

LRMoo (formerly FRBRoo)

***object-oriented definition and
mapping from IFLA LRM
(version 0.7)***

**International Working Group on LRM, FRBR and CIDOC CRM
Harmonisation**

Draft 0.7, June 2021

Editors:

Chryssoula Bekiari

Martin Doerr

Patrick Le Bœuf

Pat Riva

Contributors:

Trond Aalberg, Chryssoula Bekiari, George Bruseker,

Martin Doerr, Günther Görz, Patrick Le Bœuf,

Mika Nyman, Christian Emil Ore, Pat Riva,

Mélanie Roche, Richard Smiraglia, Stephen Stead,

Athanasios Velios, Maja Žumer, and others

June 2021 (SIG50)

Index

INDEX.....	3
FOREWORD.....	7
1. INTRODUCTION.....	8
2. DESCRIPTION OF THE MODEL.....	9
2.2. Naming Conventions.....	10
2.3. Property Quantifiers.....	11
2.4. Presentation Conventions.....	12
2.5. Class & Property Hierarchies.....	12
2.5.1. LRMOO Class Hierarchy.....	13
2.5.2. LRMOO Class Hierarchy Aligned with (Part of) CIDOC CRM Class Hierarchy.....	13
2.5.3. LRMOO Property Hierarchy.....	14
2.5.4. LRMOO Property Hierarchy Aligned with (Part of) CIDOC CRM Property Hierarchy.....	17
2.6. LRMOO Class Declaration.....	18
F1 Work.....	19
F2 Expression.....	19
F3 Manifestation	20
F4 Manifestation Singleton (Deprecated).....	21
F5 Item.....	21
F6 Concept (Deprecated).....	22
F7 Object (Deprecated).....	22
F8 Event (Deprecated).....	22
F9 Place (Deprecated).....	22
F10 Person (Deprecated).....	23
F11 Corporate Body.....	23
F12 Nomen.....	23
F13 Identifier (Deprecated).....	25
F14 Individual Work (Deprecated).....	25
F15 Complex Work (Deprecated).....	25
F16 Container Work (Deprecated).....	25
F17 Aggregation Work (Deprecated).....	25
F18 Serial Work.....	25
F19 Publication Work (Deprecated).....	26
F20 Performance Work (Deprecated).....	26
F21 Recording Work (Deprecated).....	26
F22 Self-Contained Expression (Deprecated).....	26
F23 Expression Fragment (Deprecated).....	26
F24 Publication Expression (Deprecated).....	26
F25 Performance Plan (Deprecated).....	26
F26 Recording (Deprecated).....	26
F27 Work Conception.....	26
F28 Expression Creation.....	26

F29 Recording Event.....	27
F30 Manifestation Creation.....	28
F31 Performance.....	28
F32 Carrier Production Event.....	28
F33 Reproduction Event.....	29
F34 Controlled Vocabulary.....	30
F35 Nomen Use Statement (Deprecated).....	30
F36 Script Conversion.....	30
F38 Character (CRMsoc).....	30
F39 Family.....	30
F40 Identifier Assignment (Deprecated).....	31
F42 Representative Expression Assignment (Deprecated).....	31
F44 Bibliographic Agency (Deprecated).....	31
F50 Controlled Access Point (Deprecated).....	31
F51 Pursuit (CRMsoc).....	31
F52 Name Use Activity (CRMsoc).....	31
F53 Material Copy (Deprecated).....	32
F54 Utilised Information Carrier (Deprecated).....	32
F55 Collective Agent.....	32
F56 Externalization Event.....	33
2.7. LRMOO Property Declaration.....	34
R1 is logical successor of (has successor).....	35
R2 is derivative of (has derivative).....	35
R3 is realised in (realises).....	35
R4 embodies (is embodied in)	36
R5 has component (is component of).....	37
R6 carries (is carried by) (Deprecated).....	37
R7 is materialization of (is materialized in).....	37
R8 combines (is combined to form).....	38
R9 is realised in (realises) (Deprecated).....	38
R10 has member (is member of) (Deprecate).....	38
R11 has issuing rule (is issuing rule of).....	39
R12 is realised in (realises) (Deprecated).....	39
R13 is realised in (realises) (Deprecated).....	39
R15 has fragment (is fragment of).....	39
R16 initiated (was initiated by).....	40
R17 created (was created by).....	41
R18 created (was created by).....	41
R19 created a realisation of (was realised through).....	42
R20 recorded (was recorded through).....	42
R21 created (was created through) (Deprecated).....	43
R22 created a realisation of (was realised through) (Deprecated).....	43
R23 created a realisation of (was realised through) (Deprecated).....	43
R24 created (was created through).....	43
R25 performed (was performed in) (Deprecated).....	43
R26 produced things of type (was produced by).....	43
R27 materialized (was materialized by).....	44
R28 produced (was produced by).....	44
R29 reproduced object (was object reproduced by).....	44
R30 reproduced publication (was publication reproduced by).....	45
R31 is reproduction of (has reproduction) (Deprecated).....	45
R32 is warranted by (warrants) (Deprecated).....	45
R33 has content.....	45
R34 has validity period (is validity period of).....	45
R35 is specified by (specifies).....	46
R36 uses script conversion (is script conversion used in).....	46
R37 states as nomen (is stated as nomen in) (Deprecated).....	47
R38 refers to thema (is thema of) (Deprecated).....	47

R39 is intended for (is target audience in) (Deprecated).....	47
R40 has representative expression (is representative expression for) (Deprecated).....	47
R41 has representative manifestation product type (is representative manifestation product type for) (Deprecated).....	47
R42 is representative manifestation singleton for (has representative manifestation singleton) (Deprecated).....	47
R43 carried out by (performed) (Deprecated).....	47
R44 carried out by (performed) (Deprecated).....	47
R45 assigned to (was assigned by) (CRMsoc).....	47
R46 assigned (was assigned by) (Deprecated).....	47
R48 assigned to (was assigned by) (Deprecated).....	47
R49 assigned (was assigned by) (Deprecated).....	47
R50 assigned to (was assigned by) (Deprecated).....	48
R51 assigned (was assigned by) (Deprecated).....	48
R52 used rule (was the rule used in) (Deprecated).....	48
R53 assigned (was assigned by) (Deprecated).....	48
R54 has language (is language of).....	48
R55 has nomen form (is nomen form in) (Deprecated).....	48
R56 hasis related touse (is related touse for).....	48
R57 is based on (is basis for) (CRMsoc).....	49
R58 has fictional member (is fictional member of) (CRMsoc).....	50
R59 had typical subject (was typical subject of) (CRMsoc).....	50
R60 used to use language (was language used by) (CRMsoc).....	50
R61 occurred in kind of context (was kind of context for) (CRMsoc).....	51
R62 was used for membership in (was context for) (CRMsoc).....	51
R63 named (was named by) (CRMsoc).....	51
R64 used name (was name used by) (CRMsoc).....	52
R65 recorded aspects of (had aspects recorded through) (Deprecate).....	52
R66 included performed version of (had a performed version through).....	53
R67 has part (forms part of).....	53
R68 is inspired by (is inspiration for).....	54
R69 specifieshas physical form (is specified physical form of).....	54
R70 specifieshas dimension (is specified dimension of).....	55
CLP45 should consist of (should be incorporated in) (Deprecated).....	56
R71 specifies materialhas part (is specified material part of).....	56
R72 specifies number of parts (is the specified number of parts for) (Deprecate).....	56
CLP104 subject to (applies to) (Deprecated).....	57
CLP105 right held by (right on) (Deprecated).....	57
CLR6 should carry (should be carried by) (Deprecated).....	57
R73 takes representative attribute from (bears representative attribute for).....	57
Rnn has elaboration (is elaboration of) (Deprecate).....	57
R74 uses expression fromof (has expression used in).....	58
R75 incorporates external expression (is external expression incorporated in).....	58
Rnn3 was remembered in (contains memory of).....	58
3. LRMER TO LRMOO MAPPING.....	60
1 Entities	60
2 Attributes.....	60
3 Relationships.....	60
4. REFERRED TO CIDOC CRM CLASSES AND PROPERTIES.....	61
4.1. List of Referred to CIDOC CRM Classes.....	61
4.2. List of Referred to CIDOC CRM Properties.....	61

4.3. List of Classes Transferred to CRMsoc.....	61
4.4. List of Properties Transferred to CRMsoc.....	61
5. MIGRATION INSTRUCTIONS FOR FRBROO CLASSES AND PROPERTIES.....	62

Index of Figures

Foreword

[PR: to be revised, once main text is stabilized]

This document contains a comprehensive description of the object-oriented definition of IFLA LRM, a model in the form of a formal ontology interpreting LRM for specific purposes, as analysed below. The document comprises the following sections:

- Section 1, The Introduction, describes the rationale, history and methodology of the development of this model.
- Section 2, The Description of the Model, explains the model in context from a functional perspective with the help of a comprehensive graphical representation of all constructs, describes the format conventions for the formal specifications, and lists the complete class and property definitions that make up the model. Whereas the first serves an overall understanding, the second is the reference for the individual declarations. Here a first reading may stop.
- Section 3 describes the mapping of the IFLA LRM entity-relationship model to the object-oriented model LRM_{oo}. This section defines the transition from one form to the other, and serves as information for further understanding of the intended meaning of the object-oriented definition. It is also a proof that the object-oriented form is an alternative view of the IFLA LRM model, and a proof of completeness of the object-oriented form with respect to the original.
- Since the object-oriented model reuses, wherever appropriate, large parts of ISO 21127, the CIDOC Conceptual Reference Model, section 4 provides a comprehensive list of all constructs used from ISO 21127. Some of these constructs appear only in the mapping in section 3 and not in section 2, because they are generic in nature.
- Section 5 traces changes that were made between FRBRoo and the LRMoo model.
- Section 6 provides a bibliography.

1. Introduction

[PR: a new introduction to be written]

2. Description of the Model

[PR: a new model overview to be written]

2.2. Naming Conventions

[PR: revised, new text added re non-reuse of identifiers]

All the classes declared were given both a name and an identifier constructed according to the conventions used in the CIDOC CRM model. For classes, that identifier consists of the letter F followed by a number. Resulting properties were also given a name and an identifier, constructed according to the same conventions. That identifier consists of the letter R followed by a number, which in turn is followed by the letter “i” every time the property is mentioned in its “inverted” form, i.e., from target to domain. “F” and “R” were chosen during the development of FRBR₀₀ and are to be understood as the first two letters of “FRBR”. This choice does not have any other meaning. They correspond respectively to the letters “E” and “P” in the CIDOC CRM naming conventions, where “E” originally meant “entity” (although the CIDOC CRM “entities” are now consistently called “classes”), and “P” means “property”.

Since LRM₀₀ developed from FRBR₀₀, the same identifiers already assigned to classes and properties in FRBR₀₀ are retained when those classes and properties continue to be defined in LRM₀₀. The identifiers for those classes and properties defined in FRBR₀₀ that are deprecated in LRM₀₀ are not reused, even though this results in gaps in the numbering. All classes and properties newly declared in LRM₀₀ are assigned the next available identifier at the end of the sequence.

As in CIDOC CRM, properties with the character of states are named in the present tense, such as “embodies” ~~“has validity period”~~, whereas properties related to events are named in the past tense, such as “created a realisation of”.

All classes and properties that were borrowed directly from the CIDOC CRM are named as in CIDOC CRM, i.e., with an identifier beginning with “E” if it is a class, or “P” if it is a property, and with the original appellation for the class or property in CIDOC CRM.

The choice of the domain of properties, and hence the order of their names, are established in accordance with the following priority list:

- Temporal Entity and its subclasses
- Thing and its subclasses
- Actor and its subclasses
- Other

2.3. Property Quantifiers

Quantifiers for properties are provided for the purpose of semantic clarification only, and should **not** be treated as implementation recommendations. Therefore the term “cardinality constraints” is avoided here, as it typically pertains to implementations.

The following table lists all possible property quantifiers occurring in this document by their notation, together with an explanation in plain words. In order to provide optimal clarity, two widely accepted notations are used redundantly in this document, a verbal and a numeric one. The verbal notation uses phrases such as “one to many”, and the numeric one, expressions such as “(0,n:0,1)”. While the terms “one”, “many” and “necessary” are quite intuitive, the term “dependent” denotes a situation where a range instance cannot exist without an instance of the respective property. In other words, the property is “necessary” for its range.

many to many (0,n:0,n)	Unconstrained: An individual domain instance and range instance of this property can have zero, one or more instances of this property. In other words, this property is optional and repeatable for its domain and range.
one to many (0,n:0,1)	An individual domain instance of this property can have zero, one or more instances of this property, but an individual range instance cannot be referenced by more than one instance of this property. In other words, this property is optional for its domain and range, but repeatable for its domain only. In some contexts this situation is called a “fan-out”.
many to one (0,1:0,n)	An individual domain instance of this property can have zero or one instance of this property, but an individual range instance can be referenced by zero, one or more instances of this property. In other words, this property is optional for its domain and range, but repeatable for its range only. In some contexts this situation is called a “fan-in”.
many to many, necessary (1,n:0,n)	An individual domain instance of this property can have one or more instances of this property, but an individual range instance can have zero, one or more instances of this property. In other words, this property is necessary and repeatable for its domain, and optional and repeatable for its range.
one to many, necessary (1,n:0,1)	An individual domain instance of this property can have one or more instances of this property, but an individual range instance cannot be referenced by more than one instance of this property. In other words, this property is necessary and repeatable for its domain, and optional but not repeatable for its range. In some contexts this situation is called a “fan-out”.
many to one, necessary (1,1:0,n)	An individual domain instance of this property must have exactly one instance of this property, but an individual range instance can be referenced by zero, one or more instances of this property. In other words, this property is necessary and not repeatable for its domain, and optional and repeatable for its range. In some contexts this situation is called a “fan-in”.
one to many, dependent (0,n:1,1)	An individual domain instance of this property can have zero, one or more instances of this property, but an individual range instance must be referenced by exactly one instance of this property. In other words, this property is optional and repeatable for its domain, but necessary and not repeatable for its range. In some contexts this situation is called a “fan-out”.
one to many, necessary, dependent (1,n:1,1)	An individual domain instance of this property can have one or more instances of this property, but an individual range instance must be referenced by exactly one instance of this property. In other words, this property is necessary and repeatable for its domain, and necessary but not repeatable for its range. In some contexts this situation is called a “fan-out”.
many to one, necessary, dependent (1,1:1,n)	An individual domain instance of this property must have exactly one instance of this property, but an individual range instance can be referenced by one or more instances of this property. In other words, this property is necessary and not repeatable for its domain, and necessary and repeatable for its range. In some contexts this situation is called a “fan-in”.
many to many, necessary,	Both an individual domain instance of this property and an individual range instance can have one or more instances of this property. In other words, this property is necessary and

dependent (1,n:1,n)	repeatable for both its domain and its range.
one to one (1,1:1,1)	An individual domain instance and range instance of this property must have exactly one instance of this property. In other words, this property is necessary and not repeatable for its domain and for its range.
many to two (2,n:0,n)	An individual domain instance of this property must have at least two instances of this property, but an individual range instance can be referenced by zero, one or more instances of this property.

Some properties are defined as being **necessary** for their **domain** or as being **dependent** from their **range**, following the definitions in the table above. Note that if such a property is not specified for an instance of the respective domain or range, it means that the property exists, but the value on one side of the property is unknown. In the case of optional properties, the methodology proposed by LRM₀₀ does not distinguish between a value being unknown or the property not being applicable at all.

2.4. Presentation Conventions

All instances of E41 Appellation are presented within single quotation marks, whether they are used for themselves or just to refer to the things they name. Any punctuation mark that follows an instance of E41 Appellation is placed outside the single quotation marks, as it does not belong to the appellation itself.

Furthermore, all references to instances of E90 Symbolic Object in the form of a content model are presented within single quotation marks, such as ‘abc’. By content model we mean the symbol sequence the symbolic object consists of.

British spelling is used throughout the original English version of this document, except for occasional quotations and examples.

Double quotation marks are used to indicate an informal name or term. E.g.: *The “lower member” consists of sandstone with minor shale.*

2.5. Class & Property Hierarchies

[PR: text to be reviewed based on format adopted for the hierarchies]

Although they do not provide comprehensive definitions, compact monohierarchical presentations of the class and property isA hierarchies have been found to significantly aid in the comprehension and navigation of LRM₀₀, and are therefore provided below.

The class hierarchy presented below has the following format:

- Each line begins with a unique class identifier, consisting of a number preceded by the letter “F”.
- A series of em dashes (“—”) follows the unique class identifier, indicating the hierarchical position of the class in the isA hierarchy.
- The English name of the class appears to the right of the em dashes.
- The index is ordered by hierarchical level, in a “depth first” manner, from the smaller to the larger subhierarchies.
- Classes that appear in more than one position in the class hierarchy as a result of multiple inheritance are shown first in roman typeface, then in italic typeface.

The property hierarchy presented below has the following format:

- Each line begins with a unique property identifier, consisting of a number preceded by the letter “R”.
- A series of em dashes (“—”) follows the unique property identifier, indicating the hierarchical position of the property in the isA hierarchy.
- The English name of the property appears to the right of the em dashes, followed by its inverse name in parentheses for reading in the range to domain direction.
- The domain class for which the property is declared.
- The range class that the property references.
- The index is ordered by hierarchical level, in a “depth first” manner, from the smaller to the larger subhierarchies, and by property number between equal siblings.
- Properties that appear in more than one position in the property hierarchy as a result of multiple inheritance are shown in an italic typeface.

In LRM_{oo} class and property hierarchies aligned with CIDOC CRM class and property hierarchies, distinct layouts are used for classes and properties from LRM_{oo}, on the one hand, and for classes and properties from CIDOC CRM, on the other hand.

2.5.1. LRM_{oo} Class Hierarchy

[PR: updated up to 2021-06-29; includes SIG#50 proposals and results. Classes to transfer to CRM_{soc} are highlighted in blue.]

F1	Work			
F18	—	Serial Work		
F2	Expression			
F3	—	Manifestation		
F34	—	Controlled Vocabulary		
F5	Item			
F12	Nomen			
F27	Work Conception			
F28	Expression Creation			
F29	—	Recording Event		
F30	—	Manifestation Creation		
F33	—	—	Reproduction Event	
F32	Carrier Production Event			
F33	<i>Reproduction Event</i>			
F34	<i>Controlled Vocabulary</i>			
F36	Script Conversion			
Soc	Character			
F38				
F55	Collective Agent			
F11	—	Corporate Body		
F39	—	Family		
F56	Externalization Event			
F28	—	<i>Expression Creation</i>		
F29	—	—	<i>Recording Event</i>	
F30	—	—	<i>Manifestation Creation</i>	
F33	—	—	—	<i>Reproduction Event</i>
F31	—	Performance		
Soc	Pursuit			
F51				
Soc	Name Use Activity			
F52				

2.5.2. LRM_{oo} Class Hierarchy Aligned with (Part of) CIDOC CRM Class Hierarchy

LRM_{oo} class hierarchy with CIDOC CRM 7.1.1 direct superclasses added as the first column. Retained order by F class numbers.

[PR: updated up to 2021-06-29; includes SIG#50 proposals and results. Classes to transfer to CRM_{soc} are highlighted in blue.]

