Assessment

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

has not identified mould on the book

In First Order Logic:

 $NTP35(x,y) \Rightarrow E14(x)$  $NTP35(x,y) \Rightarrow E55(y)$ 

## NTP37 did not assign identifier of type

Domain:

E15 Identifier Assignement

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

did not assign ISBN to the book

In First Order Logic:

 $NTP37(x,y) \Rightarrow E15(x)$  $NTP37(x,y) \Rightarrow E55(y)$ 

## NTP38 did not deassign identifier of type

Domain:

E15 Identifier Assignement

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

did not deassign ISBN

In First Order Logic:

 $NTP38(x,y) \Rightarrow E15(x)$  $NTP38(x,y) \Rightarrow E55(y)$ 

## NTP39 did not measure entity of type

Domain:

E16 Measurement

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

did not measure a book

In First Order Logic:

 $NTP39(x,y) \Rightarrow E16(x)$  $NTP39(x,y) \Rightarrow E55(y)$ 

## NTP40 did not observe dimension of type

Domain:

E16 Measurement

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

did not observe dimension of radius

In First Order Logic:

$$NTP40(x,y) \Rightarrow E16(x)$$
  
 $NTP40(x,y) \Rightarrow E55(y)$ 

## NTP41 did not classify entity of type

Domain:

E17 Type Assignment

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

did not classify a book

In First Order Logic:

 $NTP41(x,y) \Rightarrow E17(x)$  $NTP41(x,y) \Rightarrow E55(y)$ 

# NTP42 did not assign type

Domain:

E17 Type Assignment

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

did not classify the binding as stitched

In First Order Logic:

 $NTP42(x,y) \Rightarrow E17(x)$  $NTP42(x,y) \Rightarrow E55(y)$ 

# NTP43 does not have dimension of type

Domain:

E70 Thing

Range:

E55 Type

Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: book does not have a radius In First Order Logic:  $NTP43(x,y) \Rightarrow E70(x)$  $NTP43(x,y) \Rightarrow E55(y)$ NTP44 does not have condition of type Domain: E18 Physical Thing Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: book does not have tears In First Order Logic:  $NTP44(x,y) \Rightarrow E18(x)$  $NTP44(x,y) \Rightarrow E55(y)$ NTP45 does not consist of material Domain: E18 Physical Thing Range: E55 Type Superproperty of: todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

book is not made of gold leaf

In First Order Logic:

 $NTP45(x,y) \Rightarrow E18(x)$   $NTP45(x,y) \Rightarrow E55(y)$ 

## NTP46 is not composed of physical thing of type

Domain:

E18 Physical Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

binding is not composed of boards

In First Order Logic:

 $NTP46(x,y) \Rightarrow E18(x)$  $NTP46(x,y) \Rightarrow E55(y)$ 

#### NTP48 does not have preferred identifier of type

Domain:

E1 CRM Entity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

MS Sinai XX does not have preferred identifier by Kamil

In First Order Logic:

 $NTP48(x,y) \Rightarrow E1(x)$  $NTP48(x,y) \Rightarrow E55(y)$ 

## NTP49 does not have former or current keeper of type

Domain:

Domain.	E18 Physical Thing	
Range:	E55 Type	
Superproperty of	f: todo	
Subproperty of:	todo	
Quantification:	todo	
Scope note:	scope note goes here	
Examples:	todo	
In First Order Lo	ogic: NTP49(x,y) $\Rightarrow$ E18(x) NTP49(x,y) $\Rightarrow$ E55(y)	
NTP50 does not have current keeper of type		
Domain:	E18 Physical Thing	
Range:	E55 Type	
Superproperty of	f: todo	
Subproperty of:	todo	
Quantification:	todo	
Scope note:	scope note goes here	
Examples:	todo	
In First Order Lo	ogic: NTP50(x,y) $\Rightarrow$ E18(x) NTP50(x,y) $\Rightarrow$ E55(y)	
NTP51 does not have former or current owner of type		
Domain:	E18 Physical Thing	
Range:	E55 Type	
Superproperty of	f: todo	

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

 $NTP51(x,y) \Rightarrow E18(x)$  $NTP51(x,y) \Rightarrow E55(y)$ 

#### NTP52 does not have current owner of type

Domain:

E18 Physical Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

 $NTP52(x,y) \Rightarrow E18(x)$  $NTP52(x,y) \Rightarrow E55(y)$ 

#### NTP53 does not have former or current location of type

Domain:

