

# Definition of the CRM<sub>ntp</sub>

An Extension of CIDOC CRM to support negative statements

Proposal for approval by CIDOC CRM-SIG

Version ?

Date ?

Currently Maintained by UAL and Pavement

Contributors: Martin Doerr, Carlo Meghini, Stephen Stead, Athanasios Velios and others.

# Index

Index.....	2
Introduction.....	7
Scope.....	7
Status.....	7
CRMntp property hierarchy, aligned with portions from the CIDOC CRM property hierarchies.....	8
CRMntp Property Declarations.....	10
TP1 is identified by appellation type.....	10
TP3 has note of type.....	10
TP4 has time-span of type.....	11
TP5 consists of condition state of type.....	11
TP7 took place at place of type.....	11
TP8 took place on or within physical thing of type.....	12
TP11 had participant of type.....	12
TP12 occurred in the presence of persistent item of type.....	13
TP13 destroyed physical thing of type.....	13
TP14 carried out by actor of type.....	14
TP15 was influenced by entity of type.....	14
TP17 was motivated by entity of type.....	15
TP20 had specific purpose of event of type.....	15
TP22 transferred title to actor of type.....	16
TP23 transferred title from actor of type.....	16
TP24 transferred title of physical thing of type.....	16
TP25 moved physical object of type.....	17
TP26 moved to place of type.....	17
TP27 moved from place of type.....	18
TP28 custody surrendered by actor of type.....	18
TP29 custody received by actor of type.....	19
TP30 transferred custody of physical thing of type.....	19
TP31 has modified physical thing of type.....	20
TP34 concerned physical thing of type.....	20
TP35 has identified condition state of type.....	21
TP37 assigned identifier of type.....	21
TP38 deassigned identifier of type.....	22
TP39 measured entity of type.....	22
TP40 observed dimension of type.....	22
TP41 classified entity of type.....	23
TP43 has dimension of type.....	23
TP44 has condition of type.....	24
TP46 is composed of physical thing of type.....	24
TP48 has preferred identifier of type.....	25
TP49 has former or current keeper of type.....	25
TP50 has current keeper of type.....	26
TP51 has former or current owner of type.....	26
TP52 has current owner of type.....	27
TP53 has former or current location of type.....	27
TP54 has current permanent location of type.....	28
TP55 has current location of type.....	28
TP56 bears feature of type.....	28
TP59 has section of type.....	29
TP62 depicts entity of type.....	29
TP65 shows visual item of type.....	30
TP67 refers to entity of type.....	30
TP69 has association with design or procedure of type.....	31
TP70 documents entity of type.....	31
TP71 lists entity of type.....	32

TP73 has translation linguistic object of type.....	32
TP74 has current of former residence of type.....	33
TP75 possesses right of type.....	33
TP76 has contact point of type.....	34
TP79 beginning is qualified by note of type.....	34
TP80 end is qualified by note of type.....	34
TP89 falls within place of type.....	35
TP92 brought into existence persistent item of type.....	35
TP93 took out of existence persistent item of type.....	36
TP94 has created conceptual object of type.....	36
TP95 has formed group of type.....	37
TP96 by mother of type.....	37
TP97 from father of type.....	38
TP98 brought into life person of type.....	38
TP99 dissolved group of type.....	39
TP100 was death of person of type.....	39
TP102 has title of type.....	40
TP104 is subject to right of type.....	40
TP105 right held by actor of type.....	40
TP106 is composed of symbolic object of type.....	41
TP107 has current or former member of type.....	41
TP108 has produced physical human-made thing of type.....	42
TP109 has current or former curator of type.....	42
TP110 augmented physical human-made thing of type.....	43
TP111 added physical thing of type.....	43
TP112 diminished physical human-made thing of type.....	44
TP113 removed physical thing of type.....	44
TP121 overlaps with place of type.....	45
TP122 borders with place of type.....	45
TP123 resulted in persistent item of type.....	46
TP124 transformed persistent item of type.....	46
TP128 carries symbolic object of type.....	47
TP129 is about entity of type.....	47
TP130 shows features of thing of type.....	47
TP134 continued activity of type.....	48
TP138 represents entity of type.....	48
TP139 has alternative form of type.....	49
TP140 assigned attribute to entity of type.....	49
TP141 assigned entity of type.....	50
TP142 used constituent of type.....	50
TP143 joined actor of type.....	51
TP144 joined with group of type.....	51
TP145 separated actor of type.....	52
TP146 separated from group of type.....	52
TP147 curated curated holding of type.....	53
TP148 has component of type.....	53
TP151 was formed from group of type.....	53
TP152 has parent of type.....	54
TP157 is at rest relative to physical thing of type.....	54
TP165 incorporates symbolic object of type.....	55
TP179 had sales price of monetary amount of type.....	55
TP187 has production plan of type.....	56
TP188 requires production tool of type.....	56
TP190 has symbolic content of type.....	57
NTP1 is not identified by appellation type.....	57
NTP2 does not have type.....	58
NTP3 does not have note of type.....	58
NTP4 does not have time-span of type.....	58
NTP5 does not consist of condition state of type.....	59
NTP7 did not take place at place of type.....	59