E89	Propositional Object	F1	Work	
		F18	—	Serial Work
E73	Information Object	F2	Expression	
		F3	—	Manifestation
		F34	—	Controlled Vocabulary

E24	Physical Human-Made Thing	F5	Item		
E89	Propositional Object	F12	Nomen		
E65	Creation	F27	Work Conception		
E65	Creation	F28	Expression Creation		
		F29	—	Recording Event	
		F30	—	Manifestation Creation	
		F33	—	—	Reproduction Event
E12	Production	F28	<i>Expression Creation</i>		
		F29	—	<i>Recording Event</i>	
		F30	—	<i>Manifestation Creation</i>	
		F33	—	—	<i>Reproduction Event</i>
E12	Production	F32	Carrier Production Event		
E12	Production	F33	<i>Reproduction Event</i>		
E29	Design or Procedure	F34	<i>Controlled Vocabulary</i>		
E32	Authority Document	F34	<i>Controlled Vocabulary</i>		
E29	Design or Procedure	F36	Script Conversion		
E28	Conceptual Object	Soc F38	Character		
E74	Group	F55	Collective Agent		
		F11	—	Corporate Body	
		F39	—	Family	
E7	Activity	F56	Externalization Event		
		F28	—	<i>Expression Creation</i>	
		F29	—	—	<i>Recording Event</i>
		F30	—	—	<i>Manifestation Creation</i>
		F33	—	—	<i>Reproduction Event</i>
		F31	—	Performance	
E7	Activity	Soc F51	Pursuit		
E13	Attribute Assignment	Soc F52	Name Use Activity		

2.5.3. LRM₀₀ Property Hierarchy

[PR: updated up to 2021-06-29; includes SIG#50 proposals and results, unapproved changes/deprecations in magenta. Properties to transfer to CRMsoc are highlighted in blue.]

Range entities from CIDOC CRMbase are in bold.

Property id	Property Name	Entity – Domain	Entity – Range
R1	is logical successor of (has successor)	F1 Work	F1 Work
R2	is derivative of (has derivative)	F1 Work	F1 Work
—	R68 is inspiration for (was inspired by)	F1 Work	F1 Work
R3	is realised in (realises)	F1 Work	F2 Expression
R4	embodies (is embodied in)	F3 Manifestation	F2 Expression
R5	has component (is component of)	F2 Expression	F2 Expression
R7	is materialization of (is materialized in)	F5 Item	F3 Manifestation
R8	combines (is combined to form)	F12 Nomen	E90 Symbolic Object E89 Propositional Object
R10 (depr)	has member (is member of)	F1 Work	F1 Work
—	R67 (move) has part (is part of)	F1 Work	F1 Work
—	Rnn (depr) has elaboration (is elaboration of)	F1 Work	F1 Work
R11	has issuing rule (is issuing rule of)	F18 Serial Work	E29 Design or Procedure
R15	has fragment (is fragment of)	F2 Expression	E90 Symbolic Object
R16	initiated (was initiated by)	F27 Work Conception	F1 Work
Rnn3 (move)	was remembered in (contains memory of)	F56 Externalization Event	F2 Expression
—	R17 created (was created by)	F28 Expression Creation	F2 Expression
—	— R24 created (was created through)	F30 Manifestation Creation	F3 Manifestation
R18	created (was created by)	F28 Expression Creation	F5 Item
R19	created a realisation of (was realised through)	F28 Expression Creation	F1 Work
R20	recorded (was recorded through)	F29 Recording Event	E2 Temporal Entity F31 Performance
R26	produced things of type (was produced by)	F32 Carrier Production Event	E99 Product Type
R27	materialized (was materialized by)	F32 Carrier Production Event	F3 Manifestation
R28	produced (was produced by)	F32 Carrier Production Event	F5 Item
R29	reproduced object (was object reproduced by)	F33 Reproduction Event	F5 Item

Property id	Property Name	Entity – Domain	Entity – Range
R30	reproduced publication (was publication reproduced by)	F33 Reproduction Event	F3 Manifestation
R33	has content	F12 Nomen	E62 String
R34	has validity period (is validity period of)	F34 Controlled Vocabulary	E52 Time-Span
R35	is specified by (specifies)	F12 Nomen	F2 Expression
R36	uses script conversion (is script conversion used in)	F12 Nomen	F36 Script Conversion
socR45	assigned to (was assigned by)	socF52 Name Use Activity	E1 CRM Entity
R54	has nomen language (is language of nomen in)	F12 Nomen	E56 Language
R56	is related to (is related to)	F12 Nomen	F12 Nomen
socR57	is based on (is basis for)	socF38 Character	E39 Actor
socR58	has fictional member (is fictional member of)	socF38 Character	socF38 Character
socR59	had typical subject (was typical subject of)	socF51 Pursuit	E1 CRM Entity
socR60	used to use language (was language used by)	socF51 Pursuit	E56 Language
socR61	occurred in kind of context (was kind of context for)	socF52 Name Use Activity	E55 Type
socR62	was used for membership in (was context for)	socF52 Name Use Activity	E74 Group
socR63	named (was named by)	socF52 Name Use Activity	E1 CRM Entity
socR64	used name (was name used by)	socF52 Name Use Activity	E41 Appellation
R65 (depr)	recorded aspects of (had aspects recorded through)	F29 Recording Event	E18 Physical Thing
R66	included performed version of (had a performed version through)	F31 Performance	E89 Propositional Object
R67	has part (is part of)	F1 Work	F1 Work
R69	has physical form (is physical form of)	F3 Manifestation	E55 Type
R70	has dimension (is dimension of)	F3 Manifestation	E54 Dimension
R71	has part (is part of)	F3 Manifestation	F3 Manifestation
R72 (depr)	specifies number of parts (is the specified number of parts for)	F3 Manifestation	E60 Number

Property id	Property Name	Entity – Domain	Entity – Range
R73	takes representative attribute from (bears representative attribute for)	F1 Work	F2 Expression
R74	uses expression of (has expression used in)	F1 Work	F1 Work
R75	incorporates (is incorporated in)	F2 Expression	F2 Expression
Rnn3	was remembered in (contains memory of)	F56 Externalization Event	F2 Expression
—	R17 created (was created by)	F28 Expression Creation	F2 Expression
—	— R24 created (was created through)	F30 Manifestation Creation	F3 Manifestation

2.5.4. LRM_{oo} Property Hierarchy Aligned with (Part of) CIDOC CRM Property Hierarchy

[PR: not ready]

2.6. LRM_{oo} Class Declaration

[PR: this explanation to be reviewed for accuracy]

The classes of LRM_{oo} are comprehensively declared in this section using the following format:

- Class names are presented as headings in bold face, preceded by the class's unique identifier;
- The line "Subclass of:" declares the superclass of the class, being the class from which this class inherits properties;
- The line "Superclass of:" is a cross-reference to the subclasses of this class;
- The line "Scope note:" contains the textual definition of the concept the class represents;
- The line "Examples:" contains a list of examples of instances of this class. If the example is also an instance of a subclass of this class, the unique identifier of the subclass is added in parenthesis. If the example instantiates two classes, the unique identifiers of both classes are added in parenthesis. Non-fictitious examples may be followed by an explanation in brackets.
- The line "Properties:" declares the list of the class's properties;
- Each property is represented by its unique identifier, its forward and reverse names, and the range class that it links to, separated by a colon;
- Inherited properties are not represented;
- Properties of properties are provided indented and in parentheses beneath their respective domain property.

F1 Work

Subclass of: [E89](#) Propositional Object

Superclass of: F18 Serial Work

Scope note: This class comprises distinct intellectual ideas conveyed in artistic and intellectual creations, such as poems, stories or musical compositions.

A Work is the outcome of an intellectual process of one or more persons. Inherent to the notion of work is the existence of recognisable realizations of the work in the form of one or more expressions. Works are often regarded as finished and discrete e.g. when declared as such by the creator of the work or based on the elaboration or logical coherence of its content. However, works may be recognized as existing but unfinished e.g. if the creators deliberately or accidentally never explicitly finished a particular Expression but have left behind partial expressions.

In the absence of explicit information about the initial conception, which is rarely available, the first expression created constitutes witness of the beginning of existence of a Work.

A Work can evolve over time, such as through revised editions. A Work may be elaborated by one or more Actors simultaneously, in parallel, or over time. Additional expressions of a Work can continue to be created over time.

The boundaries of a Work have nothing to do with the value of the intellectual achievement but only with the dominance of a concept.

The main purpose of this class is to enable bringing together intellectually equivalent Expressions in order to display to a user all available alternatives of the same intellectual or artistic content.

Examples:

- abstract content of Giovanni Battista Piranesi's 'Carcere XVI: the pier with chains: 1st state'
- 'La Porte de l'Enfer' by Auguste Rodin conceived between 1880 and 1917
- 'Hamlet' by William Shakespeare
- the aggregation and arrangement concept of the anthology entitled 'American Women Poets of the Nineteenth Century: An Anthology', edited by Cheryl Walker and published by Rutgers University Press in July 1992
- 'Codes for the representation of names of languages' (ISO 639)
- the Dewey Decimal Classification (DDC)

Properties: [R1](#) is logical successor of (has successor): [F1](#) Work
[R2](#) is derivative of (has derivative): [F1](#) Work (R2.1 has type: [E55](#) Type)
[R3](#) is realised in (realises): [F2](#) Expression
[R10](#) has member (is member of): [F1](#) Work
[R67](#) has part (is part of): [F1](#) Work
[R68](#) is inspiration for (was inspired by): [F1](#) Work
[R73](#) takes representative attribute from (bears representative attribute for): [F2](#) Expression
[R74](#) uses expression of (has expression used in): [F1](#) Work
[Rnn](#) has elaboration (is elaboration of): [F1](#) Work

F2 Expression

Subclass of: [E73](#) Information Object

Superclass of: [F3](#) Manifestation
[F34](#) Controlled Vocabulary

Scope note: This class comprises the intellectual or artistic realisations of Works in the form of identifiable immaterial objects, such as texts, poems, jokes, musical or choreographic notations, movement pattern, sound pattern, images, multimedia objects, or any combination of such forms that have objectively recognisable structures. The substance of F2 Expression is signs.

An Expression is the outcome of the intellectual or creative process of realizing a Work. Subsequent expressions conveying the same work may be created over time.

Expressions do not depend on a specific physical carrier and can exist on one or more carriers simultaneously, including human memory, but expressions cannot persist without a carrier.

The form of F2 Expression is an inherent characteristic of the F2 Expression. Differences in form implies different Expressions (e.g., from text to spoken word, a transcript of a recording). Similarly, differences in language or means of performance imply different Expressions (e.g., translations or arrangements for different instruments). Thus, if a text is revised or modified, the result is considered to be a new F2 Expression. While theoretically any change in signs will result in a new Expression, conventionally the context and use will determine the rules for distinguishing among expressions.

- Examples:
- the Italian text of Dante's 'Divina Commedia' as found in the authoritative critical edition 'La Commedia secondo l'antica vulgata a cura di Giorgio Petrocchi', Milano: Mondadori, 1966-67 (= 'Le Opere di Dante Alighieri', Edizione Nazionale a cura della Società Dantesca Italiana, VII, 1-4) (F2, E33) [multiple instantiation]
 - the Italian text of Dante's 'Inferno' as found in the same edition (F2, E33) [multiple instantiation]
 - the signs which make up Christian Morgenstern's 'Fisches Nachtgesang' [a poem consisting simply of '—' and '¨' signs, arranged in a specific combination]
 - the set of instructions for the production of a Yiddish translation of the textual work entitled 'King Lear', as directed by Sergei Radlov in Moscow in 1935 (F2, E29, E33) [multiple instantiation]
 - the set of instructions for the production of the ballet entitled 'Rite of spring', as choreographed by Pina Bausch in Wuppertal in 1975 (F2, E29, E33) [multiple instantiation]
 - the set of instructions by Bruno Walter for performing Gustav Mahler's 9th symphony, delivered by him to the Columbia Symphony Orchestra during rehearsals in Hollywood in 1961 (as partially documented in the CD entitled 'Bruno Walter conducts and talks about Mahler symphony No. 9: rehearsal & performance') (F2, E29) [multiple instantiation]
 - the set of instructions contained in the "performance handbook" for Luigi Nono's musical work entitled 'À Pierre' (F2, E29, E33) [multiple instantiation]
- Properties:
- [R5](#) has component (is component of): [F2](#) Expression
 - [R15](#) has fragment (is fragment of): [E90](#) Symbolic Object
 - [R75](#) incorporates (is incorporated in): [F2](#) Expression

F3 Manifestation

Subclass of: [F2](#) Expression

Scope note: This class comprises products rendering one or more Expressions. A Manifestation is defined by both the overall content, and the form of its presentation. The substance of F3 Manifestation is not only signs, but also the manner in which they are presented to be consumed by users, including the kind of media adopted.

An F3 Manifestation is the outcome of a publication process where one or more F2 Expressions are prepared for public dissemination, but it may also be a unique form created directly on some carrying material without the intent of being formally published.

An instance of F3 Manifestation typically incorporates one or more instances of F2 Expression representing a distinct logical content and all additional input by a publisher such as text layout and cover design, in particular if labour is divided between an author and a publisher. Additionally an F3 Manifestation can be identified by the physical features for the medium of distribution, if applicable. For example, publications in the form of hardcover and paperback editions would be two distinct instances of F3 Manifestation, even though authorial and editorial content are otherwise identical in both publications.

In the case of industrial products such as printed books or music CDs, but also digital material, an instance of F3 Manifestation can be regarded as the prototype for all copies of it. In these cases,

an instance of F3 Manifestation specifies all of the features or traits that instances of F5 Item display in order to be copies of a particular publication. In the case of industrial products, instances of F3 Manifestation are also instances of E99 Product Type, normally nowadays identified by characteristic identifiers such as ISBN numbers.

- Examples:
- the publication containing the text entitled ‘Harmonie universelle’ (authored by the person named ‘Marin Mersenne’), issued in 1636 in Paris by the publisher named ‘Sébastien Cramoisy’ (F3, E99) [multiple instantiation]
 - the publication containing a modern reprint of Marin Mersenne’s ‘Harmonie universelle’, issued in 1986 in Paris by the publisher named ‘Les éditions du CNRS’, and identified by ISBN ‘2-222-00835-2’ (F3, E99) [multiple instantiation]
 - the publication containing the third edition of the combination of texts and graphics titled ‘Codex Manesse: die Miniaturen der großen Heidelberger Liederhandschrift, herausgegeben und erläutert von Ingo F. Walther unter Mitarbeit von Gisela Siebert’, issued by the publisher named ‘Insel-Verlag’ in 1988 (F3, E99) [multiple instantiation]
 - the publication containing the cartographic resource titled ‘Ordnance Survey Explorer Map 213, Aberystwyth & Cwm Rheidol’, issued in May 2005 by the publisher named ‘Ordnance Survey’ and identified by ISBN ‘0-319-23640-4’ (folded), 1:25,000 scale (F3, E99) [multiple instantiation]
 - the publication containing the recordings of musical works performed by the person named ‘Florence Foster Jenkins’ gathered under the title ‘The Glory (????) of the human voice’, identified by label and label number ‘RCA Victor Gold Seal GD61175’ [Note: the four question marks within parentheses belong to the title itself] (F3, E99) [multiple instantiation]
 - the manuscript known as ‘The Book of Kells’
 - the manuscript score of Charles Racquet’s ‘Organ fantasy’, included in Marin Mersenne’s personal copy of his own ‘Harmonie universelle’ [Marin Mersenne planned a second edition of his ‘Harmonie universelle’ after it had been first published in 1636, and he asked the composer Charles Racquet to compose his organ fantasy especially for that planned second edition; but Mersenne died before he could finish and publish the second edition and Racquet’s score remained until the 20th century as a manuscript addition to Mersenne’s copy, held in Paris by the Library of the Conservatoire national des arts et métiers]
 - Marin Mersenne’s personal copy, held in Paris by the Library of the Conservatoire national des arts et métiers, of his own ‘Harmonie universelle’, containing all of his manuscript additions for a planned second edition that never took place before his death, but that served as a basis for the modern reprint published in 1986
 - the publication containing a text entitled ‘Pop Culture’ (authored by a person named ‘Richard Memeteau’), issued in 2014 by the publisher named ‘Zones’ and distributed in EPUB2 format by a distributor named ‘Editis’ and identified by ISBN ‘978-2-35522-085-2’ (F3, E99) [multiple instantiation]

- Properties:
- R4 embodies (is embodied in): [F2](#) Expression
 - R69 has physical form (is physical form of): [E55](#) Type
 - R70 has dimension (is dimension of): [E54](#) Dimension
 - R71 has part (is part of): [F3](#) Manifestation
 - R72 specifies number of parts (is the specified number of parts for): [E60](#) Number ([deprecate](#))

F4 Manifestation Singleton (*Deprecated*)

F5 Item

Subclass of: [E24 Physical Human-Made Thing](#)

Scope note: This class comprises physical objects (printed books, scores, CDs, DVDs, CD-ROMS, etc.) that were produced by (P186i) an industrial process involving a given instance of F3 Manifestation. As a result, all the instances of F5 Item associated with a given instance of F3 Manifestation are expected to carry the content defined in that instance of F3 Manifestation, although some or even

all of them may happen to carry a content that significantly differs from it, due to either an accident in the course of industrial production, or subsequent physical modification or degradation.

An instance of F5 Item that consists of a physical object or set of objects with clear physical boundaries is also an instance of E22 Human-Made Object. An instance of F5 Item that is stored on a part of a larger physical support (such as an electronic file among others on a disc) can also be considered to be an instance of E25 Human-Made Feature.

The notion of F5 Item is only relevant with regard to the production process, from a bibliographic point of view. Cultural heritage institutions' holdings are a distinct notion: a holding certainly can be equal to an instance of F5 Item, but it also can be either "bigger" than one (e.g., when two instances of F5 Item are bound together (in the case of printed books), or physically united in any other way, or when an instance of F5 Item is enhanced through the addition of manuscript annotations, or any material that was not intended by the publisher, such as press clippings, dried flowers, etc.), or "smaller" than one (e.g., when a one-volume instance of F5 Item (in the case of printed books) is interleaved and rebound as two volumes, or when pages were torn away from it, or when one CD from a two-CD set is missing, etc.). From an operational point of view, cultural heritage institutions do *not* deal with instances of F5 Item, but with storage units. However, it was not deemed necessary to declare an additional class for the notion of Storage Unit. Storage units can be easily accounted for through the E19 Physical Object class from CIDOC CRM, and the relationships between storage units and instances of F5 Item through the *P46 is composed of (forms part of)* property from CIDOC CRM. If needed, an instance of E19 Physical Object can be typed as a storage unit through the *P2 has type (is type of)* property.