E18 Physical Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

book is not located in a store room

In First Order Logic:

 $NTP53(x,y) \Rightarrow E18(x)$  $NTP53(x,y) \Rightarrow E55(y)$ 

#### NTP54 does not have current permanent location of type

Domain:

E19 Physical Object

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

book is not located in a store room

In First Order Logic:

 $NTP54(x,y) \Rightarrow E19(x)$  $NTP54(x,y) \Rightarrow E55(y)$ 

#### NTP55 does not have current location of type

Domain:

E19 Physical Object

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

book is not located in a store room

In First Order Logic:

 $NTP55(x,y) \Rightarrow E19(x)$  $NTP55(x,y) \Rightarrow E55(y)$ 

#### NTP56 does not bear feature of type

Domain:

E19 Physical Object

Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: cover does not bear feature of type gold tooling In First Order Logic:  $NTP56(x,y) \Rightarrow E19(x)$  $NTP56(x,y) \Rightarrow E55(y)$ NTP59 does not have section of type Domain: E18 Physical Thing Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: book spine does not have section of type "panels" In First Order Logic:  $NTP59(x,y) \Rightarrow E18(x)$  $NTP59(x,y) \Rightarrow E55(y)$ 

#### NTP62 does not depict entity of type

Domain:

E24 Physical Human-Made Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

painting does not depict flowers

In First Order Logic:

 $NTP62(x,y) \Rightarrow E24(x)$  $NTP62(x,y) \Rightarrow E55(y)$ 

#### NTP65 does not show visual item of type

Domain:

E24 Physical Human-Made Thing

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

my coin does not show visual item of type portrait

In First Order Logic:

 $NTP65(x,y) \Rightarrow E24(x)$  $NTP65(x,y) \Rightarrow E55(y)$ 

#### NTP67 does not refer to entity of type

Domain:

E89 Propositional Object

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

text does not refer to wars

In First Order Logic:

$$NTP67(x,y) \Rightarrow E89(x)$$
  
 $NTP67(x,y) \Rightarrow E55(y)$ 

#### NTP68 does not foresee use of material

Domain:

E29 Design or Procedure

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

instructions for painting cleaning does not foresee use of hazardous solvents

In First Order Logic:

 $NTP68(x,y) \Rightarrow E29(x)$  $NTP68(x,y) \Rightarrow E55(y)$ 

#### NTP69 does not have association with design or procedure of type

Domain:

E29 Design or Procedure

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

cleaning instructions of the book do not include cleaning of textblocks

In First Order Logic:

 $NTP69(x,y) \Rightarrow E29(x)$  $NTP69(x,y) \Rightarrow E55(y)$ 

#### NTP70 does not document entity of type

Domain:

E31 Document

Range:

E55 Type

Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: todo In First Order Logic:  $NTP70(x,y) \Rightarrow E31(x)$  $NTP70(x,y) \Rightarrow E55(y)$ NTP71 does not list entity of type Domain: E32 Authority Document Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: todo In First Order Logic:  $NTP71(x,y) \Rightarrow E32(x)$  $NTP71(x,y) \Rightarrow E55(y)$ NTP72 does not have language Domain: E33 Linguistic Object Range: E55 Type Superproperty of: todo Subproperty of:

todo

todo

Quantification:

Scope note:

scope note goes here

Examples:

the text is not written in greek

In First Order Logic:

 $NTP72(x,y) \Rightarrow E33(x)$  $NTP72(x,y) \Rightarrow E55(y)$ 

#### NTP73 does not have translation linguistic object of type

Domain:

E33 Linguistic Object

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

my translation is not translation of poetry

In First Order Logic:

 $NTP73(x,y) \Rightarrow E33(x)$  $NTP73(x,y) \Rightarrow E55(y)$ 

#### NTP74 does not have current or former residence of type

Domain:

E39 Actor

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

my friend does not live in a mansion

In First Order Logic:

NTP74(x,y)  $\Rightarrow$  E39(x) NTP74(x,y)  $\Rightarrow$  E55(y)

## NTP75 does not possess right of type

Domain:

	E39 Actor	
Range:	E55 Type	
Superproperty of: todo		
Subproperty of:	todo	
Quantification:	todo	
Scope note:	scope note goes here	
Examples:	the author of the book does not possess right of type "copyright" (i.e. the publisher owns the copyright)	
In First Order Lo	gic: $NTP75(x,y) \Rightarrow E39(x)$ $NTP75(x,y) \Rightarrow E55(y)$	
NTP76 does not have contact point of type		
Domain:	E39 Actor	
Range:	E55 Type	
Superproperty of	todo	
Subproperty of:	todo	
Quantification:	todo	
Scope note:	scope note goes here	
Examples:	my friend does not have an email	
In First Order Lo	gic: $NTP76(x,y) \Rightarrow E39(x)$ $NTP76(x,y) \Rightarrow E55(y)$	
NTP79 beginning is not qualified by note of type		
Domain:	E52 Time-Span	
Range:	E55 Type	
Superproperty of	:	

todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: todo In First Order Logic:  $NTP79(x,y) \Rightarrow E52(x)$  $NTP79(x,y) \Rightarrow E55(y)$ NTP80 end is not qualified by note of type Domain: E52 Time-Span Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: todo In First Order Logic: NTP80(x,y)  $\Rightarrow$  E52(x)  $NTP80(x,y) \Rightarrow E55(y)$ NTP89 does not fall within place of type Domain: E53 Place Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

the place of my house is not on an island

In First Order Logic:

 $NTP89(x,y) \Rightarrow E53(x)$  $NTP89(x,y) \Rightarrow E55(y)$ 

#### NTP92 did not bring into existence persistent item of type

Domain:

E63 Beginning of Existence

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

binding work has not produced a limp binding

In First Order Logic:

 $NTP92(x,y) \Rightarrow E63(x)$  $NTP92(x,y) \Rightarrow E55(y)$ 

#### NTP93 did not take out of existence persistent item of type

Domain:

E64 End of Existence

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

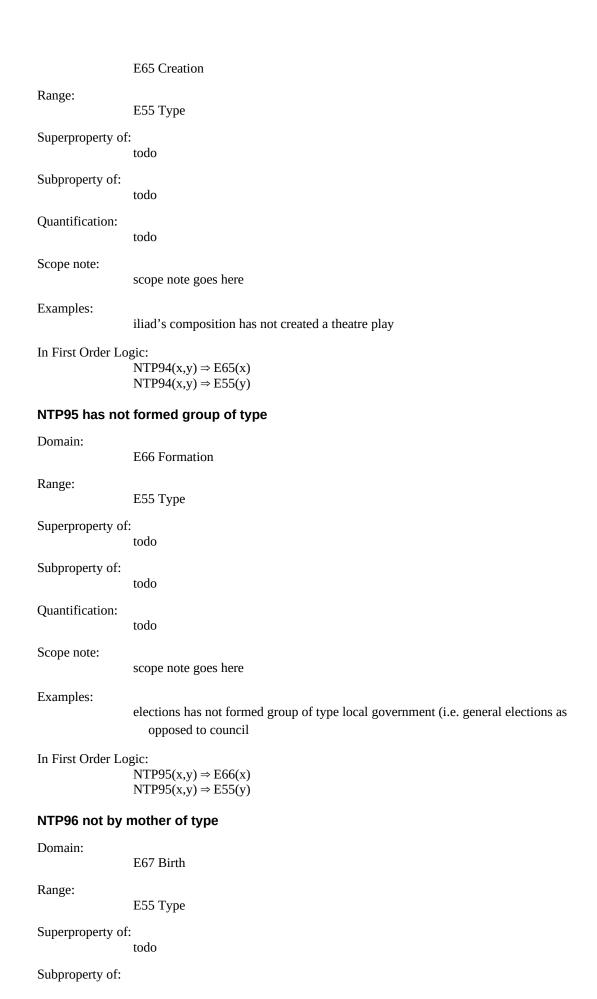
volcano eruption did not destroy villas

In First Order Logic:

 $NTP93(x,y) \Rightarrow E64(x)$  $NTP93(x,y) \Rightarrow E55(y)$ 

#### NTP94 has not created conceptual object of type

Domain:



todo Quantification: todo Scope note: scope note goes here Examples: todo In First Order Logic:  $NTP96(x,y) \Rightarrow E67(x)$  $NTP96(x,y) \Rightarrow E55(y)$ NTP97 not from father of type Domain: E67 Birth Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: todo In First Order Logic:  $NTP97(x,y) \Rightarrow E67(x)$  $NTP97(x,y) \Rightarrow E55(y)$ NTP98 did not bring into life person of type Domain: E67 Birth Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo

scope note go

scope note goes here

Examples:

Scope note:

todo

In First Order Logic:  $NTP98(x,y) \Rightarrow E67(x)$ NTP98(x,y)  $\Rightarrow$  E55(y) NTP99 did not dissolve group of type Domain: E68 Dissolution Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: civil war did not dissolve political groups In First Order Logic:  $NTP99(x,y) \Rightarrow E68(x)$  $NTP99(x,y) \Rightarrow E55(y)$ NTP100 was not death of person of type Domain: E69 Death Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: todo In First Order Logic:

#### NTP101 did not have general use of type

 $NTP100(x,y) \Rightarrow E69(x)$  $NTP100(x,y) \Rightarrow E55(y)$ 

Domain:

E70 Thing

Range:

E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: my antique car did not have general use of type "transportation" In First Order Logic:  $NTP101(x,y) \Rightarrow E70(x)$  $NTP101(x,y) \Rightarrow E55(y)$ NTP102 does not have title of type Domain: E71 Human-Made Thing Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: text does not have chapter title In First Order Logic:  $NTP102(x,y) \Rightarrow E71(x)$  $NTP102(x,y) \Rightarrow E55(y)$ NTP103 was not intended for Domain: E71 Human-Made Thing Range: E55 Type Superproperty of: todo

Subproperty of:

Quantification:

todo

todo

Scope note:

scope note goes here

Examples:

this place was not intended for being broken at my wedding reception

In First Order Logic:

 $NTP103(x,y) \Rightarrow E71(x)$  $NTP103(x,y) \Rightarrow E55(y)$ 

#### NTP104 is not subject to right of type

Domain:

E72 Legal Object

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

this book is out of copyright

In First Order Logic:

 $NTP104(x,y) \Rightarrow E72(x)$  $NTP104(x,y) \Rightarrow E55(y)$ 

#### NTP105 right is not held by actor of type

Domain:

E72 Legal Object

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

 $NTP105(x,y) \Rightarrow E72(x)$   $NTP105(x,y) \Rightarrow E55(y)$ 

# NTP106 is not composed of symbolic object of type Domain: E90 Symbolic Object Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: Olympic airways logo is not composed of symbolic objects of type "letter" In First Order Logic: $NTP106(x,y) \Rightarrow E90(x)$ $NTP106(x,y) \Rightarrow E55(y)$ NTP107 does not have current or former member of type Domain: E74 Group Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: todo In First Order Logic: $NTP107(x,y) \Rightarrow E74(x)$ $NTP107(x,y) \Rightarrow E55(y)$

#### NTP108 has not produced physical human-made thing of type

Domain:

E12 Production

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

binding work has not produced a limp binding

In First Order Logic:

 $NTP108(x,y) \Rightarrow E12(x)$  $NTP108(x,y) \Rightarrow E55(y)$ 

## NTP109 does not have current or former curator of type

Domain:

E78 Curated Holding

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

 $NTP109(x,y) \Rightarrow E78(x)$  $NTP109(x,y) \Rightarrow E55(y)$ 

#### NTP110 did not augment physical human-made thing of type

Domain:

E79 Part Addition

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

endleaf addition did not augment a limp binding

In First Order Logic:

 $NTP110(x,y) \Rightarrow E79(x)$  $NTP110(x,y) \Rightarrow E55(y)$ 

#### NTP111 did not add physical thing of type

Domain:

E79 Part Addition

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

rebinding did not add gold tooling to the book

In First Order Logic:

 $NTP111(x,y) \Rightarrow E79(x)$  $NTP111(x,y) \Rightarrow E55(y)$ 

#### NTP112 did not diminish physical human-made thing of type

Domain:

E80 Part Removal

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

endleaf removal did not diminish a limp binding

In First Order Logic:

 $NTP112(x,y) \Rightarrow E80(x)$  $NTP112(x,y) \Rightarrow E55(y)$ 

#### NTP113 did not remove physical thing of type

Domain:

E80 Part Removal

Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: rebinding did not remove boards from the book In First Order Logic:  $NTP113(x,y) \Rightarrow E80(x)$ NTP113(x,y)  $\Rightarrow$  E55(y) NTP121 does not overlap with place of type Domain: E53 Place Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: my village does not overlap with a river In First Order Logic:  $NTP121(x,y) \Rightarrow E53(x)$  $NTP121(x,y) \Rightarrow E55(y)$ NTP122 does not border with place of type Domain: E53 Place Range: E55 Type Superproperty of:

todo

todo

Subproperty of:

Quantification:

todo

Scope note:

scope note goes here

Examples:

my village does not border with a river

In First Order Logic:

 $NTP122(x,y) \Rightarrow E53(x)$  $NTP122(x,y) \Rightarrow E55(y)$ 

#### NTP123 did not result in persistent item of type

Domain:

E81 Transformation

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

church refurbishment did not result in a school

In First Order Logic:

 $NTP123(x,y) \Rightarrow E81(x)$  $NTP123(x,y) \Rightarrow E55(y)$ 

## NTP124 did not transform persistent item of type

Domain:

E81 Transformation

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

refurbishment did not transform building of type school

In First Order Logic:

```
NTP124(x,y) \Rightarrow E81(x)

NTP124(x,y) \Rightarrow E55(y)
```

#### NTP125 did not use object of type

Domain:

E7 Activity

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

the binding of the book did not use a book press

In First Order Logic:

 $NTP125(x,y) \Rightarrow E7(x)$  $NTP125(x,y) \Rightarrow E55(y)$ 

### NTP126 did not employ material

Domain:

E11 Modification

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

the binding did not use tanned gold leaf

In First Order Logic:

 $NTP126(x,y) \Rightarrow E11(x)$  $NTP126(x,y) \Rightarrow E55(y)$ 

#### NTP128 does not carry symbolic object of type

Domain:

E18 Physical Thing

Range:

E55 Type

Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: my book is not of poetry In First Order Logic:  $NTP128(x,y) \Rightarrow E18(x)$ NTP128(x,y)  $\Rightarrow$  E55(y) NTP129 is not about entity of type Domain: E89 Propositional Object Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: todo In First Order Logic:  $NTP129(x,y) \Rightarrow E89(x)$  $NTP129(x,y) \Rightarrow E55(y)$ NTP130 does not show features of thing of type Domain: E70 Thing Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification:

todo

Scope note:

scope note goes here Examples: todo In First Order Logic:  $NTP130(x,y) \Rightarrow E70(x)$  $NTP130(x,y) \Rightarrow E55(y)$ NTP134 did not continue activity of type Domain: E7 Activity Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: todo In First Order Logic:  $NTP134(x,y) \Rightarrow E7(x)$ NTP134(x,y)  $\Rightarrow$  E55(y) NTP137 does not exemplify Domain: E1 CRM Entity Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here

specimen XX is not a TYPE specimen for species XXX

 $NTP137(x,y) \Rightarrow E1(x)$  $NTP137(x,y) \Rightarrow E55(y)$ 

Examples:

In First Order Logic:

## NTP138 does not represent entity of type

Domain:	E36 Visual Item	
Range:	E55 Type	
Superproperty of: todo		
Subproperty of:	todo	
Quantification:	todo	
Scope note:	scope note goes here	
Examples:	image does not represent manuscript text	
In First Order Lo	ogic: NTP138(x,y) $\Rightarrow$ E36(x) NTP138(x,y) $\Rightarrow$ E55(y)	
NTP139 does not have alternative form of type		
Domain:	E41 Appellation	
Range:	E55 Type	
Superproperty of: todo		
Subproperty of:	todo	
Quantification:	todo	
Scope note:	scope note goes here	
Examples:	Martin Doerr does not have alternative form of type alternative spelling	
In First Order Lo	ogic: $NTP139(x,y) \Rightarrow E41(x)$ $NTP139(x,y) \Rightarrow E55(y)$	
NTP140 did not assign attribute to entity of type		
Domain:	E13 Attribute Assignment	
Range:	E55 Type	
Superproperty of	f: todo	

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

did not assess object of type book

In First Order Logic:

 $NTP140(x,y) \Rightarrow E13(x)$  $NTP140(x,y) \Rightarrow E55(y)$ 

#### NTP141 did not assign entity of type

Domain:

E13 Attribute Assignement

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

did not assess condition

In First Order Logic:

 $NTP141(x,y) \Rightarrow E13(x)$  $NTP141(x,y) \Rightarrow E55(y)$ 

#### NTP142 did not use constituent of type

Domain:

E15 Identifier Assignment

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

NTP142(x,y)  $\Rightarrow$  E15(x) NTP142(x,y)  $\Rightarrow$  E55(y)

#### NTP143 did not join actor of type

Domain:

E85 Joining

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

 $NTP143(x,y) \Rightarrow E85(x)$  $NTP143(x,y) \Rightarrow E55(y)$ 

#### NTP144 did not join with group of type

Domain:

E85 Joining

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

footballer did not join a basketball team

In First Order Logic:

 $NTP144(x,y) \Rightarrow E85(x)$  $NTP144(x,y) \Rightarrow E55(y)$ 

#### NTP145 did not separate actor of type

Domain:

E86 Leaving

Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: todo In First Order Logic:  $NTP145(x,y) \Rightarrow E86(x)$ NTP145(x,y)  $\Rightarrow$  E55(y) NTP146 did not separate from group of type Domain: E86 Leaving Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: footballer did not separate from a basketball team In First Order Logic:  $NTP146(x,y) \Rightarrow E86(x)$ NTP146(x,y)  $\Rightarrow$  E55(y) NTP147 did not curate curated holding of type Domain: E87 Curation Activity Range: E55 Type Superproperty of: todo

Subproperty of:

Quantification:

todo

todo

Scope note:

scope note goes here

Examples:

did not curate a collection of pottery

In First Order Logic:

 $NTP147(x,y) \Rightarrow E87(x)$  $NTP147(x,y) \Rightarrow E55(y)$ 

#### NTP148 does not have component of type

Domain:

E89 Propositional Object

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

my thesis does not have appendices

In First Order Logic:

 $NTP148(x,y) \Rightarrow E89(x)$  $NTP148(x,y) \Rightarrow E55(y)$ 

#### NTP150 does not define typical parts of

Domain:

E55 Type

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

the object hierarchy of LoB does not define typical parts of materials

In First Order Logic:

```
NTP150(x,y) \Rightarrow E55(x)

NTP150(x,y) \Rightarrow E55(y)
```

#### NTP151 was not formed from group of type

Domain:

E66 Formation

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

 $NTP151(x,y) \Rightarrow E66(x)$  $NTP151(x,y) \Rightarrow E55(y)$ 

#### NTP152 does not have parent of type

Domain:

E21 Person

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

todo

In First Order Logic:

 $NTP152(x,y) \Rightarrow E21(x)$  $NTP152(x,y) \Rightarrow E55(y)$ 

#### NTP157 is not at rest relative to physical thing of type

Domain:

E53 Place

Range:

E55 Type

Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: Nelson's place of death is not at rest relative to a fort In First Order Logic: NTP157(x,y)  $\Rightarrow$  E53(x) NTP157(x,y)  $\Rightarrow$  E55(y) NTP165 does not incorporate symbolic object of type Domain: E73 Information Object Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo Scope note: scope note goes here Examples: My image my cat does not incorporate symbolic object of type "letters" In First Order Logic:  $NTP165(x,y) \Rightarrow E73(x)$  $NTP165(x,y) \Rightarrow E55(y)$ NTP179 did not have sales price of monetary amount of type Domain: E96 Purchase Range: E55 Type Superproperty of: todo Subproperty of: todo Quantification: todo

Scope note:

scope note goes here

Examples:

book did not sell at auction maximum price

In First Order Logic:

 $NTP179(x,y) \Rightarrow E96(x)$  $NTP179(x,y) \Rightarrow E55(y)$ 

#### NTP186 did not produce thing of product type

Domain:

E12 Production

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

volkswagen beettle production did not produce mini

In First Order Logic:

NTP186(x,y)  $\Rightarrow$  E12(x) NTP186(x,y)  $\Rightarrow$  E55(y)

#### NTP187 does not have production plan of type

Domain:

E99 Product Type

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

todo

Quantification:

todo

Scope note:

scope note goes here

Examples:

volswagen beetle production does not have electrics plan

In First Order Logic:

 $NTP187(x,y) \Rightarrow E99(x)$  $NTP187(x,y) \Rightarrow E55(y)$ 

## NTP188 does not require production tool of type

Domain:

	E99 Product Type
Range:	E55 Type
Superproperty of	: todo
Subproperty of:	todo
Quantification:	todo
Scope note:	scope note goes here
Examples:	volkswagen beetle production does not require metal press
In First Order Lo	gic: NTP188(x,y) $\Rightarrow$ E99(x) NTP188(x,y) $\Rightarrow$ E55(y)
NTP190 does r	not have symbolic content of type
Domain:	E90 Symbolic Object
Range:	E55 Type
Superproperty of	todo
Subproperty of:	todo
Quantification:	todo
Scope note:	scope note goes here
Examples:	todo
In First Order Lo	gic: NTP190(x,y) $\Rightarrow$ E90(x) NTP190(x,y) $\Rightarrow$ E55(y)

# **Amendments**