NTP8 did not take place on or within physical thing of type.....	60
NTP11 did not have participant of type.....	60
NTP12 occurred not in the presence of persistent item of type.....	61
NTP13 did not destroy physical thing of type.....	61
NTP14 was not carried out by actor of type.....	61
NTP15 was not influenced by entity of type.....	62
NTP17 was not motivated by entity of type.....	62
NTP20 did not have specific purpose of event of type.....	63
NTP21 did not have general purpose.....	63
NTP22 did not transfer title to actor of type.....	63
NTP23 did not transfer title from actor of type.....	64
NTP24 did not transfer title of physical thing of type.....	64
NTP25 did not move physical object of type.....	65
NTP26 did not move to place of type.....	65
NTP27 did not move from place of type.....	66
NTP28 custody was not surrendered by actor of type.....	66
NTP29 custody was not received by actor of type.....	66
NTP30 did not transfer custody of physical thing of type.....	67
NTP31 has not modified physical thing of type.....	67
NTP32 did not use general technique.....	68
NTP34 did not concern physical thing of type.....	68
NTP35 has not identified condition state of type.....	69
NTP37 did not assign identifier of type.....	69
NTP38 did not deassign identifier of type.....	69
NTP39 did not measure entity of type.....	70
NTP40 did not observe dimension of type.....	70
NTP41 did not classify entity of type.....	71
NTP42 did not assign type.....	71
NTP43 does not have dimension of type.....	71
NTP44 does not have condition of type.....	72
NTP45 does not consist of material.....	72
NTP46 is not composed of physical thing of type.....	73
NTP48 does not have preferred identifier of type.....	73
NTP49 does not have former or current keeper of type.....	74
NTP50 does not have current keeper of type.....	74
NTP51 does not have former or current owner of type.....	74
NTP52 does not have current owner of type.....	75
NTP53 does not have former or current location of type.....	75
NTP54 does not have current permanent location of type.....	76
NTP55 does not have current location of type.....	76
NTP56 does not bear feature of type.....	77
NTP59 does not have section of type.....	77
NTP62 does not depict entity of type.....	77
NTP65 does not show visual item of type.....	78
NTP67 does not refer to entity of type.....	78
NTP68 does not foresee use of material.....	79
NTP69 does not have association with design or procedure of type.....	79
NTP70 does not document entity of type.....	79
NTP71 does not list entity of type.....	80
NTP72 does not have language.....	80
NTP73 does not have translation linguistic object of type.....	81
NTP74 does not have current or former residence of type.....	81
NTP75 does not possess right of type.....	82
NTP76 does not have contact point of type.....	82
NTP79 beginning is not qualified by note of type.....	82
NTP80 end is not qualified by note of type.....	83
NTP89 does not fall within place of type.....	83
NTP92 did not bring into existence persistent item of type.....	84
NTP93 did not take out of existence persistent item of type.....	84
NTP94 has not created conceptual object of type.....	85

NTP95 has not formed group of type.....	85
NTP96 not by mother of type.....	85
NTP97 not from father of type.....	86
NTP98 did not bring into life person of type.....	86
NTP99 did not dissolve group of type.....	87
NTP100 was not death of person of type.....	87
NTP101 did not have general use of type.....	87
NTP102 does not have title of type.....	88
NTP103 was not intended for.....	88
NTP104 is not subject to right of type.....	89
NTP105 right is not held by actor of type.....	89
NTP106 is not composed of symbolic object of type.....	90
NTP107 does not have current or former member of type.....	90
NTP108 has not produced physical human-made thing of type.....	90
NTP109 does not have current or former curator of type.....	91
NTP110 did not augment physical human-made thing of type.....	91
NTP111 did not add physical thing of type.....	92
NTP112 did not diminish physical human-made thing of type.....	92
NTP113 did not remove physical thing of type.....	93
NTP121 does not overlap with place of type.....	93
NTP122 does not border with place of type.....	93
NTP123 did not result in persistent item of type.....	94
NTP124 did not transform persistent item of type.....	94
NTP125 did not use object of type.....	95
NTP126 did not employ material.....	95
NTP128 does not carry symbolic object of type.....	95
NTP129 is not about entity of type.....	96
NTP130 does not show features of thing of type.....	96
NTP134 did not continue activity of type.....	97
NTP137 does not exemplify.....	97
NTP138 does not represent entity of type.....	98
NTP139 does not have alternative form of type.....	98
NTP140 did not assign attribute to entity of type.....	98
NTP141 did not assign entity of type.....	99
NTP142 did not use constituent of type.....	99
NTP143 did not join actor of type.....	100
NTP144 did not join with group of type.....	100
NTP145 did not separate actor of type.....	101
NTP146 did not separate from group of type.....	101
NTP147 did not curate curated holding of type.....	101
NTP148 does not have component of type.....	102
NTP150 does not define typical parts of.....	102
NTP151 was not formed from group of type.....	103
NTP152 does not have parent of type.....	103
NTP157 is not at rest relative to physical thing of type.....	103
NTP165 does not incorporate symbolic object of type.....	104
NTP179 did not have sales price of monetary amount of type.....	104
NTP186 did not produce thing of product type.....	105
NTP187 does not have production plan of type.....	105
NTP188 does not require production tool of type.....	106
NTP190 does not have symbolic content of type.....	106
Amendments.....	107