Examples:

- John Smith's copy of Charles Dickens' 'The Pickwick Papers' published in 1986 by the Oxford Clarendon Press, ISBN '0-19-812631-X' (F5, E22) [multiple instantiation]
- the exemplar of Samuel Beckett's 'Waiting for Godot' published in 1956 by Faber and Faber that was once possessed by Edward Gordon Craig [who pasted a press clipping onto it, so that the storage unit currently held by the National Library of France and identified by shelfmark '8-EGC-2044' consists of both this instance of F5 Item and the press clipping pasted into it by its former owner] (F5, E22) [multiple instantiation]
- the exemplar currently held by the Library of Congress, and identified by call number 'M3.3.H13 J4 1752 Case', of George Frideric Handel's 'The Choice of Hercules' published in London by J. Walsh around 1751 [*Note: this exemplar is bound with an exemplar of 'Jephtha', by the same composer, published in London by J. Walsh in 1752; these two distinct instances of F5 Item therefore make up a single storage unit, i.e., they both P146i forms part of the same instance of E19 Physical Object.*]
- the physical features created on my PC's hard drive on 2021-06-10 when I clicked on the link <https://doi.org/10.26225/FDZH-X261> and downloaded from the server of the website www.cidoc-crm.org a reproduction of the electronic file named 'cidoc_crm_v.7.1.1.pdf' containing the text of version 7.1.1 of the 'Definition of the CIDOC Conceptual Reference Model' published April 2021 (F5, E25) [multiple instantiation]

Properties: [R7](#) is materialization of (is materialized in): [F3](#) Manifestation

F6 Concept (*Deprecated*)

F7 Object (*Deprecated*)

F8 Event (*Deprecated*)

F9 Place (*Deprecated*)

F10 Person (*Deprecated*)

F11 Corporate Body

Subclass of: [F55 Collective Agent](#)

Scope note: This class comprises organisations and groups of two or more people and/or organisations acting as a unit.

To be considered an instance of F11 Corporate Body a gathering of people needs to bear a name and exhibit organisational characteristics sufficient to allow the body as a whole to participate in the creation, modification or production of an E73 Information Object. Groups such as conferences, congresses, expeditions, exhibitions, festivals, fairs, etc. are modelled as F11 Corporate Bodies when they are named and can take collective action, such as approving a report or publishing their proceedings.

Examples: the International Machaut Society
The British Library
The Jackson Five
the Regional Municipality of Ottawa-Carleton
Symposium on Glaucoma

F12 Nomen

Subclass of: [E89 Propositional Object](#)

Scope note: This class comprises associations between an instance of any class, and signs or arrangements of signs following a specific syntax (sequences of alphanumeric characters, chemical structure symbols, sound symbols, ideograms, etc.) that are used, or can be used, to refer to and identify that instance. The scripts or type sets for the types of symbols used to compose an instance of F12 Nomen have to be explicitly specified. Spelling variants are regarded as different nomina, whereas the use of different fonts (visual representation variants) or different digital encodings does not change the identity.

An arbitrary combination of signs or symbols cannot be regarded as an appellation or designation until it is associated with something in some context. In that sense, the F12 Nomen class can be understood as the reification of a relationship between an instance of E1 CRM Entity and an instance of E41 Appellation. Two instances of F12 Nomen can happen to be associated with two identical instances of E62 String and yet remain distinct, as long as they either refer to distinct instances of E1 CRM Entity, or as long as they are associated with distinct instances of other classes through one or more than one of the other properties of the F12 Nomen class (while referring to the same instance of E1 CRM Entity).

An instance of F12 Nomen associates a combination of signs with an instance of E1 CRM Entity on the basis of a cultural or linguistic convention: by associating a string with anything, the instance of F12 Nomen establishes a meaning that is not inherent in the instance of E62 String that is associated with it. Depending on context of use, nomens associated with identical strings can involve instances of different things in the real world even within the same language (polysemy and homonymy). Conversely, the same thing can be referred to through any number of nomens (synonymy). In the controlled environment of a bibliographic information system, though, synonymy is avoided and the instances of E62 String associated with a given instance of F12 Nomen would generally be disambiguated, so that each string is associated with only one instance of E1 CRM Entity within the specific scheme.

The identity of an instance of F12 Nomen is determined by the combination of the thing it refers to, the choice and order of the symbols used within the instance of E62 String that represents it, and the specific instances of the various classes with which it is associated through all other properties of the F12 Nomen class. Variation in the symbols used (such as transliteration into another script), or variation in their ordering, usually results in a distinct instance of F12 Nomen, but variation in the visual representation of the symbols present in the instance of E62 String that represents the instance of F12 Nomen (such as different fonts that may be used to present alpha-

numeric or character strings) does not result in a different instance of F12 Nomen.

Instances of F12 Nomen are assigned and associated with instances of E1 CRM Entity either formally (such as by bibliographic agencies) or informally through common usage. When they are assigned formally, the construction of the instances of E62 String that represent them may follow predetermined rules.

The act of naming something may involve the combination of various symbolic objects, which may be instances of F12 Nomen in their own right, and therefore refer to distinct instances of E1 CRM Entity, or just be used as qualifiers. A frequent example is provided by the tradition consisting of naming persons by juxtaposing a given name (such as ‘John’), and a last name (such as ‘Smith’) which is shared by all members of the same family. The given name alone can be sufficient to refer unambiguously to a given individual in a given context, but not in a wider context, in which the combination of given name plus last name proves necessary. Similarly, the combination of given name plus last name may be ambiguous in an even wider context, in which case the need for further qualifiers (such as a nickname, or, in the context of bibliographic control, dates and statement of occupation) can be felt. An instance of F12 Nomen can therefore be decomposed into further reifications that refer to distinct things through distinct strings, and/or instances of E90 Symbolic Object that serve merely as qualifiers and do not refer to anything in particular.

- Examples:
- ‘杜甫’ as the name for a Chinese poet of the 8th century, rendered in simplified Chinese characters
 - ‘Du Fu’ as the name for a Chinese poet of the 8th century, rendered in Pinyin romanised form
 - ‘Tu Fu’ as the name for a Chinese poet of the 8th century, rendered in another romanised form
 - ‘Thơ Đô Phủ’ as the name for a Chinese poet of the 8th century, rendered in a Vietnamese form
 - ‘جامعة صفاقس’ as the name for Sfax University (Tunisia), rendered in Arabic in Arabic script
 - ‘Ġāmi‘atū Ṣafāqīs’ as the name for Sfax University (Tunisia), rendered in transliterated Arabic
 - ‘Université de Sfax’ as the name for Sfax University (Tunisia), rendered in French
 - ‘3-[(2S)-1-methylpyrrolidin-2-yl]pyridine’ as the term for nicotine, rendered in the IUPAC nomenclature of organic chemistry
 - ‘Murders in the rue Morgue’ as the title of the textual work by Edgar Allan Poe, in English
 - ‘Poe, Edgar Allan, 1809-1849. Murders in the rue Morgue’ as the name of the textual work, formulated as a controlled author/title access point appropriate for an English language catalogue
 - ‘modelling’ as the term for the activity, in English using British spelling
 - ‘modeling’ as the term for the activity, in English using American spelling
 - ‘Maxwell equations’ as the term for these equations, formulated as the preferred subject access point from LCSH, <http://lccn.loc.gov/sh85082387>, as of 27 March 2012 [date of last update]
 - ‘Equations, Maxwell’ as the term for these equations, formulated as a variant subject access point, from the same source
 - ‘Gontcharova, Nathalie (1881-1962)’ as the name of the Russian artist, formulated as an preferred access point from the authority file of the National Library of France, <http://catalogue.bnf.fr/ark:/12148/cb119547494/PUBLIC>, as of 11 March 2015 [date of last update]
 - ‘Gončarova, Natal’â Sergeevna (1881-1962)’ as the name of the Russian artist, formulated as a variant access point for a personal name, transliterated using ISO 9:1995 ‘Information and documentation — Transliteration of Cyrillic characters into Latin characters — Slavic and non-Slavic languages’, from the same source
 - ‘Гончарова, Наталья Сергеевна (1881-1962)’ as the name of the Russian artist, formulated as a variant access point in Cyrillic script, from the same source
 - ‘595.7’ as a classification number for insects (the taxonomic class Insecta), in the 23rd edition of

the Dewey Decimal Classification

‘Insecta’ as a term for insects (the taxonomic class Insecta), used as the caption for the class ‘595.7’ in the English language 23rd edition of the Dewey Decimal Classification

‘spa’ as a code to designate the language Spanish, drawn from the ‘Codes for the representation of names of languages — Part 2: Alpha-3 code’ (ISO 639-2:1998)

Properties: [R33](#) has content: [E62](#) String
[R35](#) is specified by (specifies): [F2](#) Expression
(R35.1 has status: [E55](#) Type)
[R36](#) uses script conversion (is script conversion used in): [F36](#) Script Conversion
[R54](#) has language (is language of): [E56](#) Language
[R56](#) has related use (is related use for): [F12](#) Nomen
(R56.1 has type: [E55](#) Type)

F13 Identifier (*Deprecated*)

F14 Individual Work (*Deprecated*)

F15 Complex Work (*Deprecated*)

F16 Container Work (*Deprecated*)

F17 Aggregation Work (*Deprecated*)

F18 Serial Work

[**Editor’s note:** Transfer this class, along with its property R11, to PRESSoo once version 2.0 has a stable draft. It will link up to LRMoo via the superclass F1 Work. Implement this class only in conjunction with an implementation of PRESSoo.]

Subclass of: [F1](#) Work

Scope note: This class comprises works that are, or have been, planned to result in sequences of Expressions or Manifestations with common features. Whereas a work can acquire new members during the time it evolves, Expressions and Manifestations are identified with a certain state achieved at a particular point in time. Therefore there is in general no single Expression or Manifestation representing a complete serial work, unless the serial work has ended.

Serial Works may or may not have a plan for an overall expression.

The retrospective reprinting of all issues of a Serial Work at once, in the form of a monograph, is regarded to be another member of the F1 Work, which contains the Serial Work and the Work realised in the monograph. This does not make the monograph part of the Serial Work.

Examples: the periodical entitled ‘The UNESCO Courier’, ISSN ‘0041-5278’
the periodical entitled ‘Courrier de l’UNESCO’, ISSN ‘0304-3118’ [French edition of the periodical titled ‘The UNESCO Courier’, ISSN ‘0041-5278’]
the series entitled ‘L’évolution de l’humanité’, ISSN ‘0755-1843’ [a monograph series comprising volumes that were published from 1920 on, and some of which were reprinted, with different physical features and rearranged in a different order, from 1968 on, in a distinct series also entitled ‘L’évolution de l’humanité’, ISSN ‘0755-1770’]

Properties: [R11](#) has issuing rule (is issuing rule of): [E29](#) Design or Procedure

F19 Publication Work (*Deprecated*)

F20 Performance Work (*Deprecated*)

F21 Recording Work (*Deprecated*)

F22 Self-Contained Expression (*Deprecated*)

F23 Expression Fragment (*Deprecated*)

F24 Publication Expression (*Deprecated*)

F25 Performance Plan (*Deprecated*)

F26 Recording (*Deprecated*)

F27 Work Conception

Subclass of: [E65](#) Creation

Scope note: This class comprises beginnings of evolutions of works.

An instance of F27 Work Conception marks the initiation of the creation of an instance of F1 Work. The work, as an intellectual construction, evolves from this point on, until the last known expression of it. An instance of E39 Actor with which a work is associated through the chain of properties F1 Work. *R16i was initiated by:* F27 Work Conception. *P14 carried out by:* E39 Actor corresponds to the notion of the “creator” of the work. In the case of commissioned works, it is not the commissioning that is regarded as the work conception, but the acceptance of the commission.

This event does not always correlate with the date assigned in common library practice to the work, which is usually a later event (such as the date of completion of the first clean draft).

In addition, F27 Work Conception can serve to document the circumstances that surrounded the appearance of the original idea for a work, when these are known.

Examples: Ludwig van Beethoven’s having the first ideas for his fifth symphony

Pablo Picasso’s acceptance, in 1930, of Ambroise Vollard’s commission for a set of 100 etchings, now known as the ‘Vollard Suite’

René Goscinny’s and Albert Uderzo’s first collaborative ideas for the comic book entitled ‘Astérix in Britain’ [Goscinny wrote the script and Uderzo made the drawings; both are regarded as co-creators of that collaboration, at the same level of creative input, and no attempt is made to ascertain whether the ideas for the script preceded the ideas for the drawings, or vice-versa]

the combination of activities, carried out, among others, by Alfred Hitchcock, that began the process which eventually resulted in the movie entitled ‘Psycho’ coming into being

Oscar Wilde’s having by May 1897 the initial idea of writing his poem entitled ‘The ballad of the Reading gaol’, inspired by his stay in the Reading prison from November 20, 1895 to May 18, 1897, and the execution of Charles Thomas Woolridge on July 7, 1896

Properties: [R16](#) initiated (was initiated by): [F1](#) Work

F28 Expression Creation

Subclass of: [E12](#) Production
[E65](#) Creation
[F56](#) Externalization Event

Superclass of: [F29](#) Recording Event
[F30](#) Manifestation Creation

Scope note: This class comprises activities that result in instances of F2 Expression coming into existence. This class characterises the externalisation of an F1 Work. The creation of an instance of F1 Work is considered to occur at the time of creation (F28) of its first F2 Expression.

Although F2 Expression is an abstract entity, a conceptual object, the creation of an expression inevitably also affects the physical world: when you scribble the first draft of a poem on a sheet of paper, you produce an instance of F3 Manifestation. F28 Expression Creation is a subclass of E12 Production because the recording of the expression causes a physical modification of the E18 Physical Thing that serves as the carrier. The work becomes manifest by being expressed on a physical carrier other than the creator's brain. The spatio-temporal circumstances under which the expression is created are necessarily the same spatio-temporal circumstances under which the first instance of F3 Manifestation is produced.

The mechanisms through which *oral tradition* (of myths, tales, music, etc.) operates are not further investigated in this model. As far as bibliographic practice is concerned, only those instances of F2 Expression that are externalised on physical carriers other than both the creator's brain and the auditor's brain are taken into account (for a discussion of the modelling of oral traditions, see: Nicolas, Yann. 'Folklore Requirements for Bibliographic Records: oral traditions and FRBR.' In: *Cataloging & Classification Quarterly* (2005). Vol. 39, No. 3-4. P. 179-195).

It is possible to use the *P2 has type (is type of)* property in order to specify that the creation of a given expression of a given work played a particular role with regard to the overall bibliographic history of that work (e.g., that it was the creation of the progenitor expression on which all other expressions of the same work are based; or that it was the creation of the critical edition that served as the basis for canonical references to the work).

An instance of F28 Expression Creation may use as source material a specific existing instance of F2 Expression. The property [P16 used specific object \(was used for\)](#) can be used to specify the source expression for the derivation. In cases such as a translation or a revised edition, etc., a new instance of F2 Expression of the same F1 Work, a derived expression, is created. In the situation where an expression of one instance of F1 Work serves as source material for the creation of the first expression of a new instance of F1 Work, the relationship is indicated using the property *R2 is derivative of (has derivative)* between the two instances of F1 Work. Path: F1 Work(1). *R3 is realised in:* F2 Expression(1). *P16i was used for:* F28 Expression Creation. *R17 created:* F2 Expression(2). *R3i realises:* F1 Work(2). *R2 is derivative of:* F1 Work(1)

Examples: the creation of the original manuscript score of 'Uwertura tragiczna' by Andrzej Panufnik in 1942 in Warsaw

the reconstruction from memory of the manuscript score of 'Uwertura tragiczna' by Andrzej Panufnik in 1945 after the original score was destroyed during the war

the creation, by Lord Byron, of the English text of his work entitled 'Manfred' (*P2 has type:* E55 Type {major original contribution})

the creation, by Woldemar Starke, of his German translation of Lord Byron's text entitled 'Manfred' (*P2 has type:* E55 Type {translation})

the recording of the third alternate take of 'Blue Hawaii' performed by Elvis Presley in Hollywood, Calif., Radio Recorders, on March 22nd, 1961 (F29) [each individual take is a distinct instance of F2 Expression]

Properties: [R17 created](#) (was created by): [F2](#) Expression

[R18 created](#) (was created by): [F5](#) Item

[R19 created](#) a realisation of (was realised through): [F1](#) Work

F29 Recording Event

Subclass of: [F28 Expression Creation](#)

Scope note: This class comprises activities that intend to convey (and preserve) the features of perdurants in a recording, such as a live recording of a performance, a documentary, or other capture of a perdurant. Such activities may follow the directions of a recording plan. They may include postproduction.

Examples: the making of the recording of the third alternate take of the musical work titled 'Blue Hawaii'

as performed by Elvis Presley in Hollywood, Calif., Radio Recorders, on March 22nd, 1961

the making of the photograph of the three Allied leaders at Yalta in February 1945

the making of the recording of an East Australian humpback whale song in 1994 in the framework of the Oceania Project

filming Louise Bourgeois at work in the context of the shooting of the documentary entitled 'Louise Bourgeois: The Spider, the Mistress, and the Tangerine'

Properties: [R20](#) recorded (was recorded through): [E2 Temporal Entity](#)[F31 Performance](#)
[R65](#) recorded aspects of (had aspects recorded through): [E18](#) Physical Thing

F30 Manifestation Creation

Subclass of: [F28 Expression Creation](#)

Superclass of: F33 Reproduction Event

Scope note: This class comprises the activities of selecting, arranging and presenting one or more instances of F2 Expression on a carrier or other persistent presentation means with the purpose of communicating it to some public. It includes the specification of the presentation as to sensory impression (such as visual appearance or audio rendition).

Examples: establishing in 1972 the layout, features, and prototype for the publication of 'The complete poems of Stephen Crane, edited with an introduction by Joseph Katz' (ISBN '0-8014-9130-4'), which served for a second print run in 1978

making the article by Allen Renear, Christopher Phillippe, Pat Lawton, and David Dubin, entitled 'An XML document corresponds to which FRBR Group 1 entity?' available online at [<http://conferences.idealliance.org/extreme/html/2003/Lawton01/EML2003Lawton01.html>](http://conferences.idealliance.org/extreme/html/2003/Lawton01/EML2003Lawton01.html)

Properties: [R24](#) created (was created through): [F3](#) Manifestation

F31 Performance

Subclass of: [F56 Externalization Event](#)

Scope note: This class comprises activities that follow the directions of [a plan for any kind of performance](#), such as a theatrical play, an expression of a choreographic work or a musical work; i.e., they are intended to communicate directly or indirectly to an audience.

Such activities can be identified at various levels of granularity, and can be contiguous or not. Any individual performance (with or without intermissions) is a single instance of F31 Performance. In addition, a complete run of performances can also be seen as an instance of F31 Performance, with individual performances as parts. A complete run of performances may comprise an original run plus any of its extensions and tours.

Note that a performance plan may be more or less elaborate, and may even foresee just improvisation.

Examples: performing the first performance of a Yiddish translation of the textual work entitled 'King Lear', as directed by Sergei Radlov, in Moscow, at the Moscow State Jewish Theatre, on February 10, 1935 [individual performance]

performing the ballet entitled 'Rite of spring', as choreographed by Pina Bausch, in Avignon, at the Popes' Palace, on July 7, 1995 [individual performance]

performing the operatic work entitled 'Dido and Aeneas', as directed by Edward Gordon Craig and conducted by Martin Shaw, in London, Hampstead Conservatoire, on May 17, 18, and 19, 1900 [run of performances]

Properties: [R66](#) included performed version of (had a performed version through): [E89](#) Propositional Object

F32 Carrier Production Event

Subclass of: [E12](#) Production

Scope note: This class comprises activities that result in instances of F5 Item coming into existence. Both the production of a series of physical objects (printed books, scores, CDs, DVDs, CD-ROMs, etc.)

and the creation of a new copy of a file on an electronic carrier are regarded as instances of F32 Carrier Production Event.

