



International Federation of
Library Associations and Institutions

Definition of PRESS₀₀

A conceptual model for Bibliographic Information
Pertaining to Serials and Other Continuing Resources

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PRESS₀₀ Review Group, affiliated to the IFLA Cataloguing Section 2017.

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Foreword to version 1.3

Continuing resources present modelling challenges, especially as the high-level international model for bibliographic resources, FRBR (or “FRBR_{ER}”¹), does not fit well with their specific nature. These problems were notably stated during a harmonization meeting held between representatives of ISBD, RDA and ISSN² in 2011³. The three parties agreed that the hierarchical aspect of the Work/Expression/Manifestation relationships, in FRBR_{ER}, is conflicting with the dynamic character of continuing resources. For example, an “expression” of a specific serial work (e.g. a variant linguistic edition of a newspaper) may suddenly become a new “work” (if it starts publishing content that is not available in the edition in the original language). The same entity being successively an expression and a work is not conceivable in FRBR_{ER}; but it frequently happens to be true for continuing resources.

Application of FRBR to these kinds of resources needed therefore to be investigated again. It quickly appeared that FRBR_{OO}, the object-oriented version of FRBR, could provide a solution⁴. FRBR_{OO}⁵, which was approved in June 2009, is an extension of the CIDOC Conceptual Reference Model (CIDOC CRM⁶). As an event-based model, it was better able to express the changing nature of serials and integrating resources. And as an object-oriented model, it offered a wealth of classes and properties for modelling seriality.

A working group was set up at the end of 2012, with representatives of the ISSN International Centre and the Bibliothèque nationale de France, with the support from experts of other national centres, to work on the extension of FRBR_{OO} to serials and integrating resources. The working Group started in January 2013 to draft PRESS_{OO}. The version 1.0, endorsed by the IFLA FRBR Review Group, was released in June 2014. It has been submitted to a world-wide review process in spring 2015 for an endorsement by the IFLA cataloguing section.

As a consequence of the positive outcome of the world-wide review, the Standing Committee of the IFLA Cataloguing Section decided on 19 August 2015 to form a working group dedicated to the maintenance and reviewing of the PRESS_{OO} conceptual model.

This PRESS_{OO} Review Group produced a subsequent version (1.2), which has been submitted to the IFLA Committee on Standards on June 2016.

The current version, 1.3, takes into account the comments of the IFLA Committee on Standards.

¹ FRBR_{ER} or “FRBR Entity-relationships” is the original version of FRBR, as defined by the *Functional Requirements for Bibliographic Records. Final report*, published in 1998 and revised in 2009. See http://www.ifla.org/files/assets/cataloguing/frbr/frbr_2008.pdf.

² The ISSN (International Standard Serial Number) is an access key and management tool for all serials and other ongoing resources, electronic and print, governed by the ISO 3297 standard. The ISSN International Centre is an intergovernmental organisation, the purpose of which is to manage the ISSN system and to coordinate the Network of National Centres assigning ISSN numbers in their own countries. It is also responsible for maintaining and publishing the ISSN International Register, an international database that lists all assigned ISSNs, along with metadata that follow the recommendations stated in the *ISSN Manual*.

³ See Joint Steering Committee for Development of RDA, IFLA ISBD Review Group, ISSN Network, “JSC/ISBDRG/ISSN Outcomes”, 3-4 November 2011, Glasgow (UK): http://www.ifla.org/files/assets/cataloguing/isbdr/JSC_ISBD_ISSN_Outcomesfinal.pdf.

⁴ Le Bœuf, Patrick and Pelegrin, François-Xavier, “FRBR and serials: the PRESS_{OO} model”. Paper presented at: IFLA WLIC 2014 – Lyon – Libraries, Citizens, Societies: Confluence for Knowledge in Session 86 – Cataloguing with Bibliography, Classification & Indexing and UNIMARC Strategic Programme. In: IFLA WLIC 2014, 16-22 August 2014, Lyon, France: <http://library.ifla.org/838/>.

⁵ See the FRBR, *object-oriented definition*, version 2.2., March 2015: http://www.ifla.org/files/assets/cataloguing/frbr/frbroo_v2.2.pdf.

⁶ On CIDOC CRM, see <http://www.cidoc-crm.org/>.

1 Introduction

This document is the definition of PRESS₀₀, a formal ontology intended to capture and represent the underlying semantics of bibliographic information about continuing resources⁷, and more specifically about serials (journals, newspapers, magazines, etc.). PRESS₀₀ is an extension of FRBR₀₀, which in turn is an extension of CIDOC CRM. FRBR₀₀ is an ontology of the underlying semantics of bibliographic information in general; it already deals with continuing resources, but at a very general level, and does not go into all the specific details required by the description of such resources.