# 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 7.1.1 maintained by CIDOC.

## Scope

This extension has been developed after analysis of registration and survey forms primarily for use in conservation documentation. While the initiative for its development started within a conservation documentation context, the principles considered apply to other contexts. The extension provides properties which allow making statements in the following cases:

- a) When recording instances is not possible but recording the types of those instances is. This could be the case when there are no resources or interest to record numerous instances of the same type. For example, it is often not possible to record every page marker of a historic book with many page markers, but it may be possible to record their types.
- b) When recording non-existence. This could be the case when a comprehensive observation of a situation confirms that there is no instance of a specific type. For example, when recording historic books, one may be able to confirm that there are no page markers on it after examining all leaves.

The use of these properties allows identification of contradictory information within a knowledge base on the existence and non-existence of instances.

## Status

The CIDOC-CRM SIG has approved the development of the extension. This is the current version of the development as proposed by the maintainers to be considered by the SIG.

## 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><sup>1</sup>, 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.

<table>

<sup>1</sup> 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 Property Declarations

## TP1 is identified by appellation 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, *P1 is identified by (identifies)*, E41 Appellation, *P2 has type*, E55 Type

Examples:

book is identified by an ISBN number

In First Order Logic:

$TP1(x,y) \Rightarrow E1(x)$

$TP1(x,y) \Rightarrow E55(y)$

$TP1(x,y) \Leftrightarrow (\exists z)[E41(z) \wedge P1(x,z) \wedge P2(z,y)]$

## 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 Logic:

$TP3(x,y) \Rightarrow E1(x)$

$TP3(x,y) \Rightarrow E55(y)$

$TP3(x,y) \Leftrightarrow (\exists z)[E62(z) \wedge P3(x,z) \wedge P2(z,y)]$

### TP4 has time-span of type

Domain:  
E2 Temporal Entity

Range:  
E55 Type

Superproperty of:  
todo

Subproperty of:  
todo

Quantification:  
todo

Scope note:  
This property is a shortcut of the fully developed path: E2 Temporal Entity, *P4 has time-span (is time-span of)*, E52 Time-Span, *P2 has type*, E55 Type

Examples:  
todo

In First Order Logic:  
 $TP4(x,y) \Rightarrow E2(x)$   
 $TP4(x,y) \Rightarrow E55(y)$   
 $TP4(x,y) \Leftrightarrow (\exists z)[E52(z) \wedge P4(x,z) \wedge P2(z,y)]$

### TP5 consists of condition state of type

Domain:  
E3 Condition State

Range:  
E55 Type

Superproperty of:  
todo

Subproperty of:  
todo

Quantification:  
todo

Scope note:  
This property is a shortcut of the fully developed path: E3 Condition State, *P5 consists of (forms part of)*, E3 Condition State, *P2 has type*, E55 Type

Examples:  
corroded condition of metal object consists of pitting

In First Order Logic:  
 $TP5(x,y) \Rightarrow E3(x)$   
 $TP5(x,y) \Rightarrow E55(y)$   
 $TP5(x,y) \Leftrightarrow (\exists z)[E3(z) \wedge P5(x,z) \wedge P2(z,y)]$

### TP7 took place at place 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, *P7 took place at (witnessed)*, E53 Place, *P2 has type*, E55 Type

Examples:

battle took place at a city

In First Order Logic:

$TP7(x,y) \Rightarrow E4(x)$

$TP7(x,y) \Rightarrow E55(y)$

$TP7(x,y) \Leftrightarrow (\exists z)[E53(z) \wedge P7(x,z) \wedge P2(z,y)]$

### **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:

$TP8(x,y) \Rightarrow E4(x)$

$TP8(x,y) \Rightarrow E55(y)$

$TP8(x,y) \Leftrightarrow (\exists z)[E18(z) \wedge P8(x,z) \wedge P2(z,y)]$

### **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:

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

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

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

### **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:

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

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

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

### **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:

$TP13(x,y) \Rightarrow E6(x)$

$TP13(x,y) \Rightarrow E55(y)$

$TP13(x,y) \Leftrightarrow (\exists z)[E18(z) \wedge P13(x,z) \wedge P2(z,y)]$

#### **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:

$TP14(x,y) \Rightarrow E7(x)$

$TP14(x,y) \Rightarrow E55(y)$

$TP14(x,y) \Leftrightarrow (\exists z)[E39(z) \wedge P14(x,z) \wedge P2(z,y)]$

#### **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:

$$\begin{aligned} \text{TP15}(x,y) &\Rightarrow \text{E7}(x) \\ \text{TP15}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP15}(x,y) &\Leftrightarrow (\exists z)[\text{E1}(z) \wedge \text{P15}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### **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:

$$\begin{aligned} \text{TP17}(x,y) &\Rightarrow \text{E7}(x) \\ \text{TP17}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP17}(x,y) &\Leftrightarrow (\exists z)[\text{E1}(z) \wedge \text{P17}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### **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:

$$\begin{aligned} \text{TP20}(x,y) &\Rightarrow \text{E7}(x) \\ \text{TP20}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP20}(x,y) &\Leftrightarrow (\exists z)[\text{E5}(z) \wedge \text{P20}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:  
 $TP22(x,y) \Rightarrow E8(x)$   
 $TP22(x,y) \Rightarrow E55(y)$   
 $TP22(x,y) \Leftrightarrow (\exists z)[E39(z) \wedge P22(x,z) \wedge P2(z,y)]$

### 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:  
 $TP23(x,y) \Rightarrow E8(x)$   
 $TP23(x,y) \Rightarrow E55(y)$   
 $TP23(x,y) \Leftrightarrow (\exists z)[E39(z) \wedge P23(x,z) \wedge P2(z,y)]$

### 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:

$TP24(x,y) \Rightarrow E8(x)$

$TP24(x,y) \Rightarrow E55(y)$

$TP24(x,y) \Leftrightarrow (\exists z)[E18(z) \wedge P24(x,z) \wedge P2(z,y)]$

### **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:

$TP25(x,y) \Rightarrow E9(x)$

$TP25(x,y) \Rightarrow E55(y)$

$TP25(x,y) \Leftrightarrow (\exists z)[E19(z) \wedge P25(x,z) \wedge P2(z,y)]$

### **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:

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

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

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

### **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:

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

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

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

### **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:

$TP28(x,y) \Rightarrow E10(x)$

$TP28(x,y) \Rightarrow E55(y)$

$TP28(x,y) \Leftrightarrow (\exists z)[E39(z) \wedge P28(x,z) \wedge P2(z,y)]$

### **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:

$TP29(x,y) \Rightarrow E10(x)$

$TP29(x,y) \Rightarrow E55(y)$

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

### **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:

$TP30(x,y) \Rightarrow E10(x)$

$TP30(x,y) \Rightarrow E55(y)$

$TP30(x,y) \Leftrightarrow (\exists z)[E18(z) \wedge P30(x,z) \wedge P2(z,y)]$

### **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:

$TP31(x,y) \Rightarrow E11(x)$

$TP31(x,y) \Rightarrow E55(y)$

$TP31(x,y) \Leftrightarrow (\exists z)[E18(z) \wedge P31(x,z) \wedge P2(z,y)]$

### **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:

$$\begin{aligned} \text{TP34}(x,y) &\Rightarrow \text{E14}(x) \\ \text{TP34}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP34}(x,y) &\Leftrightarrow (\exists z)[\text{E18}(z) \wedge \text{P34}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:

$$\begin{aligned} \text{TP35}(x,y) &\Rightarrow \text{E14}(x) \\ \text{TP35}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP35}(x,y) &\Leftrightarrow (\exists z)[\text{E3}(z) \wedge \text{P35}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### TP37 assigned identifier 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, *P37 assigned (was assigned by)*, E42 Identifier, *P2 has type*, E55 Type

Examples: assigned an ISBN to the book

In First Order Logic:

$$\begin{aligned} \text{TP37}(x,y) &\Rightarrow \text{E15}(x) \\ \text{TP37}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP37}(x,y) &\Leftrightarrow (\exists z)[\text{E42}(z) \wedge \text{P37}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### TP38 deassigned identifier 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, *P38 deassigned (was deassigned by)*, E42 Identifier, *P2 has type*, E55 Type

Examples:  
deassigned the ISBN of the book

In First Order Logic:  
 $TP38(x,y) \Rightarrow E15(x)$   
 $TP38(x,y) \Rightarrow E55(y)$   
 $TP38(x,y) \Leftrightarrow (\exists z)[E42(z) \wedge P38(x,z) \wedge P2(z,y)]$