Typically, the production of copies of a publication (no matter whether it is a book, a sound recording, a DVD, a cartographic resource, etc.) strives to produce items all as similar as possible to a prototype that displays all the features that all the copies of the publication should also display, which is reflected in the property *R27 materialized*: F3 Manifestation. In the case where the instance of F3 Manifestation that is materialized is also an instance of E99 Product Type, the property *R26 produced things of type* is the preferred method to associate the instance of F32 Carrier Production Event directly with the instance of E99 Product Type.

Examples: the printing of copies of the 3rd edition of ‘Codex Manesse: die Miniaturen der großen Heidelberger Liederhandschrift, herausgegeben und erläutert von Ingo F. Walther unter Mitarbeit von Gisela Siebert’, Insel-Verlag, 1988 [a fac-simile edition of an illuminated mediaeval manuscript]

the printing of copies of the ‘Ordnance Survey Explorer Map 213, Aberystwyth & Cwm Rheidol’, ISBN 0-319-23640-4 (folded), 1:25,000 scale, released in May 2005 [a cartographic resource]

the production of copies of the sound recording titled ‘The Glory (????) of the human voice’, RCA Victor Gold Seal GD61175, containing recordings of musical works performed by Florence Foster Jenkins [a sound recording; the question marks in parentheses belong to the original title]

my clicking on the link http://www.cidoc-crm.org/sites/default/files/cidoc_crm_v.7.1.1_0.pdf, and thus downloading on my PC a reproduction of the electronic file titled ‘Definition of the CIDOC Conceptual Reference Model... version 7.1.1’ that is stored on the ICS FORTH’s servers in Heraklion, Crete

the second print run, in 1978, of ‘The complete poems of Stephen Crane, edited with an introduction by Joseph Katz’ (ISBN ‘0-8014-9130-4’), a publication dated 1972 [publication of a printed text]

Properties: [R26 produced things of type](#) (was produced by): E99 Product Type
[R27 materialized](#) (was materialized by): F3 Manifestation
[R28 produced](#) (was produced by): F5 Item

F33 Reproduction Event

Subclass of: [E12 Production](#)
[F30 Manifestation Creation](#)

Scope note: This class comprises activities that consist in producing items of a new instance of F3 Manifestation that preserve both the content and layout found on items of a pre-existing instance of F3 Manifestation. The individual instance or instances of F5 Item that was or were used as a source for this process may be precisely identified or not. Such activities result in products known as facsimiles, reproductions, reprints, reissues, or new releases.

Examples: the 2014 publication of Daniel Wilson’s ‘Caliban: the missing link’ by Cambridge University Press [a facsimile edition of the 1873 publication by Macmillan]

the 2015 publication of Harry Partch’s ‘Two studies on ancient Greek scales’ by Schott [which reproduces Harry Partch’s holograph manuscript]

the 2007 publication of Hubert Reeve’s ‘Malicorne: réflexions d’un observateur de la nature’ published by Éditions du Seuil as number 179 in the series ‘Points. Science’ (ISBN ‘978-2-02-096760-0’) [a reprint edition of the 1990 publication by Éditions du Seuil in the series ‘Science ouverte’ (ISBN ‘2-02-012644-3’)]

Properties: [R29 reproduced object](#) (was object reproduced by): F5 Item
[R30 reproduced publication](#) (was publication reproduced by): F3 Manifestation

F34 Controlled Vocabulary

[Editor's note: Expect to deprecate this class once its sole property, R34, is transferred to another family model.]

Subclass of: [E29](#) Design or Procedure
[E32](#) Authority Document
[F2](#) Expression

Scope note: This class comprises documents that establish controlled terminology (nomina) for consistent use. They may also describe relationships between entities and controlled terminology and relationships between entities. Note that any meaningful change in a Controlled vocabulary that affects the validity status of its elements defines a new release (instance of F2 Expression) of the Controlled vocabulary. Note that identifiers created following a rule in a Controlled vocabulary are to be regarded as being taken from this Controlled vocabulary, even though not explicitly spelled out. This definition of Controlled vocabulary reflects current library practice and not the use of the term in general. Knowledge Organisation Systems (KOS) are regarded as special cases of F34 Controlled Vocabulary.

Examples: LCSH February 20 to March 19 2012
DDC 19 [19th English edition, published only in print by Forest Press in 1979]

Properties: [R34](#) has validity period (is validity period of): [E52](#) Time-Span

F35 Nomen Use Statement (*Deprecated*)

F36 Script Conversion

Subclass of: [E29](#) Design or Procedure

Scope note: This class comprises rule sets for converting signs or arrangements of signs from one script or type set to another.

Examples: ISO 9:1995 'Information and documentation — Transliteration of Cyrillic characters into Latin characters — Slavic and non-Slavic languages'

F38 Character (*CRMsoc*)

[Editor's note: Transfer this class, along with its properties R57 and R58, to CRMsoc once that model has a stable draft.]

Subclass of: [E28](#) Conceptual Object

Scope note: This class comprises fictional or iconographic individuals or groups of individuals (including families) appearing in works in a way relevant as subjects. Characters may be purely fictitious or based on real persons or groups, but as characters they may exhibit properties that would be inconsistent with a real person or group. Rather than merging characters with real persons, they should be described as disjoint, but related entities.

Examples: Harry Potter [in J.K. Rowling's series of novels and the films based on them]
Sinuhe the Egyptian [in Mika Waltari's novel]
The Knights of the Round Table [in fiction]

Properties: [R57](#) is based on (is basis for): [E39](#) Actor
[R58](#) has fictional member (is fictional member of): [F38](#) Character

F39 Family

Subclass of: [F55](#) Collective Agent

Scope note: This class comprises groups of two or more persons presented as a family and justified by relationships of birth, marriage, adoption, civil union, or similar social or legal status and an assumed common tradition, including examples such as royal families, dynasties, houses of nobility, etc.

Examples: House of Tudor
the brothers Grimm

F40 Identifier Assignment (*Deprecated*)

F42 Representative Expression Assignment (*Deprecated*)

F44 Bibliographic Agency (*Deprecated*)

F50 Controlled Access Point (*Deprecated*)

F51 Pursuit (*CRMsoc*)

[Editor's note: Transfer this class, along with its properties R59 and R60, to CRMsoc once that model has a stable draft.]

Subclass of: [E7 Activity](#)

Scope note: This class comprises periods of continuous activity of an Actor in a specific professional or creative domain or field.

Examples: Natalya Goncharova working as a set and costume designer, painter, illustrator and poet in Russia and France in the first half of the 20th century

Satyajit Ray working as a filmmaker, writer, composer and graphic designer in India in the second half of the 20th century

Folger Shakespeare Library in Washington studying the works of William Shakespeare

M. & N. Hanhart working in lithographic publishing (1839-1882)

Properties: [R59](#) had typical subject (was typical subject of): [E1 CRM Entity](#)
[R60](#) used to use language (was language used by): [E56 Language](#)
(R60.1 has type of use: [E55 Type](#))

F52 Name Use Activity (*CRMsoc*)

[Editor's note: Transfer this class, along with its properties R45, R61, R62, R63, and R64, to CRMsoc once that model has a stable draft.]

Subclass of: [E13 Attribute Assignment](#)

Scope note: This class comprises periods of continuous use of a specific instance of E41 Appellation for a particular instance of E1 CRM Entity by an E39 Actor. It includes in particular the use of the name by its carrier. Characteristically, actors performing an activity may choose a particular appellation for themselves in the context of this activity. Such cases should be modelled by additionally classifying these activities as instances of F52 Name Use Activity.

It is possible to specify the type of name use, through the *P2 has type* property, e.g.: use of a pseudonym, use of a married name, use of a birth name, use of a blended name, use of a religious name, etc.

Examples: using the pseudonym 'Prince' until 1993, and again from 2000 on

using the pseudonym 'Love Symbol' from 1993 to 2000

using the pseudonym 'Lewis Carroll' when authoring works of fiction (*P2 has type* E55 Type {use of a pseudonym})

using the name 'Charles Dodgson' when authoring works of mathematics and logics (*P2 has type* E55 Type {use of a birth name})

using the name 'Mother Teresa' instead of 'Agnes Gonxha Bojaxhiu' when becoming head of the Missionaries of Charity (*P2 has type* E55 Type {use of a religious name})

using the name 'Elizabeth Barrett Browning' instead of 'Elizabeth Barrett Barrett' after marrying Robert Browning (*P2 has type* E55 Type {use of a married name})

using the name 'Antonio Villaraigosa' instead of 'Antonio Villar' after marrying Corina Raigosa (*P2 has type* E55 Type {use of a blended name}) [*comment*: When former mayor of Los

Angeles Antonio Villar and Corina Raigosa got married in 1987, the two spouses decided they would merge their two last names into one.]

Properties: [R45](#) assigned to (was assigned by): [E1](#) CRM Entity
[R61](#) occurred in kind of context (was kind of context for): [E55](#) Type
[R62](#) was used for membership in (was context for): [E74](#) Group
[R63](#) named (was named by): [E1](#) CRM Entity
[R64](#) used name (was name used by): [E41](#) Appellation

F53 Material Copy (Deprecated)

F54 Utilised Information Carrier (Deprecated)

F55 Collective Agent

Subclass of: [E74](#) Group

Superclass of: [F11](#) Corporate Body
[F39](#) Family

Scope note: This class comprises recognizable groups or organizations of persons that have the potential of acting as a unit to produce some intentional result of bibliographic interest for which they can be collectively considered responsible.

A group of people becomes an instance of F55 Collective Agent when it identifies itself by a name that identifies it within an appropriate context and exhibits sufficient organizational characteristics to permit it to perform actions that reflect agency. Groups that are constituted as meetings, conferences, congresses, expeditions, festivals, fairs, etc. are examples of F55 Collective Agent as long as they self-identify by a specific name, rather than being referred to by a generic description of the gathering, and can act as a unit (such as by publishing their proceedings, or approving a report). These collective actions may be performed by representatives selected by the whole, rather than by all individual members acting together.

Instances of F55 Collective Agent include commercial or corporate entities and other legally registered bodies, as well as organizations and associations, musical, artistic or performing groups, governments, and any of their sub-units. Collective Agents may be members of other Collective Agents, although directly or indirectly all Collective Agents are composed of persons. The membership of many types of Collective Agents will continue to evolve over time. A Collective Agent may continue to exist even if it has no members for a time (for example, a committee whose members all resign prior to the expiration of their terms but then a new complement of members is appointed).

Married couples and other concepts of family (F39) are regarded as particular examples of F55 Collective Agent.

In the wider sense, this class also comprises holders of official positions viewed collectively, independent of the current holder of the office, such as the president of a country. In such cases, it is possible that the instance of F55 Collective Agent has only ever had a single member.

A group of persons known by/using a joint pseudonym (i.e., a name that seems indicative of an individual but that is actually adopted as a persona by two or more people acting together) is a particular case of F55 Collective Agent.

Examples:

- International Federation of Library Associations and Institutions (F11)
- 81st World Library and Information Conference (F11)
- Bibliothèque nationale de France (F11)
- Exxon-Mobil (F11)
- The Beatles (F11)
- King Solomon and his wives (F39)
- The President of the Swiss Confederation
- Nicolas Bourbaki

- Betty Crocker
- Ellery Queen

F56 Externalization Event

Subclass of: [E7 Activity](#)

Superclass of: [F28 Expression Creation](#)
[F31 Performance](#)

Scope note: This class comprises activities that produce signs or sensory impressions as organized and complete wholes, typically intended to be received, in this completeness, by some audience, either directly via their senses or via persistent media at some later time. It comprises in particular novel externalizations of thought – art in all forms – including rendering existing expressions such as musical scores, theatre plays, scripts or texts, in a particular manner, including through the performing arts, writing or other methods of externalization.

Examples:

- the creation of the original manuscript score ‘Uwertura tragiczna’ by Andrej Panufnik in Warsaw (F28)
- the reconstruction from memory of the manuscript score ‘Uwertura tragiczna’ by Andrej Panufnik in 1945 after the original score was destroyed during the war (F28)
- performing the ballet entitled ‘Rite of Spring’, as choreographed by Pina Bausch, in Avignon, at the Popes’ Palace, on July 7, 1995 [individual performance] (F31)
- performing the operatic work entitled ‘Dido and Aeneas’, as directed by Edward Gordon Craig and conducted by Martin Shaw, in London, Hampstead Conservatoire, on May 17, 18, and 19, 1900 [run of performances] (F31)

Properties: [Rnn3 was remembered in \(is memory of\): F2 Expression](#)

2.7. LRM₀₀ Property Declaration

[PR: this explanation to be reviewed for accuracy]

The properties of LRM₀₀ are comprehensively declared in this section using the following format:

- Property names are presented as headings in bold face, preceded by unique property identifiers;
- The line “Domain:” declares the class for which the property is defined;
- The line “Range:” declares the class to which the property points, or that provides the values for the property;
- The line “Equal to:” declares the CIDOC CRM property that covers the same concept as the LRM₀₀ property; [there should not be any more of these]
- The line “Shortcut of:” declares the chain of CIDOC CRM and/or LRM₀₀ properties of which the LRM₀₀ property is a shortcut, whenever it cannot be simply declared as a subproperty of a pre-existing property (note however that when an LRM₀₀ property is *both* a subproperty of a pre-existing property *and* a shortcut, the detailed path of which it is a shortcut is only mentioned in the scope note);
- The line “Is covered by shortcut:” declares the CIDOC CRM property that constitutes a shortcut for a more detailed path of which the LRM₀₀ property is a part;
- The line “Superproperty of:” is a cross-reference to any subproperties the property may have;
- The line “Subproperty of:” is a cross-reference to any superproperties the property may have, in either CIDOC CRM or LRM₀₀. All LRM₀₀ properties that fall under the scope of the CIDOC CRM are, either directly or indirectly, subproperties of at least one CIDOC CRM property. However, this line remains empty for LRM₀₀ properties that are shortcuts of more developed paths that involve CIDOC CRM properties and/or their LRM₀₀ subproperties;
- The line “Quantification:” declares the possible number of occurrences for domain and range class instances for the property. Possible values are enumerated in section 2.3;
- The line “Scope note:” contains the textual definition of the concept the property represents;
- The line “Examples:” contains a list of examples of instances of this property. If the example is also an instance of a subproperty of this property, the unique identifier of the subproperty is added in parenthesis. If the example instantiates two properties, the unique identifiers of both properties are added in parenthesis;
- The line “Properties:” introduces any properties the property may have.
- In some cases the superproperty of a property is listed as *Out of scope*. This indicates that the property that should be the superproperty is outside of the coverage of CIDOC CRM. [R34 is the last of these]

R1 is logical successor of (has successor)

Domain: [F1](#) Work

Range: [F1](#) Work

Subproperty of: [E70](#) Thing. [P130](#) shows features of (features are also found on): [E70](#) Thing

Quantification: (0,n:0,n)

Scope note: This property associates an instance of F1 Work which logically continues the content of another instance of F1 Work with the latter. This property is transitive.

Examples: Albrecht Dürer's woodcut from 'The Large Woodcut Passion' entitled 'The Agony in the Garden' (F1), conceived ca. 1496-98, *is logical successor of* Albrecht Dürer's woodcut from 'The Large Woodcut Passion' entitled 'The Last Supper' (F1), dated 1510.

The first 'Star wars' trilogy (F1), 1977-1983, *is logical successor of* The second 'Star wars' trilogy (F1), 1999-2005. [Note that the *logical* order does not follow, in either of these two examples, the *chronological* order]

R2 is derivative of (has derivative)

Domain: [F1](#) Work

Range: [F1](#) Work

Superproperty of: [R68 is inspiration for](#) (was inspired by): [F1](#) Work

Subproperty of: [E70](#) Thing. [P130](#) shows features of (features are also found on): [E70](#) Thing

Quantification: (0,n:0,n)

Scope note: This property associates an instance of F1 Work which modifies the content of another instance of F1 Work with the latter. This property is transitive.

The property *R2.1 has type* of this property allows for specifying the kind of derivation, such as adaptation, summarisation, etc.

Examples: William Schuman's orchestration of Charles Ives's 'Variations on America' (F1) *is derivative of* Charles Ives's 'Variations on America' (F1), with *has type* orchestration (E55).

Charles Ives's musical work entitled 'Variations on America' (F1) *is derivative of* the musical work titled 'America' (F1), with *has type* variations (E55).

The musical work entitled 'America' (F1) *is derivative of* the musical work entitled 'God save the King' (F1), with *has type* same tune with different lyrics (E55).

Properties: R2.1 has type: [E55](#) Type

R3 is realised in (realises)

Domain: [F1](#) Work

Range: [F2](#) Expression

Subproperty of: [E70](#) Thing. [P130](#) shows features of (features are also found on): [E70](#) Thing

Quantification: (0,n:1,n)

Scope note: This property associates an instance of F2 Expression with an instance of F1 Work.

This property expresses the association that exists between an expression and the work that this expression conveys. Our factual knowledge of how a given work is historically realised into expressions is often limited. Therefore, this property makes it possible to express the association between an instance of F2 Expression and the instance of F1 Work it conveys without identifying the particular instances of F2 Expression that were part of a chain of derivation from the source.

Examples: Dante's work entitled 'Inferno' (F1) *is realised in* the Italian text of Dante's 'Inferno' as found

in the authoritative critical edition ‘La Commedia secondo l’antica vulgata’ a cura di Giorgio Petrocchi, Milano: Mondadori, 1966-67 (= ‘Le Opere di Dante Alighieri’, Edizione Nazionale a cura della Società Dantesca Italiana, VII, 1-4) (F2).

Mozart’s work entitled ‘Il dissoluto punito ossia il Don Giovanni’ (F1) *is realised in* the notated music of the Prague version, as found on manuscript Ms 1548 of the National Library of France (F2).

The concept of Sergei Radlov’s mise-en-scène of a Yiddish translation of the textual work entitled ‘King Lear’ in Moscow in 1935 (F1) *is realised in* the set of instructions for the production of a Yiddish translation of the textual work entitled ‘King Lear’, as directed by Sergei Radlov in Moscow in 1935 (F2).

The concept of Pina Bausch’s choreography of the ballet entitled ‘Rite of spring’ in Wuppertal in 1975 (F1) *is realised in* the set of instructions for the production of the ballet entitled ‘Rite of spring’, as choreographed by Pina Bausch in Wuppertal in 1975 (F2).

The concept of Bruno Walter’s performance of Gustav Mahler’s 9th symphony in 1961 (F1) *is realised in* the set of instructions by Bruno Walter for performing Gustav Mahler’s 9th symphony, delivered by him to the Columbia Symphony Orchestra during rehearsals in Hollywood in 1961 (as partially documented in the CD entitled ‘Bruno Walter conducts and talks about Mahler symphony No. 9: rehearsal & performance’) (F2).

The concept of the “performance handbook” for Luigi Nono’s musical work entitled ‘À Pierre’ (F1) *is realised in* the set of instructions contained in the performance handbook for Luigi Nono’s musical work entitled ‘À Pierre’ (F2).

The concept of the third alternate take of the musical work entitled ‘Blue Hawaii’ as performed by Elvis Presley in Hollywood, Calif., Radio Recorders, on March 22nd, 1961 (F1) *is realised in* the set of signs that make up the third alternate take of the musical work entitled ‘Blue Hawaii’ as performed by Elvis Presley in Hollywood, Calif., Radio Recorders, on March 22nd, 1961 (F2).

The concept of making a photograph of the three Allied leaders at Yalta in February 1945 (F1) *is realised in* the visual content of the famous photograph of the three Allied leaders at Yalta in February 1945 (F2).

Oceania Project’s concept of making a large digital acoustic data archive dedicated to East Australian humpback whale songs (F1) *is realised in* the audio content of the album entitled ‘Songlines – Songs of the East Australian Humpback Whales’ released in 2011 (F2).

The concept of recording Louise Bourgeois’s artistic activity in the documentary entitled ‘Louise Bourgeois: The Spider, the Mistress, and the Tangerine’ (F1) *is realised in* the audiovisual content of the documentary entitled ‘Louise Bourgeois: The Spider, the Mistress, and the Tangerine’ (F2).

Properties: R3.1 has type: [E55](#) Type

R4 embodies (is embodied in)

Domain: [F3](#) Manifestation

Range: [F2](#) Expression

Subproperty of: [E73](#) Information Object. P165 incorporates (is incorporated in): [E90](#) Symbolic Object

Quantification: **(1,n;0,n)**

Scope note: This property associates an instance of F3 Manifestation with one or more instances of F2 Expression which are rendered by this instance of F3 Manifestation. The manifestation formats the expression(s) in the way they are to be presented to some public, including specifying the intended sensory impression (such as visual appearance or audio rendition). The content of the embodied instances of F2 Expression should be defined at a symbolic level (such as a text or notated music) more abstract than the embodying instance of F3 Manifestation (such as a book or a notated score).

Examples: The publication identified by ISBN ‘2-222-00835-2’ (F3) *embodies* the text of Marin

Mersenne's 'Harmonie universelle' (F2).

The CD entitled 'Musique de la Grèce antique = Ancient Greek music = Griechische Musik der Antike', released in 2000 and identified by UPC/EAN '794881601622' (F3) *embodies* a recording of the Atrium Musicae Ensemble's performance of a fragment of Euripides' textual and musical work entitled 'Orestes' (F2).

R5 has component (is component of)

Domain: [F2](#) Expression

Range: [F2](#) Expression

Subproperty of: [E89](#) Propositional Object. [P148](#) has component (is component of): [E89](#) Propositional Object

Quantification: (0,n:0,n)

Scope note: This property associates an instance of an F2 Expression X with a structural component Y that conveys a part of the overall work realized by X, such as volumes, chapters, paragraphs. This property is transitive.

Any part of an expression that conveys complete propositions, such as a single phrase, can be documented using the more general property *P148 has component (is component of)*.

Any part of an expression that does not completely follow meaningful boundaries, such as lines or pages of text or portions visible on images, can be documented using the property *P106 is composed of (forms part of)*, and not with *R5 has component (is component of)*. Fragments, in particular, can be documented with the more specific property *R15 has fragment (is fragment of)*.

This property does not cover the relationship that exists between pre-existing expressions that are re-used in a new, larger expression and that new, larger expression. **Such a relationship is modelled by *R75 incorporates (is incorporated in)*.**

Examples: The Italian text of Dante's textual work entitled 'Divina Commedia' (F2) *has component* the Italian text of Dante's textual work entitled 'Inferno' (F2).

The musical notation of Mozart's Singspiel entitled 'Die Zauberflöte' (F2) *has component* the musical notation of Mozart's aria entitled 'Der Hölle Rache', also known as 'The Queen of the Night's Aria' (F2).

The visual content of the map entitled 'Wales – The Midlands – South West England', scale 1:400,000, issued by Michelin in 2005 (F2) *has component* the visual content of the inset entitled 'Liverpool', scale 1:200,000, set within the compass of the map titled 'Wales – The Midlands – South West England', scale 1:400,000, issued by Michelin in 2005 (F2).

R6 carries (is carried by) (Deprecated)

R7 is materialization of (is materialized in)

Domain: [F5](#) Item

Range: [F3](#) Manifestation

Subproperty of: [E18](#) Physical Thing. [P128](#) carries (is carried by): [E90](#) Symbolic Object

Quantification: (1,1:0,n)

Scope note: This property associates an instance of F3 Manifestation with an instance of F5 Item that is one of its exemplars or its only exemplar.

Instances of F5 Item correspond to the kinds of physical unit(s) specified in the manifestation, regardless of possible later changes.

Even though an item may exhibit defects with respect to the intended manifestation, it is still regarded to carry the manifestation, as long as it is produced or made accessible as a functional item by its creators.

Examples: The item held by the National Library of France and identified by shelf mark 'Res 8 P 10' (F5)

is materialization of the edition of Amerigo Vespucci's textual and cartographic work entitled 'Mundus novus' issued in Paris ca. 1503-1504 (F3).

R8 combines (is combined to form)

Domain: [F12](#) Nomen

Range: ~~[E90 Symbolic Object](#)~~ [E89](#) Propositional Object

Subproperty of: ~~[E90 Symbolic Object](#)~~. [P106](#) is composed of (forms part of): ~~[E90 Symbolic Object](#)~~

Shortcut of: [F12](#) Nomen (1). [R33](#) has content: [E62](#) String (1). [P190i](#) has symbolic content (*is symbolic content of*): ~~[E90 Symbolic Object](#)~~ (1): [P106](#) is composed of: ~~[E90 Symbolic Object](#)~~ (2). [P190](#) has symbolic content: [E62](#) String (2). [R33i](#) has content (*is content of*): [F12](#) Nomen (2) [or ~~[E89](#)~~ Propositional Object]

Quantification: (0,n;0,n)

Scope note: This property associates an instance of [F12](#) Nomen with one of the non-syntactic instances of ~~[E90 Symbolic Object](#)~~ [E89](#) Propositional Object whose associated [E62](#) Strings which are combined to form it.

Examples: The English term 'starfish' ([F12](#)) [[as](#) an instance of [F12](#) Nomen that refers to echinoderms] *combines* the English term 'star' ([F12](#)) [[as](#) an instance of [F12](#) Nomen that refers to celestial bodies], and *combines* the English term 'fish' ([F12](#)) [[as](#) an instance of [F12](#) Nomen that refers, in its looser sense, to animals that live exclusively in water].

~~The controlled access point~~ 'The Adoration of the Shepherds (Coventry)' [as a controlled access point for the work](#) ([F12](#)) *combines* 'The Adoration of the Shepherds' ([F12](#)) [a title, i.e., [as](#) an instance of [F12](#) Nomen that refers to a work], and *combines* 'Coventry' ([F12](#)) [[as](#) an instance of [F12](#) Nomen that refers to a place].

~~The controlled access point~~ 'Guillaume, de Machaut, ca. 1300-1377' [as a controlled access point for a person](#) ([F12](#)) *combines* 'Guillaume' ([E90](#)) [[as](#) a given name], and *combines* 'Machaut' ([F12](#)) [[as](#) an instance of [F12](#) Nomen that refers to a place], and *combines* 'ca. 1300-1377' ([F12](#)) [[as](#) an instance of [F12](#) Nomen that refers to a time-span].

~~The controlled access point~~ 'Univerza v Ljubljani. Oddelek za bibliotekarstvo' [as a controlled access point for a corporate body](#) ([F12](#)) *combines* 'Univerza v Ljubljani' ([F12](#)) [[as](#) an instance of [F12](#) Nomen that refers to a corporate body], and *combines* 'Oddelek za bibliotekarstvo' ([F12](#)) [[as](#) an instance of [F12](#) Nomen that refers to another corporate body, affiliated to the former].

ISBN-10 '978-002-002-0' [as an identifier for the publication entitled 'Nigeria's international economic relations'](#) ([F12](#)) *combines* '978' ([F12](#)) [[as](#) an instance of [F12](#) Nomen indicating the Nigerian ISBN Agency], *combines* '002' ([F12](#)) [[as](#) an instance of [F12](#) Nomen indicating the Nigerian Institute of International Affairs], *combines* '002' ([F12](#)) [[as](#) an instance of [F12](#) Nomen used for the publication entitled 'Nigeria's international economic relations'], and *combines* '0' ([E90](#)) [an instance of [E90](#) Symbolic Object that constitutes the control character for this ISBN].

R9 is realised in (realises) (Deprecated)

R10 has member (is member of) (Deprecate)

Domain: [F1](#) Work

Range: [F1](#) Work

Superproperty of: [F1](#) Work. [R67](#) has part (is part of): [F1](#) Work

[F1](#) Work. [Rnn](#) has elaboration (is elaboration of): [F1](#) Work

Subproperty of: [E89](#) Propositional Object. [P148](#) has component (is component of): [E89](#) Propositional Object

Quantification: (0,n;0,n)

Scope note: This property associates an instance of [F1](#) Work with another instance of [F1](#) Work that forms a

part of it. This property is transitive. An instance of F1 Work may neither directly nor indirectly be a member of itself. Instances of F1 Work that are not members of one another may not share a common member.

Examples: Giovanni Battista Piranesi's graphic work entitled 'Carcere XVI: the pier with chains' (F1) *has member* the abstract content of Giovanni Battista Piranesi's graphic work entitled 'Carcere XVI: the pier with chains: 2nd state' (F1).

Joseph Haydn's musical work entitled 'The Seven Last Words of Christ' (numbered Hob. XX in Anthony van Hoboken's catalogue of Joseph Haydn's works) (F1) *has member* Joseph Haydn's orchestral work entitled 'The Seven Last Words of Christ', composed in 1786 (Hob. XX/1A) (F1).

Joseph Haydn's musical work entitled 'The Seven Last Words of Christ' (numbered Hob. XX in Anthony van Hoboken's catalogue of Joseph Haydn's works) (F1) *has member* Joseph Haydn's work for string quartet entitled 'The Seven Last Words of Christ', composed in 1787 (identified both as Hob. XX/1B and Hob. III/50-56 in Anthony van Hoboken's catalogue, and published as Op. 51) (F1).

Joseph Haydn's musical work entitled 'The Seven Last Words of Christ' (numbered Hob. XX in Anthony van Hoboken's catalogue of Joseph Haydn's works) (F1) *has member* Joseph Haydn's oratorio entitled 'The Seven Last Words of Christ', composed in 1796 (Hob. XX/2) (F1).

R11 has issuing rule (is issuing rule of)

[Editor's note: Transfer this property to PRESSoo once version 2.0 has a stable draft. Implement this property only in conjunction with an implementation of PRESSoo.]

Domain: [F18](#) Serial Work

Range: [E29](#) Design or Procedure

Shortcut of: [F18](#) Serial Work. [R19i](#) was realised through: [F30](#) Manifestation Creation. [P16](#) used specific object (was used for): [E29](#) Design or Procedure

Quantification: (0,n:0,n)

Scope note: This property associates an instance of F18 Serial Work with the instance of E29 Design or Procedure that specifies the issuing policy planned by this instance of F18 Serial Work, such as sequencing pattern, expected frequency and expected regularity.

Examples: The serial entitled 'Quarterly journal of pure and applied mathematics', identified by ISSN '1549-6724' (F18) *has issuing rule* to be issued every three months, on a regular basis, with each issue being numbered according to the pattern 'Vol. 1, no. 1 (2005)' that was observed by the Library of Congress's cataloguers on an exemplar of the first issue (E29).

R12 is realised in (realises) (Deprecated)

R13 is realised in (realises) (Deprecated)

R15 has fragment (is fragment of)

Domain: [F2](#) Expression

Range: [E90](#) Symbolic Object

Subproperty of: [E90](#) Symbolic Object. [P106](#) is composed of (forms part of): [E90](#) Symbolic Object

Quantification: (0,n:0,n)

Scope note: This property associates an instance of E90 Symbolic Object with an instance of F2 Expression of which it is a fragment. The fragment is not itself an instance of F2 Expression as it does not express any instance of F1 Work. When the fragment consists of intelligible words it is an instance of E33 Linguistic Object.

An instance of E90 Symbolic Object can be extracted from an instance of F2 Expression due to

an accident, such as loss of material over time, e.g. the only remaining manuscript of an ancient text being partially eaten by worms, or due to deliberate isolation, such as excerpts taken from a text by the compiler of a collection of excerpts.

An instance of E90 Symbolic Object is only considered a fragment of an instance of F2 Expression when related to its occurrence in a known or assumed whole by the *R15 has fragment (is fragment of)* property. The size of an instance of E90 Symbolic Object ranges from more than 99% of an instance of F2 Expression to tiny bits (a few words from a text, one bar from a musical composition, one detail from a still image, a two-second clip from a video, etc.).

Examples:

- The ancient Greek text of the four stanzas from an ode by Sappho (E33) that were quoted by Pseudo-Longinus in his textual work entitled ‘On the sublime’ *is fragment of* the complete ancient Greek text, now irremediably lost, of Sappho’s ode currently identified as Sappho’s poem #2 (F2).
- The statement ‘fasc. 111’ (E33) (abridgement for ‘fascicle no. 111’) indicating the sequential position of the publication identified by ISBN ‘2-7018-0037-4’ within the series entitled ‘Bibliothèque des Écoles françaises d’Athènes et de Rome’ and identified by ISSN ‘0257-4101’ *is fragment of* the overall content of the publication identified by ISBN ‘2-7018-0037-4’ (F3).
- The phrase ‘Beati pauperes spiritu’ (E33) *is fragment of* the Latin text of the Gospel according to St. Matthew (F2). [excerpt from Matthew 5,3]
- The stanza ‘Nel mezzo del cammin di nostra vita / mi ritrovai per una selva oscura / ché la diritta via era smarrita’ (E33) *is fragment of* the Italian text of Dante Alighieri’s ‘Inferno’ and ‘Divina Commedia’ (F2).
- The widely recognized omnious four-note opening motif (E73) *is fragment of* Beethoven’s Fifth Symphony (F2).
- The illuminated initial P on folio 27r (E36) *is fragment of* ‘Erec et Enide de Chrétien de Troyes’ (F2).
- The melting clock (E36) *is fragment of* the painting ‘Persistence of Memory’ by Salvador Dali, 1931 (F2).
 - (should we add an example of a single page from a larger text—to show that the fragment breaks at symbol boundaries and not necessarily at word or sentence boundaries?)

R16 initiated (was initiated by)

Domain: [F27](#) Work Conception

Range: [F1](#) Work

Subproperty of: [E65](#) Creation. [P94](#) has created (was created by): [E28](#) Conceptual Object

Quantification: (1,n:1,1)

Scope note: This property associates the first conception of a work and the instance of F1 Work itself that ensued from a given initial idea.

It marks the origin of the causality chain that results in a work’s coming into existence.

Examples: Ludwig van Beethoven’s decision to compose a fifth symphony (F27) *initiated* Ludwig van Beethoven’s Fifth Symphony (F1).

Pablo Picasso’s acceptance, in 1930, of Ambroise Vollard’s commission for a set of 100 etchings, now known as the ‘Vollard Suite’ (F27) *initiated* the ‘Vollard Suite’ (F1).

René Goscinny’s and Albert Uderzo’s decision to collaborate on the comic book entitled ‘Asterix in Britain’ (F27) *initiated* the comic book entitled ‘Asterix in Britain’ (F1).

The creative spark that motivated Oscar Wilde, by May 1897, to write a poem inspired by his stay in the Reading prison in 1895-1897 (F27) *initiated* Oscar Wilde’s poem entitled ‘The ballad of the Reading gaol’ (F1).

R17 created (was created by)

Domain: [F28 Expression Creation](#)

Range: [F2 Expression](#)

Superproperty of: [F30 Manifestation Creation](#). [R24](#) created (was created through): [F3 Manifestation](#)

Subproperty of: [E65 Creation](#). [P94](#) has created (was created by): [E28 Conceptual Object](#)

[F56 Externalization Event](#). [Rnn3 was remembered in \(contains memory of\)](#): [F2 Expression](#)

Quantification: (1,1:1,n)

Scope note: This property associates the instance of F2 Expression that was first externalised during a particular instance of F28 Expression Creation event with that particular creation event.

Examples: Richard Wagner's writing the original manuscript of his opera entitled 'Der fliegende Holländer' (F28) *created* the notational content of the original manuscript of Richard Wagner's opera entitled 'Der fliegende Holländer' (F2).

Oscar Wilde's writing the original manuscript of his poem entitled 'The ballad of the Reading gaol' (F28) *created* the English text of Oscar Wilde's poem entitled 'The ballad of the Reading gaol' (F2).

The making of the recording of the third alternate take of the musical work entitled 'Blue Hawaii' as performed by Elvis Presley in Hollywood, Calif., Radio Recorders, on March 22nd, 1961 (F29) *created* the set of signs that make up the third alternate take of the musical work entitled 'Blue Hawaii' as performed by Elvis Presley in Hollywood, Calif., Radio Recorders, on March 22nd, 1961 (F2).

The making of the photograph of the three Allied leaders at Yalta in February 1945 (F29) *created* the set of signs that make up the famous photograph of the three Allied leaders at Yalta in February 1945 (F2).

The making of the recording of an East Australian humpback whale song in 1994 in the framework of the Oceania Project (F29) *created* the set of signs that make up the sound recording of an East Australian humpback whale song in 1994 (F2).

Filming Louise Bourgeois at work in the context of the shooting of the documentary entitled 'Louise Bourgeois: The Spider, the Mistress, and the Tangerine' (F29) *created* the set of signs that make up the sequences from the documentary entitled 'Louise Bourgeois: The Spider, the Mistress, and the Tangerine' in which Louise Bourgeois is seen at work (F2).

R18 created (was created by)

Domain: [F28 Expression Creation](#)

Range: [F5 Item](#)

Subproperty of: [E12 Production](#). [P108](#) has produced (was produced by): [E24 Physical Human-Made Thing](#)

Quantification: (1,n:0,1)

Scope note: This property associates an instance of F28 Expression Creation with the first physical objects, instances of F5 Item, in which the resulting instance of F2 Expression was embodied.

Examples: Emily Dickinson's creating the text of one of the several extant versions of her poem known as 'Safe in their alabaster chambers' (F28) *created* the manuscript now identified as 'Massachusetts Cambridge Harvard University Houghton Library bMS Am 1118.3 (203c, 203d)' (F5).

Emily Dickinson's creating the text of another one of the several extant versions of her poem known as 'Safe in their alabaster chambers' (F28) *created* the manuscript now identified as 'Massachusetts Cambridge Harvard University Houghton Library bMS Am 1118.5 (74c)' (F5).

The recording of the third alternate take of the musical work entitled 'Blue Hawaii' performed by Elvis Presley in Hollywood, Calif., Radio Recorders, on March 22nd, 1961 (F29) *created* the master tape of the 3rd alternate take of the musical work entitled 'Blue Hawaii' performed by Elvis Presley in Hollywood, Calif., Radio Recorders, on March 22nd, 1961 (F5). [Each

individual take is a distinct expression.]