### 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:  
 $TP39(x,y) \Rightarrow E16(x)$   
 $TP39(x,y) \Rightarrow E55(y)$   
 $TP39(x,y) \Leftrightarrow (\exists z)[E1(z) \wedge P39(x,z) \wedge P2(z,y)]$

### 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:

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

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

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

### **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:

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

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

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

### **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:

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

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

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

### **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:

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

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

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

### **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:

$TP46(x,y) \Rightarrow E18(x)$

$TP46(x,y) \Rightarrow E55(y)$

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

### **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:

$TP48(x,y) \Rightarrow E1(x)$

$TP48(x,y) \Rightarrow E55(y)$

$TP48(x,y) \Leftrightarrow (\exists z)[E42(z) \wedge P48(x,z) \wedge P2(z,y)]$

### **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:

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

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

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

### **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:

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

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

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

### **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:

$$\begin{aligned} \text{TP51}(x,y) &\Rightarrow \text{E18}(x) \\ \text{TP51}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP51}(x,y) &\Leftrightarrow (\exists z)[\text{E39}(z) \wedge \text{P51}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:

$$\begin{aligned} \text{TP52}(x,y) &\Rightarrow \text{E18}(x) \\ \text{TP52}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP52}(x,y) &\Leftrightarrow (\exists z)[\text{E39}(z) \wedge \text{P52}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:

$$\begin{aligned} \text{TP53}(x,y) &\Rightarrow \text{E18}(x) \\ \text{TP53}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP53}(x,y) &\Leftrightarrow (\exists z)[\text{E53}(z) \wedge \text{P53}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:  
 $TP54(x,y) \Rightarrow E19(x)$   
 $TP54(x,y) \Rightarrow E55(y)$   
 $TP54(x,y) \Leftrightarrow (\exists z)[E53(z) \wedge P54(x,z) \wedge P2(z,y)]$

### 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:  
 $TP55(x,y) \Rightarrow E19(x)$   
 $TP55(x,y) \Rightarrow E55(y)$   
 $TP55(x,y) \Leftrightarrow (\exists z)[E53(z) \wedge P55(x,z) \wedge P2(z,y)]$

### 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:  

$$\text{TP56}(x,y) \Rightarrow \text{E19}(x)$$

$$\text{TP56}(x,y) \Rightarrow \text{E55}(y)$$

$$\text{TP56}(x,y) \Leftrightarrow (\exists z)[\text{E26}(z) \wedge \text{P56}(x,z) \wedge \text{P2}(z,y)]$$

### **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:  

$$\text{TP59}(x,y) \Rightarrow \text{E18}(x)$$

$$\text{TP59}(x,y) \Rightarrow \text{E55}(y)$$

$$\text{TP59}(x,y) \Leftrightarrow (\exists z)[\text{E53}(z) \wedge \text{P59}(x,z) \wedge \text{P2}(z,y)]$$

### **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:

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

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

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

### **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:

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

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

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

### **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:

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

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

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

### **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:

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

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

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

### **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:

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

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

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

### **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:

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

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

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

### **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:

$$\begin{aligned} \text{TP73}(x,y) &\Rightarrow \text{E33}(x) \\ \text{TP73}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP73}(x,y) &\Leftrightarrow (\exists z)[\text{E33}(z) \wedge \text{P73}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

#### **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:

$$\begin{aligned} \text{TP74}(x,y) &\Rightarrow \text{E39}(x) \\ \text{TP74}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP74}(x,y) &\Leftrightarrow (\exists z)[\text{E53}(z) \wedge \text{P74}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

#### **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:

$$\begin{aligned} \text{TP75}(x,y) &\Rightarrow \text{E39}(x) \\ \text{TP75}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP75}(x,y) &\Leftrightarrow (\exists z)[\text{E30}(z) \wedge \text{P75}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$



### 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:  
 $TP76(x,y) \Rightarrow E39(x)$   
 $TP76(x,y) \Rightarrow E55(y)$   
 $TP76(x,y) \Leftrightarrow (\exists z)[E41(z) \wedge P76(x,z) \wedge P2(z,y)]$

### 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:  
 $TP79(x,y) \Rightarrow E52(x)$   
 $TP79(x,y) \Rightarrow E55(y)$   
 $TP79(x,y) \Leftrightarrow (\exists z)[E62(z) \wedge P79(x,z) \wedge P2(z,y)]$

### 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:

$TP80(x,y) \Rightarrow E52(x)$

$TP80(x,y) \Rightarrow E55(y)$

$TP80(x,y) \Leftrightarrow (\exists z)[E62(z) \wedge P80(x,z) \wedge P2(z,y)]$

### **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:

$TP89(x,y) \Rightarrow E53(x)$

$TP89(x,y) \Rightarrow E55(y)$

$TP89(x,y) \Leftrightarrow (\exists z)[E53(z) \wedge P89(x,z) \wedge P2(z,y)]$

### **TP92 brought into existence persistent item of type**

Domain:

E63 Beginning 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: 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:

$TP92(x,y) \Rightarrow E63(x)$

$TP92(x,y) \Rightarrow E55(y)$

$TP92(x,y) \Leftrightarrow (\exists z)[E77(z) \wedge P92(x,z) \wedge P2(z,y)]$

### **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:

$TP93(x,y) \Rightarrow E64(x)$

$TP93(x,y) \Rightarrow E55(y)$

$TP93(x,y) \Leftrightarrow (\exists z)[E77(z) \wedge P93(x,z) \wedge P2(z,y)]$

### **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:

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

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

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

### **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:

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

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

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

### **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:

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

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

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

### **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:

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

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

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

### **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:

$$\begin{aligned} \text{TP98}(x,y) &\Rightarrow \text{E67}(x) \\ \text{TP98}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP98}(x,y) &\Leftrightarrow (\exists z)[\text{E21}(z) \wedge \text{P98}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:

$$\begin{aligned} \text{TP99}(x,y) &\Rightarrow \text{E68}(x) \\ \text{TP99}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP99}(x,y) &\Leftrightarrow (\exists z)[\text{E74}(z) \wedge \text{P99}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:

$$\begin{aligned} \text{TP100}(x,y) &\Rightarrow \text{E69}(x) \\ \text{TP100}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP100}(x,y) &\Leftrightarrow (\exists z)[\text{E21}(z) \wedge \text{P100}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:  
 $TP102(x,y) \Rightarrow E71(x)$   
 $TP102(x,y) \Rightarrow E55(y)$   
 $TP102(x,y) \Leftrightarrow (\exists z)[E35(z) \wedge P102(x,z) \wedge P2(z,y)]$

### 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:  
 $TP104(x,y) \Rightarrow E72(x)$   
 $TP104(x,y) \Rightarrow E55(y)$   
 $TP104(x,y) \Leftrightarrow (\exists z)[E30(z) \wedge P104(x,z) \wedge P2(z,y)]$

### 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:

$TP105(x,y) \Rightarrow E72(x)$

$TP105(x,y) \Rightarrow E55(y)$

$TP105(x,y) \Leftrightarrow (\exists z)[E39(z) \wedge P105(x,z) \wedge P2(z,y)]$

### **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:

$TP106(x,y) \Rightarrow E90(x)$

$TP106(x,y) \Rightarrow E55(y)$

$TP106(x,y) \Leftrightarrow (\exists z)[E90(z) \wedge P106(x,z) \wedge P2(z,y)]$

### **TP107 has current or former member of type**

Domain:

E74 Group

Range:

E55 Type

Superproperty of:

todo

Subproperty of:



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:

$TP107(x,y) \Rightarrow E74(x)$

$TP107(x,y) \Rightarrow E55(y)$

$TP107(x,y) \Leftrightarrow (\exists z)[E39(z) \wedge P107(x,z) \wedge P2(z,y)]$

### **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:

$TP108(x,y) \Rightarrow E12(x)$

$TP108(x,y) \Rightarrow E55(y)$

$TP108(x,y) \Leftrightarrow (\exists z)[E24(z) \wedge P108(x,z) \wedge P2(z,y)]$

### **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:

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

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

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

### **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:

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

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

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

### **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:

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

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

$TP111(x,y) \Leftrightarrow (\exists z)[E18(z) \wedge P111(x,z) \wedge P2(z,y)]$

### **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:

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

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

$TP112(x,y) \Leftrightarrow (\exists z)[E24(z) \wedge P112(x,z) \wedge P2(z,y)]$

### **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:

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

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

$TP113(x,y) \Leftrightarrow (\exists z)[E18(z) \wedge P113(x,z) \wedge P2(z,y)]$

### **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:

$TP121(x,y) \Rightarrow E53(x)$

$TP121(x,y) \Rightarrow E55(y)$

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

### **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:

$$\begin{aligned} \text{TP122}(x,y) &\Rightarrow \text{E53}(x) \\ \text{TP122}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP122}(x,y) &\Leftrightarrow (\exists z)[\text{E53}(z) \wedge \text{P122}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:

$$\begin{aligned} \text{TP123}(x,y) &\Rightarrow \text{E81}(x) \\ \text{TP123}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP123}(x,y) &\Leftrightarrow (\exists z)[\text{E77}(z) \wedge \text{P123}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:

$$\begin{aligned} \text{TP124}(x,y) &\Rightarrow \text{E81}(x) \\ \text{TP124}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP124}(x,y) &\Leftrightarrow (\exists z)[\text{E77}(z) \wedge \text{P124}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### **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:

$TP128(x,y) \Rightarrow E18(x)$

$TP128(x,y) \Rightarrow E55(y)$

$TP128(x,y) \Leftrightarrow (\exists z)[E90(z) \wedge P128(x,z) \wedge P2(z,y)]$

### **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:

$TP129(x,y) \Rightarrow E89(x)$

$TP129(x,y) \Rightarrow E55(y)$

$TP129(x,y) \Leftrightarrow (\exists z)[E1(z) \wedge P129(x,z) \wedge P2(z,y)]$

### **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:

$TP130(x,y) \Rightarrow E70(x)$

$TP130(x,y) \Rightarrow E55(y)$

$TP130(x,y) \Leftrightarrow (\exists z)[E70(z) \wedge P130(x,z) \wedge P2(z,y)]$

### **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:

$TP134(x,y) \Rightarrow E7(x)$

$TP134(x,y) \Rightarrow E55(y)$

$TP134(x,y) \Leftrightarrow (\exists z)[E7(z) \wedge P134(x,z) \wedge P2(z,y)]$

### **TP138 represents entity of type**

Domain:

E36 Visual Item

Range:

E55 Type

Superproperty of:

todo

Subproperty of:

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:

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

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

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

### **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:

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

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

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

### **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:

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

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

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

### **TP141 assigned 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, *P141 assigned (was assigned by)*, E1 CRM Entity, *P2 has type*, E55 Type

Examples:

assessed condition

In First Order Logic:

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

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

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

### **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:

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

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

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

### **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:

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

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

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

### **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:

$$\begin{aligned} \text{TP144}(x,y) &\Rightarrow \text{E85}(x) \\ \text{TP144}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP144}(x,y) &\Leftrightarrow (\exists z)[\text{E74}(z) \wedge \text{P144}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:

$$\begin{aligned} \text{TP145}(x,y) &\Rightarrow \text{E86}(x) \\ \text{TP145}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP145}(x,y) &\Leftrightarrow (\exists z)[\text{E39}(z) \wedge \text{P145}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:

$$\begin{aligned} \text{TP146}(x,y) &\Rightarrow \text{E86}(x) \\ \text{TP146}(x,y) &\Rightarrow \text{E55}(y) \\ \text{TP146}(x,y) &\Leftrightarrow (\exists z)[\text{E74}(z) \wedge \text{P146}(x,z) \wedge \text{P2}(z,y)] \end{aligned}$$

### 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:  
 $TP147(x,y) \Rightarrow E87(x)$   
 $TP147(x,y) \Rightarrow E55(y)$   
 $TP147(x,y) \Leftrightarrow (\exists z)[E78(z) \wedge P147(x,z) \wedge P2(z,y)]$

### 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:  
 $TP148(x,y) \Rightarrow E89(x)$   
 $TP148(x,y) \Rightarrow E55(y)$   
 $TP148(x,y) \Leftrightarrow (\exists z)[E89(z) \wedge P148(x,z) \wedge P2(z,y)]$

### 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:  

$$\text{TP151}(x,y) \Rightarrow \text{E66}(x)$$

$$\text{TP151}(x,y) \Rightarrow \text{E55}(y)$$

$$\text{TP151}(x,y) \Leftrightarrow (\exists z)[\text{E74}(z) \wedge \text{P151}(x,z) \wedge \text{P2}(z,y)]$$

### **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:  

$$\text{TP152}(x,y) \Rightarrow \text{E21}(x)$$

$$\text{TP152}(x,y) \Rightarrow \text{E55}(y)$$

$$\text{TP152}(x,y) \Leftrightarrow (\exists z)[\text{E21}(z) \wedge \text{P152}(x,z) \wedge \text{P2}(z,y)]$$

### **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:

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

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

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

### **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:

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

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

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

### **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:

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

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

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

### **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:

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

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

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

### **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:

$TP188(x,y) \Rightarrow E99(x)$

$TP188(x,y) \Rightarrow E55(y)$

$TP188(x,y) \Leftrightarrow (\exists z)[E19(z) \wedge P188(x,z) \wedge P2(z,y)]$

### **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:

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

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

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

### **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 Logic:

$NTP2(x,y) \Rightarrow E1(x)$   
 $NTP2(x,y) \Rightarrow E55(y)$

**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 Logic:

$NTP3(x,y) \Rightarrow E1(x)$   
 $NTP3(x,y) \Rightarrow E55(y)$

**NTP4 does not have time-span of type**

Domain:

E2 Temporal Entity

Range:

### E55 Type

Superproperty of:

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

Superproperty of: todo

Subproperty of: todo

Quantification: todo

Scope note: scope note goes here

Examples: todo

In First Order Logic:  
 $NTP22(x,y) \Rightarrow E8(x)$   
 $NTP22(x,y) \Rightarrow E55(y)$