The resource (a drawing) held by the New York Public Library and identified by call number ‘*MGZGB Far P Cop 1’ (F5) *was created by* the creation, by the artist named ‘Peter Farmer’, of a costume design for the character named ‘War’ in the Act III ‘Masque of the seasons’, in the Festival Ballet of London production of the choreographic work entitled ‘Coppélia’, with choreography by Jack Carter after Petipa (F28).

R19 created a realisation of (was realised through)

Domain: [F28 Expression Creation](#)

Range: [F1 Work](#)

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

Quantification: (1,n:1,1)

Scope note: This property associates an instance of F28 Expression Creation with the instance of F1 Work which was externalised in the instance of F2 Expression created by this creation event.

Examples: Giovanni Battista Piranesi’s creating the image identified as ‘Carcere XVI: the pier with chains: 2nd state’ (F28) *created a realisation of* the concept of Giovanni Battista Piranesi’s graphic work entitled ‘Carcere XVI: the pier with chains: 2nd state’ (F1).

Recording Glenn Gould’s performance of Johann Sebastian Bach’s musical work entitled ‘Toccatina in C minor BWV 911’ on May 15 & 16, 1979, in Toronto, Eaton’s Auditorium (F29) *created a realisation of* the concept of the recorded performance of Johann Sebastian Bach’s musical work entitled ‘Toccatina in C minor BWV 911’ by Glenn Gould on May 15 & 16, 1979, in Toronto, Eaton’s Auditorium (F1).

Establishing in 1972 the layout, features, and prototype for the publication of Stephen Crane’s complete poems (F30) *created a realisation of* Cornell University Press’s concepts for an edition of Stephen Crane’s complete poems (F1).

The making of the recording of the third alternate take of the musical work entitled ‘Blue Hawaii’ as performed by Elvis Presley in Hollywood, Calif., Radio Recorders, on March 22nd, 1961 (F29) *created a realisation of* the concept of the third alternate take of the musical work entitled ‘Blue Hawaii’ as performed by Elvis Presley in Hollywood, Calif. (F1).

The making of the photograph of the three Allied leaders at Yalta in February 1945 (F29) *created a realisation of* the concept of making a photograph of the three Allied leaders at Yalta in February 1945 (F1).

The making of the recording of an East Australian humpback whale song in 1994 in the framework of the Oceania Project (F29) *created a realisation of* Oceania Project’s concept of making a large digital acoustic data archive dedicated to East Australian humpback whale songs (F1).

Filming Louise Bourgeois at work in the context of the shooting of the documentary entitled ‘Louise Bourgeois: The Spider, the Mistress, and the Tangerine’ (F29) *created a realisation of* the concept of recording Louise Bourgeois’s artistic activity in the documentary entitled ‘Louise Bourgeois: The Spider, the Mistress, and the Tangerine’ (F1).

R20 recorded (was recorded through)

Domain: [F29 Recording Event](#)

Range: [E2 Temporal Entity](#)[F31 Performance](#)

Subproperty of: [E7 Activity](#). [P15](#) was influenced by (influenced): [E5 Event](#). [P9i](#) forms part of: [E5 Event](#). [P9](#) consists of: [E5 Event](#)[E1 CRM Entity](#)

Quantification: (1,n:0,n)

Scope note: This property associates an instance of F29 Recording Event with the an instance of F31 Performance, E2 Temporal Entity of which it was captureds the resulting instance of F2 Expression.

In the case that the recorded temporal entity is an instance of F56 Externalisation Event, then the recording creates a memory of it (cf. new Rnn3).

Examples: The making of the recording of the third alternate take of the musical work entitled ‘Blue Hawaii’ as performed by Elvis Presley in Hollywood, Calif., Radio Recorders, on March 22nd, 1961 (F29) *recorded* Elvis Presley’s performance of the musical work entitled ‘Blue Hawaii’ in Hollywood, Calif., Radio Recorders, on March 22nd, 1961 (F31).

The making of the recording of ‘La Traviata’ performed by the Royal Opera House in December 1994, conducted by Sir Georg Solti and featuring Angela Gheorghiu (F29) *recorded* the performance of this opera at the Royal Opera House in December 1994 (F31).

R21 created (was created through) (*Deprecated*)

R22 created a realisation of (was realised through) (*Deprecated*)

R23 created a realisation of (was realised through) (*Deprecated*)

R24 created (was created through)

Domain: [F30 Manifestation Creation](#)

Range: [F3 Manifestation](#)

Subproperty of: [F28 Expression Creation](#). [R17 created \(was created by\)](#): [F2 Expression](#)

Quantification: (1,n:1,n)

Scope note: This property associates the instance of F3 Manifestation that was created during a particular instance of F30 Manifestation Creation with that instance of F30 Manifestation Creation event.

Examples: Establishing in 1972 the layout, features, and prototype for the publication of Stephen Crane’s complete poems (F30) *created* the set of signs and instructions as to manufacturing established by Cornell University Press for a publication of Stephen Crane’s complete poems (F3).

R25 performed (was performed in) (*Deprecated*)

R26 produced things of type (was produced by)

Domain: [F32 Carrier Production Event](#)

Range: E99 Product Type

Subproperty of: [E12 Production](#). P186 produced thing of product type (is produced by): E99 Product Type

Quantification: (1,n:0,n)

Scope note: This property associates an instance of F32 Carrier Production Event directly with the instance of E99 Product Type that is the prototype displaying the features that all of the F5 Items produced should display. This property is used in preference to *R27 materialized (was materialized by)* when the instance of F3 Manifestation that is materialized by the instance of F32 Carrier Production Event is also an instance of E99 Product Type.

Examples: The production of copies of the publication entitled ‘Codex Manesse: die Miniaturen der großen Heidelberger Liederhandschrift, herausgegeben und erläutert von Ingo F. Walther unter Mitarbeit von Gisela Siebert’, 3rd edition, Insel-Verlag, 1988 (F32) *produced things of type* the publication identified as ‘Codex Manesse: die Miniaturen der großen Heidelberger Liederhandschrift, herausgegeben und erläutert von Ingo F. Walther unter Mitarbeit von Gisela Siebert’, 3rd edition, Insel-Verlag, 1988 (F3, E99). [multiple instantiation]

The production of copies of the publication entitled ‘Ordnance Survey Explorer Map 213, Aberystwyth & Cwm Rheidol’, ISBN ‘0-319-23640-4’ (folded), 1:25,000 scale, released in May 2005 (F32) *produced things of type* the publication identified by ISBN ‘0-319-23640-4’ (F3, E99). [multiple instantiation]

The production of copies of the sound recording entitled ‘The Glory (????) of the human voice’, RCA Victor Gold Seal GD61175, containing recordings of musical works performed

by Florence Foster Jenkins (F32) *produced things of type* the publication entitled ‘The Glory (????) of the human voice’ and identified by the label and label number ‘RCA Victor Gold Seal GD61175’ (F3, E99). [multiple instantiation]

The production of a second print run, in 1978, of the publication titled ‘The complete poems of Stephen Crane, edited with an introduction by Joseph Katz’ (identified by ISBN ‘0-8014-9130-4’) (F32) *produced things of type* the publication, dated 1972, entitled ‘The complete poems of Stephen Crane, edited with an introduction by Joseph Katz’ (identified by ISBN ‘0-8014-9130-4’) (F3, E99). [multiple instantiation]

R27 materialized (was materialized by)

Domain: [F32](#) Carrier Production Event

Range: [F3](#) Manifestation

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

Quantification: (0,n;0,n)

Scope note: This property associates an instance of F32 Carrier Production Event with the set of signs provided by the publisher to be carried by all of the produced items (i.e., the instances of F5 Item) and any other physical features foreseen as integral to the instance of F3 Manifestation that is materialised.

Examples: The production of copies of the publication identified by ISBN ‘1-86197-612-7’ (F32) *materialized* the final set of signs sent by the publisher named ‘Profile Books’ to their printer for the production of copies of the publication identified by ISBN ‘1-86197-612-7’ (F3, E99). [multiple instantiation]

R28 produced (was produced by)

Domain: [F32](#) Carrier Production Event

Range: [F5](#) Item

Subproperty of: [E12](#) Production. [P108](#) has produced (was produced by): [E24 Physical Human-Made Thing](#)

Quantification: (0,n;1,1)

Scope note: This property associates an instance of F32 Carrier Production Event with any one of the produced items (i.e., the instances of F5 Item).

Examples: The production of copies of the publication entitled ‘Codex Manesse: die Miniaturen der großen Heidelberger Liederhandschrift, herausgegeben und erläutert von Ingo F. Walther unter Mitarbeit von Gisela Siebert’, 3rd edition, Insel-Verlag, 1988 (F32) *produced* the National Library of France’s holding identified by shelf mark ‘C-1604(2)’ (F5).

The production of copies of the publication entitled ‘Ordnance Survey Explorer Map 213, Aberystwyth & Cwm Rheidol’, ISBN 0-319-23640-4 (folded), 1:25,000 scale, released in May 2005 (F32) *produced* the National Library of Wales’ holding identified by holding information ‘MAP, STORFA/STACK ; FLAT MAP, C16 (20/1), Sheet 213, c.135/5/2’ (F5).

The production of copies of the sound recording entitled ‘The Glory (????) of the human voice’, RCA Victor Gold Seal GD61175 (F32) *produced* the London Public Library’s holding identified by call number ‘R J416.G1’ (F5).

The second print run, occurring in 1978, of the publication dated of 1972 and entitled ‘The complete poems of Stephen Crane, edited with an introduction by Joseph Katz’ (identified by ISBN ‘0-8014-9130-4’) (F32) *produced* Universitätsbibliothek Passau’s holding identified by call number ‘00/HT 4801.978 K2’ (F5).

R29 reproduced object (was object reproduced by)

Domain: [F33](#) Reproduction Event

Range: [F5](#) Item

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

Quantification: (1,n:0,n)
Scope note: This property associates an instance of F33 Reproduction Event with an instance of F5 Item it reproduces.
Examples: The activity performed by Schott when producing the 2015 publication of Harry Partch's 'Two studies on ancient Greek scales' (F33) *reproduced object* Harry Partch's holograph manuscript of 'Two studies on ancient Greek scales' (F5).

R30 reproduced publication (was publication reproduced by)

Domain: [F33 Reproduction Event](#)
Range: [F3 Manifestation](#)
Subproperty of: [E7 Activity](#). [P16](#) used specific object (was used for): [E70 Thing](#)
Quantification: (1,n:0,n)
Scope note: This property associates an instance of F33 Reproduction Event with an instance of F3 Manifestation it reproduces.
Examples: The activity performed by Cambridge University Press when producing the 2014 publication of Daniel Wilson's 'Caliban: the missing link' (F33) *reproduced publication* the 1873 publication of Daniel Wilson's 'Caliban: the missing link' by Macmillan (F3).
The activity performed by Éditions du Seuil when producing the 2007 publication of Hubert Reeve's 'Malicorne: réflexions d'un observateur de la nature' as number 179 in the series 'Points. Science' (identified by ISBN '978-2-02-096760-0') (F33) *reproduced publication* the 1990 publication by Éditions du Seuil in the series 'Science ouverte' (identified by ISBN '2-02-012644-3') (F3).

R31 is reproduction of (has reproduction) (Deprecated)

R32 is warranted by (warrants) (Deprecated)

R33 has content

Domain: [F12 Nomen](#)
Range: [E62 String](#)
Subproperty of: [E1 CRM Entity](#). [P3](#) has note: [E62 String](#)
Quantification: (1,1:0,n)
Scope note: This property associates an instance of F12 Nomen with a sign or arrangement of signs that is used to refer to something through that instance of F12 Nomen.
Examples: The English ~~term~~word 'poison' [as a term for toxic substances](#), in written form in the Latin alphabet (F12) *has content* the letters p, o, i, s, o, n with no intervening spaces (E62).
The English ~~word~~term 'poison' [as a term for toxic substances](#), notated in the International Phonetic Alphabet (F12) *has content* the string of characters [ˈpɔɪzən] (E62).
The French ~~word~~term 'poison' [as a term for toxic substances](#), in written form in the Latin alphabet (F12) *has content* the letters p, o, i, s, o, n with no intervening spaces (E62).
The French ~~word~~term 'poison' [as a term for toxic substances](#), notated in the International Phonetic Alphabet (F12) *has content* the string of characters [pwaˈzɔ̃] (E62).
Properties: R33.1 has encoding: [E55 Type](#)

R34 has validity period (is validity period of)

[\[Editor's note\]](#): Transfer this property to an appropriate CRM family model once there is a stable draft of one. In another model the domain will be a more general class and the scope will be framed more broadly, since many other expressions have validity periods, such as laws, building standards, maps, other normative documents, etc.]

Domain: [F34](#) Controlled Vocabulary

Range: [E52](#) Time-Span

Subproperty of: Out of CRM Scope

Quantification: (1,1:0,n)

Scope note: This property associates an instance of [F34](#) Controlled Vocabulary with the instance of [E52](#) Time-Span describing the period for which the particular expression of the controlled vocabulary was regarded as valid by its maintainers. Each change of validity status of a nomen within the controlled vocabulary should be associated with a release change of the controlled vocabulary. The individual time-span of a validity state of a nomen would be the union of the time-spans of the controlled vocabulary in which the nomen was declared to have the particular validity status (provisional, accepted, obsolete, etc.).

Examples: LCSH February 20 to March 19 2012 ([F34](#)) *has validity period* February 20 to March 19 2012 ([E52](#)).

DDC 19 ([F34](#)) *has validity period* 1979 to 1989 ([E52](#)).

R35 is specified by (specifies)

Domain: [F12](#) Nomen

Range: [F2](#) Expression

Subproperty of: ~~[E89](#) Propositional Object. [P148](#) has component (is component of): [E89](#) Propositional Object~~
[E1](#) CRM Entity [P67i](#) is referred to by: [E89](#) Propositional Object

Quantification: (1,1:1,n)

Scope note: ~~This property associates an instance of [F12](#) Nomen with an instance of [F2](#) Expression in which the Nomen Use Statement has a given status. The property [R35.1](#) allows for specifying the particular status of the nomen use statement within the controlled vocabulary. An instance of [R35 is specified by](#) should have only one status, which documents, defines or provides evidence for the particular nomen in the stated sense.~~

Examples: ~~'acoustic surface wave device' as a term for the device (F12) is specified by INSPEC Thesaurus version January 1973 (F2) [R35.1](#) has status valid (E55).~~

~~'acoustic surface wave device' (F35) [R35 is specified by](#) INSPEC Thesaurus version June 1978 (F34) [R35.1](#) has status obsolete (E55)~~

~~'595.7' as a classification number for insects (the taxonomic class Insecta) (F12) is specified by the 23rd edition of the Dewey Decimal Classification (DDC) (F2).~~

~~Properties: — [R35.1](#) has status: [E55](#) Type~~

R36 uses script conversion (is script conversion used in)

Domain: [F12](#) Nomen

Range: [F36](#) Script Conversion

Is shortcut of: [F12](#) Nomen. [R17i](#) was created by (created): [E65](#) Creation. [P33](#) used specific technique (was used by): [E29](#) Design or Procedure

Quantification: (0,1:0,n)

Scope note: This property associates an instance of [F12](#) Nomen with the instance of [F36](#) Script Conversion that was used to create the instance of [F12](#) Nomen. The source of this conversion may or may not be explicitly mentioned.

Examples: **'Du Fu' as the name for a Chinese poet of the 8th century (F12) uses script conversion Pinyin (F36).**

'Čajkovskij, Petr Il'ič' as the name of the Russian composer (F12) uses script conversion 'ISO 9 Information and documentation — Transliteration of Cyrillic characters into Latin characters — Slavic and non-Slavic languages' (F36).

R37 states as nomen (is stated as nomen in) *(Deprecated)*

R38 refers to thema (is thema of) *(Deprecated)*

R39 is intended for (is target audience in) *(Deprecated)*

R40 has representative expression (is representative expression for) *(Deprecated)*

R41 has representative manifestation product type (is representative manifestation product type for) *(Deprecated)*

R42 is representative manifestation singleton for (has representative manifestation singleton) *(Deprecated)*

R43 carried out by (performed) *(Deprecated)*

R44 carried out by (performed) *(Deprecated)*

R45 assigned to (was assigned by) *(CRMsoc)*

[Editor's note: Transfer this property to CRMsoc once that model has a stable draft.]

Domain: [F52 Name Use Activity](#)

Range: [E1 CRM Entity](#)

Subproperty of: [E13 Attribute Assignment](#). [P140 assigned attribute to \(was attributed by\)](#): [E1 CRM Entity](#)

Quantification: (1,1:0,n)

Scope note: This property identifies the entity to which an actor, such as a bibliographic agency, assigned an instance of E42 Identifier.

Examples: Assigning the controlled access point 'The Adoration of the Shepherds (Coventry)' (F52) *assigned to* the anonymous textual work otherwise simply known as 'The Adoration of the Shepherds' (F1). [assignment of an Identifier to a Work]

Assigning the controlled access point 'Rite of spring (Choreographic Work: Bausch)' (F52) *assigned to* Pina Bausch's choreographic work entitled 'Rite of spring' (F1). [assignment of an Identifier to a Work]

Assigning the controlled access point 'King Kong (1933)' (F52) *assigned to* the motion picture directed in 1933 by Merian C. Cooper and Ernest B. Schoedsack, entitled 'King Kong' (F1). [assignment of an Identifier to a Work]

Assigning the controlled access point 'Guillaume, de Machaut, ca. 1300-1377' (F52) *assigned to* Guillaume de Machaut (E21). [assignment of an Identifier to a Person]

Assigning the controlled access point 'Univerza v Ljubljani. Oddelek za bibliotekarstvo' (F52) *assigned to* the Department for library science of the University of Ljubljana (F11). [assignment of an Identifier to a Corporate Body]

R46 assigned (was assigned by) *(Deprecated)*

R48 assigned to (was assigned by) *(Deprecated)*

R49 assigned (was assigned by) *(Deprecated)*

R50 assigned to (was assigned by) (Deprecated)

R51 assigned (was assigned by) (Deprecated)

R52 used rule (was the rule used in) (Deprecated)

R53 assigned (was assigned by) (Deprecated)

R54 has language (is language of)

Domain: [F12](#) Nomen

Range: [E56](#) Language

Subproperty of: [E1](#) CRM Entity. P2 has type: [E55](#) Type

Quantification: (0,n;0,n)

Scope note: This property associates an instance of F12 Nomen with an instance of E56 Language which is the language used for or associated with the nomen.

Examples: 'Colón Cristóbal' as a name of the explorer and navigator (F12) *has language* Spanish [encoded as 'spa' in ISO 639-2] (E56).

'Columbus Christopher' as a name of the explorer and navigator (F12) *has language* English [encoded as 'eng' in ISO 639-2] (E56).

'Conseil international des musées' as a name of ICOM, the International Council of Museums (F12) *has language* French [encoded as 'fre' in ISO 639-2] (E56).

'Internationaler Museumsrat' as a name of ICOM, the International Council of Museums (F12) *has language* German [encoded as 'ger' in ISO 639-2] (E56).

'Union européenne' as a name of the European Union (F12) *has language* French [encoded as 'fre' in ISO 639-2] (E56).

'Vienna' as a name of the city which is the capital of Austria (F12) *has language* English [encoded as 'eng' in ISO 639-2] (E56).

'Organic chemistry' as a term for the branch of chemistry concerned with organic compounds (F12) *has language* English [encoded as 'eng' in ISO 639-2] (E56).

R55 has nomen form (is nomen form in) (Deprecated)

R56 ~~hasis related touse (is related touse for)~~

Domain: [E12](#) Nomen

Range: [E12](#) Nomen

Subproperty of: (none) ~~[E29](#) Design or Procedure. P69 has association with (is associated with): [E29](#) Design or Procedure~~

~~Shortcut of: [E89](#) Propositional Object (1). P1i identifies: E1 CRM Entity. P1 is identified by: [E89](#) Propositional Object (2)~~

Quantification: (0,n;0,n)

Scope note: This property associates an instance of F12 Nomen with another instance of F12 Nomen which ~~co-refers to the same instance of E1 CRM Entity. In addition, the nomens may be~~~~has a~~ related ~~use~~ in some context, such as ~~being an alternative, a lexical variant,~~ replacing former use, etc. This property is transitive.

The property R56.1 allows for specifying the particular kind of relationship that holds between the ~~content (the associated instances of E62 String) of the domain nomen and the range nomen use statements,~~ such as by being a derivation, an alternative, a lexical variant, etc. ~~Typing the association may introduce a meaning of the inverse direction which may cause loss of~~

transitivity.

Examples:

‘001 FRBNF122597517’...‘14506\$w.1..b.fre.\$aDu sublime’ [an instance of F35 Nomen Use Statement in INTERMARC format] (F35) R56 has related use ‘001 FRBNF122597517’...‘14506\$w.0..g.grp \$aΠερί ὕψους’ [an instance of F35 Nomen Use Statement in INTERMARC format] (F35) R56.1 has type parallel form (E55)

‘001 FRBNF126866954’...‘100 \$w.0..b.....\$aTyrrell\$MGeorge\$d1861-1909’ [an instance of F35 Nomen Use Statement in INTERMARC format] (F35) R56 has related use ‘001 FRBNF126866954’...‘466 \$w....b \$aTyrrell\$oSaffaire\$g1907’ [an instance of F35 Nomen Use Statement in INTERMARC format] (F35) R56.1 has type variant access point for a personal name, intended to be displayed in a subject index only, and not in a personal names index (E55) [Explanation: in the INTERMARC format used at the National Library of France, tag 466 in an authority record for a person serves to introduce a topical term which is displayed as a variant form for the personal name in the subject index, but is not displayed in the name index]

‘010 __|a n 78004438’...‘110 2_ |a International Federation of Library Associations and Institutions’ [an instance of F35 Nomen Use Statement in MARC 21 format] (F35) R56 has related use ‘010 __|a n 78004438’...‘410 2_ |a IFLA’ [an instance of F35 Nomen Use Statement in MARC 21 format] (F35) R56.1 has type acronym (E55) (in MARC 21 field 410 serves as a reference to the accepted form which appears in field 110)

‘PTBNP|20891’...‘200 1‡a Whitman, ‡b Walt, ‡f 1819-1892’ (F35) R56 has related use ‘PTBNP|20891’...‘675 ‡a 820(73) Whitman, Walt.09 ‡v BN ‡z por’ (F35) R56.1 has type has associated UDC number (E55) (in UNIMARC field 675 serves to associate a UDC number with the accepted form which appears in field 200)

‘<eac-epf [...]> <control> <recordId>beineeke.7h44jbj</recordId> [...] </control>’ ... ‘<epfDescription> <identity> <entityType>family</entityType> <nameEntry xml:lang="eng" scriptCode="Latn"><part localType="100a">Boswell family</part> [...] </nameEntry> [...] </identity> </epfDescription> [...] </eac-epf>’ [an instance of F35 Nomen Use Statement in EAC] (F35) R56 has related use ‘<eac-epf [...]> <control> <recordId>beineeke.7h44jbj</recordId> [...] </control>’ ... ‘<epfDescription> <identity> <entityType>family</entityType> <nameEntry xml:lang="eng" scriptCode="Latn"> <part localType="400a">Buzwell family </part> [...] </nameEntry> [...] </identity> </epfDescription> [...] </eac-epf>’ [an instance of F35 Nomen Use Statement in EAC] (F35) R56.1 has type alternative form (E55)

‘Čajkovskij, Petr Il’ič’ as the name of the Russian composer (F12) is related to ‘Пётр Ильич Чайковский’ as the name of the Russian composer (F12), with has type transliteration (E55).

‘The Lord of the Rings’ as the title of the work by J.R.R. Tolkien (F12) is related to ‘Le Seigneur des anneaux’ as the title of the work by J.R.R. Tolkien (F12), with has type original language (E55).

‘IFLA’ as the name of the international association in the library field (F12) is related to ‘International Federation of Library Associations and Institutions’ as the name of the international association in the library field (F12), with has type acronym.

‘Siam’ as the name of the country in South Asia (F12) is related to ‘Thailand’ as the name of the country in South Asia (F12).

‘595.7’ as a classification number referring to the taxonomic class insects (F12) is related to ‘Insecta’ as a term referring to the taxonomic class insects (F12). [The latter being the caption for the Dewey Decimal Classification number in the English language 23rd edition.]

Properties:

R56.1 has type: [E55](#) Type

R57 is based on (is basis for) (CRMsoc)

[Editor’s note: Transfer this property to CRMsoc once that model has a stable draft.]

Domain: [F38](#) Character

Range: [E39](#) Actor

Shortcut of: [F38](#) Character. [P94i](#) was created by (has created): [E65](#) Creation. [P17](#) was motivated by (motivated): [E39](#) Actor

Quantification: (0,n:0,n)

Scope note: This property associates an instance of [F38](#) Character with an instance of [E39](#) Actor that the character is motivated by or is intended to represent. An instance of [F38](#) Character may be based on a combination of features taken from several actors. This property is a shortcut of the more fully developed path from [E28](#) Conceptual Object, restricted to [F38](#) Character, through the inverse of *[P94](#) has created (was created by): [E65](#) Creation. [P17](#) was motivated by (motivated)* to [E1](#) CRM Entity restricted to [E39](#) Actor.

Examples: The Character ‘Sinuhe’ ([F38](#)) in Mika Waltari’s ‘Sinuhe the Egyptian: A Novel’ *is based on* Sinuhe ([E21](#)). [Documented in the autobiographic narrative in fragments carried by The Ramesside Papyrus, Pap. Berlin 10499, Pap. Berlin 3022, The Amherst fragments (m-q) and other Egyptian sources.]

The Character ‘Alexander’ ([F38](#)) in Mary Renault’s ‘Fire from Heaven’ *is based on* Alexander the Great of Macedon (356-323) ([E21](#)).

R58 has fictional member (is fictional member of) (CRMsoc)

[Editor’s note: Transfer this property to CRMsoc once that model has a stable draft.]

Domain: [F38](#) Character

Range: [F38](#) Character

Subproperty of: out of CIDOC CRM Scope

Quantification: (0,n:0,n)

Scope note: This property associates an instance of [F38](#) Character representing a group with another instance of [F38](#) Character that is presented in relevant fiction as a member of the fictional group.

Examples: Argonauts ([F38](#)) *has fictional member* Jason ([F38](#)).

R59 had typical subject (was typical subject of) (CRMsoc)

[Editor’s note: Transfer this property to CRMsoc once that model has a stable draft.]

Domain: [F51](#) Pursuit

Range: [E1](#) CRM Entity

Subproperty of: [E65](#) Creation. [P94](#) has created (was created by): [E89](#) Propositional Object. [P129](#) is about (is subject of): [E1](#) CRM Entity

Quantification: (0,n:0,n)

Scope note: This property associates an instance of [F51](#) Pursuit with the instance of [E1](#) CRM Entity that is the typical subject of the associated activity, such as an area of expertise in which the actor is engaged or was engaged.

Examples: John Dover Wilson’s activity as a Shakespeare scholar ([F51](#)) *had typical subject* William Shakespeare ([F10](#)).

R60 used to use language (was language used by) (CRMsoc)

[Editor’s note: Transfer this property to CRMsoc once that model has a stable draft.]

Domain: [F51](#) Pursuit

Range: [E56](#) Language

Shortcut of: [E65](#) Creation. [P94](#) has created (was created by): [E33](#) Linguistic Object. [P72](#) has language (is language of): [E56](#) Language

Quantification: (0,n:0,n)

Scope note: This property associates an instance of F51 Pursuit with the instance of E56 Language that was characteristically used for the products of the associated activity.

The property *R60.1 has type of use* allows for specifying a particular form of use.

Examples: Samuel Beckett's activity as author of English texts (F51) *used to use language* eng [English] (E56) with *has type of use* Authorship (E55).

Samuel Beckett's activity as author of French texts (F51) *used to use language* fre [French] (E56) with *has type of use* Authorship (E55).

Samuel Beckett's activity as translator of English texts into French (F51) *used to use language* fre [French] (E56) with *has type of use* Translation – target language (E55).

Samuel Beckett's activity as translator of English texts (F51) *used to use language* eng [English] (E56) with *has type of use* Translation – source language (E55).

Properties: R60.1 has type of use: [E55](#) Type

R61 occurred in kind of context (was kind of context for) (CRMsoc)

[**Editor's note:** Transfer this property to CRMsoc once that model has a stable draft.]

Domain: [F52](#) Name Use Activity

Range: [E55](#) Type

Shortcut of: [F52](#) Name Use Activity. P9i forms part of: [F51](#) Pursuit. P2 has type: [E55](#) Type

Quantification: (0,n:0,n)

Scope note: This property associates an instance of F52 Name Use Activity with the instance of E55 Type that characterises the kind of role or context within which the associated name was used.

Examples: Charles Lutwidge Dodgson using the name 'Lewis Carroll' (F52) *occurred in kind of context* writing for children (E55).

Charles Lutwidge Dodgson using the name 'Charles Dodgson' (F52) *occurred in kind of context* writing in mathematics (E55).

R62 was used for membership in (was context for) (CRMsoc)

[**Editor's note:** Transfer this property to CRMsoc once that model has a stable draft.]

Domain: [F52](#) Name Use Activity

Range: [E74](#) Group

Shortcut of: [E7](#) Activity. P17 was motivated by (motivated): E85 Joining. P144 joined with: [E74](#) Group

Quantification: (0,n:0,n)

Scope note: This property associates an instance of F52 Name Use Activity with the instance of E74 Group that characterises the context within which the associated name was used for membership in that group.

Examples: Using the name 'John Paul I' (F52) *was used for membership in* the corporate body identified in the Library of Congress's authority file as 'Catholic Church. Pope' (E74).

R63 named (was named by) (CRMsoc)

[**Editor's note:** Transfer this property to CRMsoc once that model has a stable draft.]

Domain: [F52](#) Name Use Activity

Range: [E1](#) CRM Entity

Subproperty of: [E13](#) Attribute Assignment. P140 assigned attribute to (was attributed by): [E1](#) CRM Entity

Quantification: (1,1:0,n)

Scope note: This property associates an instance of F52 Name Use Activity with the instance of E1 CRM Entity that the associated name was used for.

Examples: The recording of the MARC 21 field '110 2_ |a Canadian Academic Centre in Italy' (F52) *named* the instance of F11 Corporate Body represented by the Library of Congress authority record number n 85118480.

The appearance of the name 'Centro accademico canadese in Italia' on the title page of the book 'Lo Scavo di S. Giovanni di Ruoti ed il periodo tardoantico in Basilicata' published in 1983 (F52) *named* the instance of F11 Corporate Body represented by the Library of Congress authority record number n 85118480.

The statement 'The International Federation of Library Associations and Institutions (IFLA) is the leading international body representing the interests of library and information services and their users' (F52) cited from the 'About IFLA' page of the website <http://www.ifla.org/> *named* the instance of F11 Corporate Body represented by the Library of Congress authority record number n 78004438.

R64 used name (was name used by) (CRMsoc)

[Editor's note: Transfer this property to CRMsoc once that model has a stable draft.]

Domain: F52 Name Use Activity

Range: E41 Appellation

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

Quantification: (1,1:0,n)

Scope note: This property associates an instance of F52 Name Use Activity with the instance of E41 Appellation that was used for the associated entity.

Examples: The appearance of the name 'Lewis Carroll' on the title page of 'Le avventure d'Alice nel paese delle meraviglie', published in 1872 in London by Macmillan and Co. (F52) *used name* 'Lewis Carroll' (E41).

The appearance of the name 'Centro accademico canadese in Italia' on the title page of the book 'Lo Scavo di S. Giovanni di Ruoti ed il periodo tardoantico in Basilicata' published in 1983 (F52) *used name* 'Centro accademico canadese in Italia' (E41).

The appearance of the name 'Canadian Academic Centre in Italy' on page 6 of the book 'Lo Scavo di S. Giovanni di Ruoti ed il periodo tardoantico in Basilicata' published in 1983 (F52) *used name* 'Canadian Academic Centre in Italy' (E41).

The appearance of the name 'IFLA' as an acronym for 'The International Federation of Library Associations and Institutions' in the sentence 'The International Federation of Library Associations and Institutions (IFLA) is the leading international body representing the interests of library and information services and their users' cited from the 'About IFLA' page of the website <http://www.ifla.org/> (F52) *used name* 'IFLA' (E41).

R65 recorded aspects of (had aspects recorded through) (Deprecated)

Domain: F29 Recording Event

Range: E18 Physical Thing

~~**Shortcut of:** F29 Recording Event. R20 recorded: E3 Condition State. P44i is condition of: E18 Physical Thing~~

~~**Subproperty of shortcut of:** F29 Recording Event. R20 recorded: E5 Event. P12 occurred in the presence of: E18 Physical Thing~~

Subproperty of: E7 Activity. P15 was influenced by: E1 CRM Entity

Quantification: (0,n:0,n)

Scope note: This property associates an instance of F29 Recording Event with an instance of E18 Physical Thing some of whose features, at the time of recording, were recorded in that process.

Examples: The making of the photograph of the three Allied leaders at Yalta in February 1945 (F29) *recorded aspects of* Stalin (E21).

Filming Louise Bourgeois at work in the context of the shooting of the documentary entitled 'Louise Bourgeois: The Spider, the Mistress, and the Tangerine' (F29) *recorded aspects of* Louise Bourgeois (E21).

R66 included performed version of (had a performed version through)

Domain: [F31](#) Performance

Range: [E89](#) Propositional Object

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

Quantification: (0,n;0,n)

Scope note: This property associates an instance of F31 Performance with a product of the mind that was performed in the course of that instance of F31 Performance.

According to the level of knowledge available about the performance, the range of this property can actually be specialised as either an instance of F1 Work (if nothing is known as to which specific expression of the work was performed), or an instance of F2 Expression (if there is a reasonable amount of certainty as to which specific expression—e.g., a well identified translation of a play—of the work was performed).

In addition to being a subproperty of *P16 used specific object (was used for)*, this property also is a shortcut of the fully developed path that goes from F31 Performance to F1 Work through: [P33 used specific technique \(was used by\): E29 Design or Procedure](#). *P165 incorporates: F2 Expression. R3i realises*. In this fully developed path, the specific instance of F2 Expression can be precisely identified and described for its own sake, or it can just be known to have necessarily existed.

Optionally, if the CRM extension including Activity Plans is implemented in conjunction with LRMoo, greater precision can be obtained in documenting the instance of E29 Design or Procedure that specifies the activities planned for the instance of F31 Performance by using the specific class for Activity Plans and its related properties. This class is a subclass of E29 Design or Procedure specific to plans for activities, including performances.

Examples: The performance of 'Hamlet' on 17 June 1909 in Berlin, Deutsches Theater, by Alexander Moissi, directed by Max Reinhardt (F31) *included performed version of* William Shakespeare's work 'Hamlet' (F1). [Note: the specific German translation that was performed is not mentioned in the documentation available from <http://www.glopad.org/pi/en/record/production/1001207>]

The performance of 'Hamlet' on 6 June 1964 in Zurich, Schauspielhaus, by Compagnia Proclemer-Albertazzi, directed by Franco Zeffirelli (F31) *included performed version of* Gerardo Guerrieri's Italian translation (F2) of William Shakespeare's work 'Hamlet'.

R67 has part (forms part of)

Domain: [F1](#) Work

Range: [F1](#) Work

Subproperty of: [F1](#) Work. *R10 has member (is member of): F1 Work*

Subproperty of: [E89](#) Propositional Object. [P148](#) has component (is component of): [E89](#) Propositional Object

Quantification: (0,n;0,n)

Scope note: This property associates an instance of F1 Work with another instance of F1 Work that forms part of it in a complementary role to other sibling parts, conceived at some point in time to form together a logical whole, such as the parts of a trilogy. This property is transitive.

In contrast, the property *R10 has member (is member of)* may, for instance, also associate with the overall instance of F1 Work translations, adaptations and other derivative works that do not form a logical whole with sibling parts.

Examples: Dante Alighieri's textual work entitled 'Divina Commedia' (F1) *has part* Dante Alighieri's textual work entitled 'Inferno' (F1).

Miguel de Cervantes' textual work entitled 'Don Quixote' (F1) *has part* Miguel de Cervantes' textual work entitled 'El ingenioso hidalgo Don Quixote de la Mancha' (F1).

Miguel de Cervantes' textual work entitled 'Don Quixote' (F1) *has part* Miguel de Cervantes' textual work entitled 'Segunda Parte del Ingenioso Cavallero Don Quixote de la Mancha' (F1).

J.R.R. Tolkien's textual work 'The Lord of the Rings' (F1) *has part* J.R.R. Tolkien's textual work 'The Two Towers' (F1).

Cormac McCarthy's textual work 'The Border Trilogy' (F1) *has part* Cormac McCarthy's textual work 'All the Pretty Horses' (F1).

Giovanni Battista Piranesi's graphic work entitled 'Carceri' (F1) *has part* Giovanni Battista Piranesi's graphic work entitled 'Carcere XVI: the pier with chains' (F1)

Ludwig van Beethoven's musical work entitled 'Symphony No. 9' (F1) *has part* Ludwig van Beethoven's musical work 'Finale' (4th movement) (F1).

R68 is inspired by (is inspiration for)

Domain: [F1](#) Work

Range: [F1](#) Work

Shortcut of: [F1](#) Work(2). R16i was initiated by: [F27](#) Work Conception. P15 was influenced by: [F1](#) Work(1)

Subproperty of: [E70](#) Thing. [P130](#) shows features of (features are also found on): [E70](#) Thing

Superproperty of: [F1](#) Work. [R2](#) is derivative of (has derivative): [F1](#) Work

Quantification: (0,n;0,n)

Scope note: This property associates an instance of F1 Work with another instance of F1 Work whose content was inspired by that instance of F1 Work. **The content of the range work instance served in some way as a source of ideas for the domain work instance.** Neither instance of F1 Work may be a part of the other.

Examples: The musical 'West Side Story' (F1) *is inspired by* the play 'Romeo and Juliet' by William Shakespeare (F1).

The play 'Rosencrantz and Guildenstern are Dead' by Tom Stoppard (F1) *is inspired by* the play 'The Tragedy of Hamlet, Prince of Denmark' by William Shakespeare (F1).