### **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 Logic:  
 $NTP23(x,y) \Rightarrow E8(x)$   
 $NTP23(x,y) \Rightarrow E55(y)$

### **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:

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: 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 Logic:  
 $NTP27(x,y) \Rightarrow E9(x)$   
 $NTP27(x,y) \Rightarrow E55(y)$

**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 Logic:  
 $NTP28(x,y) \Rightarrow E10(x)$   
 $NTP28(x,y) \Rightarrow E55(y)$

**NTP29 custody was not received by actor of type**

Domain: E10 Transfer of Custody

Range: E55 Type

Superproperty of:

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 Assignment

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 Assignment

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:  
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:  
 $NTP49(x,y) \Rightarrow E18(x)$   
 $NTP49(x,y) \Rightarrow E55(y)$

**NTP50 does not have current keeper of type**

Domain:  
E18 Physical Thing

Range:  
E55 Type

Superproperty of:  
todo

Subproperty of:  
todo

Quantification:  
todo

Scope note:  
scope note goes here

Examples:  
todo

In First Order Logic:  
 $NTP50(x,y) \Rightarrow E18(x)$   
 $NTP50(x,y) \Rightarrow E55(y)$

**NTP51 does not have former or current owner of type**

Domain:  
E18 Physical Thing

Range:  
E55 Type

Superproperty of:

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

Quantification:

todo

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 Logic:

$NTP75(x,y) \Rightarrow E39(x)$   
 $NTP75(x,y) \Rightarrow E55(y)$

**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 Logic:

$NTP76(x,y) \Rightarrow E39(x)$   
 $NTP76(x,y) \Rightarrow E55(y)$

**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:

$\text{NTP79}(x,y) \Rightarrow \text{E52}(x)$

$\text{NTP79}(x,y) \Rightarrow \text{E55}(y)$

### **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:

$\text{NTP80}(x,y) \Rightarrow \text{E52}(x)$

$\text{NTP80}(x,y) \Rightarrow \text{E55}(y)$

### **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:  
E65 Creation

Range:  
E55 Type

Superproperty of:  
todo

Subproperty of:  
todo

Quantification:  
todo

Scope note:  
scope note goes here

Examples:  
iliad's composition has not created a theatre play

In First Order Logic:  
 $NTP94(x,y) \Rightarrow E65(x)$   
 $NTP94(x,y) \Rightarrow E55(y)$

### **NTP95 has not formed group of type**

Domain:  
E66 Formation

Range:  
E55 Type

Superproperty of:  
todo

Subproperty of:  
todo

Quantification:  
todo

Scope note:  
scope note goes here

Examples:  
elections has not formed group of type local government (i.e. general elections as opposed to council

In First Order Logic:  
 $NTP95(x,y) \Rightarrow E66(x)$   
 $NTP95(x,y) \Rightarrow E55(y)$

### **NTP96 not by mother 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:

$\text{NTP96}(x,y) \Rightarrow \text{E67}(x)$

$\text{NTP96}(x,y) \Rightarrow \text{E55}(y)$

### **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:

$\text{NTP97}(x,y) \Rightarrow \text{E67}(x)$

$\text{NTP97}(x,y) \Rightarrow \text{E55}(y)$

### **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:

scope note goes here

Examples:

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:

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

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

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

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:

todo

Quantification:

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

Subproperty of:

todo

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

Examples:

specimen XX is not a TYPE specimen for species XXX

In First Order Logic:



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

**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 Logic:  
 $NTP138(x,y) \Rightarrow E36(x)$   
 $NTP138(x,y) \Rightarrow E55(y)$

**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 Logic:  
 $NTP139(x,y) \Rightarrow E41(x)$   
 $NTP139(x,y) \Rightarrow E55(y)$

**NTP140 did not assign attribute to entity of type**

Domain:  
E13 Attribute Assignment

Range:  
E55 Type

Superproperty of:

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 Assignment

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:  
 $\text{NTP145}(x,y) \Rightarrow \text{E86}(x)$   
 $\text{NTP145}(x,y) \Rightarrow \text{E55}(y)$

### **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:  
 $\text{NTP146}(x,y) \Rightarrow \text{E86}(x)$   
 $\text{NTP146}(x,y) \Rightarrow \text{E55}(y)$

### **NTP147 did not curate curated holding of type**

Domain: E87 Curation Activity

Range: E55 Type

Superproperty of: todo

Subproperty of:

todo

Quantification:

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 Logic:

$NTP188(x,y) \Rightarrow E99(x)$   
 $NTP188(x,y) \Rightarrow E55(y)$

**NTP190 does 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 Logic:

$NTP190(x,y) \Rightarrow E90(x)$   
 $NTP190(x,y) \Rightarrow E55(y)$

## **Amendments**