The musical work 'The Great Gate of Kiev' (F1) from 'Pictures at an Exhibition' by Modest Mussorgsky *is inspired by* the painting 'Plan for a City Gate in Kiev' (F1) by Viktor Hartmann.

The board game 'War of the Ring' by Roberto Di Meglio, Marco Maggi and Francesco Nepitello (F1) *is inspired by* the literary work 'The Lord of the Rings' by J.R.R. Tolkien (F1).

The literary work 'Girl with a Pearl Earring' by Tracy Chevalier (F1) *is inspired by* the painting 'Girl with a Pearl Earring' by Johannes Vermeer (F1).

R69 specifies has physical form (is specified physical form of)

Domain: [F3](#) Manifestation

Range: [E55](#) Type

Subproperty of: [E1](#) CRM Entity. P2 has type: [E55](#) Type

Quantification: ([0](#)1,n;0,n)

Scope note: This property associates an instance of F3 Manifestation with an instance of E55 Type describing the kind of physical form that characterizes **examples items** carrying this F3

Manifestation. In the case that the F3 Manifestation is intended to be used and distributed in digital form, the property describes the form of the physical carrier on which it can be obtained, e.g.: CD, USB, online file, etc.

In the case that the F3 Manifestation is an abstraction of a singleton item, the property describes the actual physical form the F3 Manifestation was abstracted from. This inference is an induction along the path that can be modelled as: F3 Manifestation. *R7i is materialized in:* F5 Item. *P2 has type:* E55 Type.

It can happen that a given exemplar, or subset of exemplars, originally produced, or intended to be produced, with the specific characteristic, accidentally lacks it. This fact should be recorded as a property of F5 Item, and not of F3 Manifestation.

Examples: The publication entitled ‘A clockwork orange’ by Anthony Burgess, published by Penguin Books Ltd in 2008, identified by ISBN ‘0141037229’ (F3) *has physical form* Printed book (E55).

The sound recording entitled ‘The Glory (????) of the human voice’, identified by label and label number ‘RCA Victor Gold Seal GD61175’, containing recordings of musical works performed by Florence Foster Jenkins (F3) *specifies physical form* Compact Disc (E55).

The photograph of Billie Holiday by Carl Van Vechten dated 23 March 1949, owned by the Library of Congress and identified by call number LOT 12735, no. 524 [P&P] (F3) *has physical form* Gelatin silver print (E55).

The Long Play record entitled ‘Help!’ by The Beatles, released by Parlophone, 6 August 1965, with catalogue number PMC1255 (F3) *has physical form* Vinyl Long Play record (E55).

R70 specifies has dimension (is specified dimension of)

Domain: F3 Manifestation

Range: E54 Dimension

Subproperty of: E70 Thing. P43 has dimension: E54 Dimension

Quantification: (0+,n:1,1)

Scope note: This property associates an instance of F3 Manifestation with an instance of E54 Dimension that describes aspects of its symbolic content, such as word counts, or describes the kind of physical form that characterizes examples/instances of F5 Item carrying this F3 Manifestation, such as number of pages. ~~In the case that the F3 Manifestation is an abstraction of a singleton item, the property describes the dimensions of the actual physical form the F3 Manifestation was abstracted from.~~

This inference is an induction along the path that can be modelled as: F3 Manifestation. *R7i is materialized in:* F5 Item. *P43 has dimension:* E54 Dimension.

It can happen that a given exemplar/item, or subset of exemplars/items, originally produced, or intended to be produced, with ~~the specific characteristic~~ a certain value for this dimension, has a different value for this dimension by accident/accidentally lacks it. This fact should be recorded as a property of F5 Item, and not of F3 Manifestation.

Examples: The publication (printed book) entitled ‘Functional Requirements for Bibliographic Records: final report’, published by K. G. Saur in 1998, identified by ISBN ‘3-598-11382-X’ (F3) *has dimension* height (E54) which *has value (P90)* 24 (E60) and *has unit (P91)* cm (E58).

The publication (printed book) entitled ‘A clockwork orange’ by Anthony Burgess, published by Penguin Books Ltd in 2008, identified by ISBN ‘0141037229’ (F3) *has dimension* number of pages (E54) which *has value (P90)* 176 (E60).

The publication (blu-ray box set) entitled ‘Marvel Agents of S.H.I.E.L.D. the Complete Fourth Season’ produced by abc Studios, released in 2018 and identified by EAN ‘8717418521622’ (F3) *has dimension* number of discs (E54) which *has value (P90)* 6 (E60).

The jigsaw puzzle entitled ‘Map of the New York city subway system’, designed by Stephen J. Voorhies and released around 1954 by the Union Dimes Savings Bank (F3) *has dimension* length and height (E54) which *has note (P3)* ‘46 x 29 cm’ (E62).

The jigsaw puzzle entitled ‘Map of the New York city subway system’, designed by Stephen J. Voorhies and released around 1954 by the Union Dimes Savings Bank (F3) *has dimension* number of pieces (E54) which *has value (P90) 76 (E60)*.

CLP45 should consist of (should be incorporated in) (Deprecated)

R71 ~~specifies material~~has part (is ~~specified material~~ part offer)

Domain: [F3](#) Manifestation

Range: [F3](#) Manifestation

Subproperty of: [E89](#) Propositional Object. [P148](#) has component (is component of): [E89](#) Propositional Object

Quantification: (0,n:0,n)

Scope note: This property *associates* an instance of F3 Manifestation *with a structural* ~~which prescribes that all its physical exemplars will contain as a separable part of it that is itself an exemplar of the associated~~ instance of F3 Manifestation. This property is transitive.

Examples: The publication (printed book) containing J.R.R. Tolkien’s ‘The Lord of the rings’ identified by ISBN ‘0618260587’ (F3) *has part* the publication containing J.R.R. Tolkien’s ‘The two towers’ identified by ISBN ‘0618260595’ (F3).

The compact disc publication issued by Deutsche Grammophon in 1998 and consisting of a recording of Richard Wagner’s ‘Der fliegende Holländer’ as performed in 1991 by Plácido Domingo, Cheryl Studer et al., and conducted by Giuseppe Sinopoli (F3) *has part* a publication consisting of the printed programme notes and libretto (F3).

The compact disc publication issued as a 2-CD set identified as ‘M2K 42270’ by CBS Records in 1987 and consisting of recordings of J. S. Bach’s concertos for keyboard/clavier and strings performed by Glenn Gould (F3) *has part* the compact disc publication identified as ‘DIDC 10370’ consisting of the Glenn Gould recordings of Bach’s Concertos nos. 1-4 (F3).

R72 specifies number of parts (is the specified number of parts for) (Deprecate)

Domain: [F3](#) Manifestation

Range: [E60](#) Number

Subproperty of: [F3](#) Manifestation. P??: [E60](#) Number

Quantification: (1,1:0,n)

Scope note: This property associates an instance of F3 Manifestation with an instance of E60 Number which denotes the number of physical units that characterizes examples carrying this F3 Manifestation. In the case that the F3 Manifestation is intended to be used and distributed in digital form, the property describes the number of parts a physical carrier on which it can be obtained would have. In the case that the F3 Manifestation is an abstraction of a singleton item, the property describes the actual number of physical parts that form the carrier the F3 Manifestation was abstracted from.

This inference is an induction along the path that can be modelled as: F3 Manifestation. *R7i is materialized in:* F5 Item. *P57 has number of parts:* E60 Number.

Examples: The jigsaw puzzle entitled ‘Map of the New York city subway system’, designed by Stephen J. Voorhies and released around 1954 by the Union Dimes Savings Bank (F3) *R72 specifies number of parts 76 (E60)* [Number of physical units of the exemplar held by the Library of Congress, as observed by a cataloguer from the Library of Congress when he/she catalogued that particular exemplar and recorded the statement: ‘1 jigsaw puzzle (ca. 76 pieces)’]

The publication entitled ‘History of costume: in slides, notes, and commentaries’ by Jeanne Button, Patricia Quinn Stuart, and Stephen Sbarge, released by Slide Presentations (New York) ca. 1975 (F3) *R72 specifies number of parts 1,491 (E60)* [Number of physical units of the exemplar held by the Gelman Library of the George Washington University, as observed by a cataloguer from the Gelman Library of the George Washington University when he/she catalogued that particular exemplar and recorded the statement: ‘1,491 slides in 14 slide trays’]

+ 6 ring binders in cases (30 x 29 cm)']

CLP104 subject to (applies to) (Deprecated)

CLP105 right held by (right on) (Deprecated)

CLR6 should carry (should be carried by) (Deprecated)

R73 takes representative attribute from (bears representative attribute for)

Domain: [F1](#) Work

Range: [F2](#) Expression

Shortcut of: [F1](#) Work. P140i was attributed by: E13 Attribute Assignment. P16 uses specific object: [F2](#) Expression

Quantification: (1,n;0,1)

Scope note: This property associates an instance of F1 Work with an instance of F2 Expression that bears an attribute which is used to characterize the work. The instance of F2 Expression in question must be one that realizes that instance of F1 Work. An instance of F2 Expression may or may not serve as source of representative expression attributes for its associated instance of F1 Work. If it does, it may provide one attribute or many. The F1 Work may be imputed attributes from one or more of its associated F2 Expressions.

Examples: The work 'Reading for life, a first book for adults and their tutors', by Virginia French Allen (F1) *takes representative attribute from* the expression first published in 1987 by Spring Institute for International Studies, ISBN '094072300X' (F2). [One attribute is the value for intended audience which is adult literacy learners in the English language, another attribute is the language English.]

The expression of the work 'Piglet has a bath', by A.A. Milne, with illustrations by Ernest H. Shepard, realised in the edition published on sealed plastic pages by Dutton Children's Books in 1998, ISBN '0525460926' *bears representative attribute for* the work 'Piglet has a bath', by A.A. Milne. [One attribute is the language English, another is the value for intended audience which is children.]

The expression of the work 'Fugue in G Minor, BWV 1000', by J. S. Bach (F1) *takes representative attribute from* the original expression (F2) (as composed around 1723). [The attribute is lute as the mode of performance; it is now mostly performed on the guitar.]

Rnn has elaboration (is elaboration of) (Deprecate)

Domain: [F1](#) Work

Range: [F1](#) Work

Subproperty of: [F1](#) Work. R10 has member (is member of): [F1](#) Work

Quantification: (0,n;0,n)

Scope note: This property associates a parent instance of F1 Work with another instance of F1 Work that constitutes an elaboration of that work. Sibling works that are elaborations of the same parent represent specializations, for example, in the form of versions or alternatives. This property is transitive.

Expressions that realize an instance of F1 Work will also realize the instance of F1 Work that it is an elaboration of.

Examples: Tolkien's work entitled 'The Hobbit' (F1) *has elaboration* Tolkien's textual work intended for children, entitled 'The Hobbit' (F1) and first published in 1937.

Tolkien's work entitled 'The Hobbit' (F1) *has elaboration* Tolkien's textual work entitled 'The Hobbit' (F1) that was published as the second edition of 'The Hobbit' in 1951. [The latter is a major revision with sections adapted to match the textual work 'The Lord of the rings'.]

Beethoven's opera work identified as Op 72 (F1) *has elaboration* Beethoven's opera work 'Leonore' (F1). [This is the first known version of this opera work structured as three-acts and first performed in 1805.]

Beethoven's opera work identified as Op 72 (F1) *has elaboration* Beethoven's opera work 'Fidelio' (F1). [The two-act version of the opera work first performed in 1806 which constitutes a revision of the first version (Leonore).]

Beethoven's opera work identified as Op 72 (F1) *has elaboration* Beethoven's opera work 'Fidelio' (F1). [The two-act opera work first performed in 1814 which constitutes the final version of the opera.]

R74 uses expression fromof (has expression used in)

Domain: [F1](#) Work

Range: [F1](#) Work

Subproperty of: [E70](#) Thing. [P130](#) shows features of (features are also found on): [E70](#) Thing

Quantification: (0,n;0,n)

Scope note: This property associates an instance of F1 Work with another instance of F1 Work where all expressions of the former will include an expression of the latter. This property is transitive. This property represents the generalized relationship between works that is described at the expression level using *R75 incorporates (is incorporated in)*.

Examples: The musical work by Ludwig van Beethoven entitled 'Symphony No. 9' (F1) *uses expression of* the poem 'An die Freude' by Friedrich Schiller (F1).

Franz Schubert's kunstlied 'Erlkönig' (F1) *uses expression of* the poem 'Erlkönig' by Johann Wolfgang von Goethe (F1).

The symphonic poem 'Vltava' by Bedřich Smetana (F1) *uses expression of* the melody 'La Mantovana' attributed to Giuseppe Cenci (F1).

R75 incorporates external-expression (is-external-expression incorporated in)

Domain: [F2](#) Expression

Range: [F2](#) Expression

Subproperty of: [E73](#) Information Object. [P165](#) incorporates (is incorporated in): [E90](#) Symbolic Object

Quantification: (0,n;0,n)

Scope note: This property associates an instance of F2 Expression with an instance of F2 Expression that is an integral part of the first, but where the existence of the latter is independent of the first. This property is transitive.

Examples: The 1964 recording of Beethoven's 9th Symphony by Leonard Bernstein and the New York Philharmonic (F2) *incorporates* the German text of the poem 'An die Freude' by Friedrich Schiller (F2).

Franz Schubert's score for the kunstlied 'Erlkönig' that was created in 1815 (F2) *incorporates* the German text of the poem 'Erlkönig' by Johann Wolfgang von Goethe (F2).

Pyotr Ilyich Tchaikovsky's graduation cantata performed by Leslie Head and the Kensington Symphony Orchestra in 1978 (F2) *incorporates* a Russian translation of the poem 'An die Freude' by Friedrich Schiller (F2).

Rnn3 was remembered in (contains memory of)

Domain: [F56](#) Externalization Event

Range: [F2](#) Expression

Subproperty of: [E1](#) CRM Entity. [P67](#)i is referred to by: [E89](#) Propositional Object (or may be Out of CIDOC CRM scope)

Superproperty of: [F28](#) Expression Creation. [R17](#) created (was created by): [F2](#) Expression

Shortcut of: ~~—— F56 Externalization Event. R19 created a realisation of (was realised through): F1 Work. R3 is realised in: F2 Expression~~

Quantification: (1,n:1,n)

Scope note: This property associates an instance of F56 Externalization Event with the instance of F2 Expression that records or refers to the content of that particular externalization event, in whole or in part. This recording may be done either directly or be transferred through tradition. The expression that records the externalization event may or may not be an expression of the work that was externalized in the event.

[proposed property linking the Externalization Event directly to F2 Expression, to be modelled after R17 created (was created by) [D: F28, R: F2]] R17 would become the subproperty of Rnn.

Superproperty of Expression creation. Does not require that the product be an expression of the work, but might be in the form of a reference to the externalization event, or a review]

Examples: The original manuscript score of ‘Uwertura tragiczna’ by Andrej Panufnik (F2) *is memorization of* the externalization event of Andrej Panufnik first expressing the ‘Uwertura tragiczna’ in Warsaw (F28).

The 1945 manuscript score of ‘Uwertura tragiczna’ by Andrej Panufnik (F2) *is memorization of* the externalization event of Andrej Panufnik reconstructing the score from memory after the original score was destroyed during the war (F28).

[NOT these examples, not approved. Do new examples]

3. LRMer to LRMoo mapping

[PR: insert completed mapping when finished]

1 *Entities*

2 *Attributes*

3 *Relationships*

4. Referred to CIDOC CRM Classes and Properties

Since LRM₀₀ refers to and reuses, wherever appropriate, large parts of ISO 21127, the CIDOC Conceptual Reference Model, this section provides a comprehensive list of all constructs used from ISO 21127, CIDOC CRM version 7.1.1. Use in this context includes: appearance in the mapping from LRM(er) or as an element of a path expression in a mapping statement, reference as immediate superclass or superproperty.

Some of these constructs appear only in the mapping in section 3 (above) and not in section 4, because they are generic in nature. For instance, we regarded it as better not to overload the description of LRM₀₀ with generic notions such as carrying out activities or using things.

4.1. List of Referred to CIDOC CRM Classes

In this section, we present as a list, the classes of the CIDOC CRM Conceptual Reference Model version 7.1.1 referred to by LRM₀₀. The classes that appear indirectly in the LRM₀₀ Model, i.e. either as superclasses of classes defined in the model, or as the domain or range of referred CRM properties are marked in bold. [\[List includes classes required by the mapping of LRMer entities\]](#)

[PR: to be revised, use latest CRMbase, v.7.1.1 and final mapping]

4.2. List of Referred to CIDOC CRM Properties

In this section, we present as a list, the properties of CIDOC CRM version 7.1.1 referred to by LRM₀₀. The properties that appear indirectly in the LRM₀₀ Model, i.e. as superproperties of properties defined in the model, are marked in bold.

[PR: to be revised, use latest CRMbase, v.7.1.1 and final mapping]

4.3. List of Classes Transferred to CRMsoc

In this section, we present as a list, the classes from the LRM₀₀ model that will transition to the CRMsoc Model.

F38	Character
F51	Pursuit
F52	Name Use Activity

4.4. List of Properties Transferred to CRMsoc

In this section, we present as a list, the properties from the LRM₀₀ model that will transition to the CRMsoc Model. [\[Check whether these properties appear in the LRM\(er\) mapping, or only in transition from FRBRoo.\]](#)

Property id	Property Name	Entity – Domain	Entity – Range
R45	assigned to (was assigned by)	F52 Name Use Activity	E1 CRM Entity
R57	is based on (is basis for)	F38 Character	E39 Actor
R58	has fictional member (is fictional member of)	F38 Character	F38 Character
R59	had typical subject (was typical subject of)	F51 Pursuit	E1 CRM Entity
R60	used to use language (was language used by)	F51 Pursuit	E56 Language
R61	occurred in kind of context (was kind of context for)	F52 Name Use Activity	E55 Type
R62	was used for membership in (was context for)	F52 Name Use Activity	E74 Group
R63	named (was named by)	F52 Name Use Activity	E1 CRM Entity
R64	used name (was name used by)	F52 Name Use Activity	E41 Appellation

5. Migration Instructions for FRBR₀₀ Classes and Properties

This section provides a comprehensive list of the classes and properties that were declared in the last approved version of FRBR₀₀ (version 2.4, 2015) and indicates briefly whether the class or property was retained or deprecated in LRM₀₀. For those classes and properties that were retained in a transformed version, the change (which might involve renaming) is briefly indicated. For the deprecated classes and properties, the corresponding class or property (or appropriate path) to substitute when implementing LRM₀₀ is noted, with a brief explanation. This substitute class, property or path is in a number of cases drawn from CIDOC CRM, and in a few cases from CRM_{soc}.

[complete this section with the transition tables for classes and properties]

Colours in editing

Yellow: reminder of something to be done or revised later

Green: (yellow green 2) correction made for consistency, added or moved examples, no discussion needed

Pale Green: (yellow green 10) hyper link in document to be corrected to match approved text

Magenta 10: new proposals, prepared for but not discussed at SIG 50, June 22-25, 2021

Cyan 1: Parts transferring to CRM_{soc} or other family model