Continuing resources pose particular modelling issues. As “living” resources, they may know many evolutions through time. Bibliographic information pertaining to them may change: publisher, country of publication, publication frequency... Therefore, a bibliographic description of continuing resources (except for ceased ones) represents a statement about the past and assumptions about the future. Continuing resources present also complex relationships: they may originate from continuations, splits or mergers with other continuing resources; they may be (local, linguistic, special) editions of other publications – and these relationships themselves may evolve in the lifetime of the resources. Finally, continuing resources, especially serials, are a complex case of aggregations: serial titles are composed of discrete issues which are themselves aggregates of articles or other objects.

FRBR₀₀, and subsequently PRESS₀₀, are designed following the object-oriented formalism, where every information is expressed either as an instance of a class or as a property between classes. This formalism provides a very flexible way to finely describe continuing resources, and especially to take into account their dynamic nature. Besides, it is consistent with the RDF syntax, hence paving the way towards the publication of such description on the Semantic Web.

The purpose of PRESS₀₀ is to express the common, implicit conceptualization that underlies bibliographic description of continuing resources, and to formalize it as economically and adequately as possible as a set of triples.

It could be used several ways. First, it should be considered as a high-level standard, a model in the strongest sense of the term, against which more practical rules dealing with continuing resources (e.g. cataloguing rules) could be assessed.

Second, as PRESS₀₀ has been built from the list of bibliographic information of the ISSN Manual, it provides a complete set of classes and properties that may be used in conjunction with other bibliographic ontologies to describe continuing resources. PRESS₀₀ is even very flexible, as it offers a choice between an object-centric and an event-centric modelling.

Finally, PRESS₀₀ may be used, in conjunction with CIDOC-CRM and FRBR₀₀, as the main ontology to publish a linked dataset. This kind of implementation provides all solutions to precisely express any kind of bibliographic information that is considered worthy of publication.

⁷ In the *ISSN Manual*, 2015 release (available from: <<http://www.issn.org/understanding-the-issn/assignment-rules/issn-manual/>>, or <http://www.issn.org/wp-content/uploads/2013/09/ISSNManual_ENG2015_23-01-2015.pdf>), a continuing resource is defined in section 0.1 as “a publication, in any medium, that is issued over time with no predetermined conclusion and made available to the public”. The *ISSN Manual* further specifies: “Continuing resources include serials such as newspapers, periodicals, journals, magazines, etc., and ongoing integrating resources such as loose-leaf publications that are continually updated and Web sites that are continually updated”. In the same source, a serial is defined as “a continuing resource issued in a succession of discrete issues or parts, usually bearing numbering, that has no predetermined conclusion”, and an ongoing integrating resource as “a continuing resource that is added to or changed by means of updates that do not remain discrete and are integrated into the whole. Ongoing integrating resources have no predetermined conclusion”.

However, even in that case, there are several implementation choices; and shortcuts may sometimes be deemed necessary to simplify the model.

This document is therefore intended for data modelling and bibliographic standard experts, developers, and producers and consumers of linked data. It is not directly aimed to serials cataloguers – even though they may be interested in investigating the issues of modelling of continuing resources expressed in that document.

The name “PRESS_{OO}” itself does not correspond to an acronym. It is a reminder of the world of the press, historically the first form of ongoing resources – and still one of the most popular.

2 Overview of PRESS_{OO}

Descriptions of continuing resources do not only reflect characteristics of existing products, but also, as long as the described resource still is being published, the expected characteristics of future behaviour. The main difference between cataloguing a monograph and cataloguing a serial could be expressed as follows: when you catalogue a monograph, you make statements about the past; when you catalogue a serial, you both make statements about the past and assumptions about the future. The CIDOC CRM model does not strive to model assumptions about the future; but it does declare a class that accounts for planned behaviours (no matter whether they were planned in the past or are still currently planned), E29 Design or Procedure. This class proved extremely useful, and even central, when developing the PRESS_{OO} model, as it was used as a superclass for Z12 Issuing Rule, which refers to elements of the policy established by the editor and/or publisher of a continuing resource. Bibliographic information about a continuing resource actually contains data about the various (and successive) instances of Z12 Issuing Rule that were followed in the course of the publication of a continuing resource. Most data elements found in a bibliographic record for a serial pertain to Z12 Issuing Rule rather than directly to the F18 Serial Work that was declared in FRBR_{OO}.

(*Note:* Multi-volume monographs, the volumes of which are not issued at once but over time, are very similar, in that regard, to continuing resources, although they are not defined as such in normative documents used in libraries. In a sense, PRESS_{OO} can be said to cover multi-volume monographs as well, as long as the publication is not complete.)

ISBD defines continuing resources as resources that are ‘issued over time with no predetermined conclusion.’ As a logical consequence, FRBR_{OO} asserts that ‘there is in general no single expression or manifestation representing a complete serial work, unless the serial work is ended.’ It is only possible to model the relationships between a serial work and its past issues. The sum, at a given point in time (e.g., at the time the description is being made, or updated), of all the expressions of all past issues published so far, does not represent the complete serial work, but can be thought of as a ‘component’ of a virtual complete expression that does not exist yet. The serial work is being partially realised through an instance of F30 Publication Event that is still on-going as long as there is no ascertained knowledge that the continuing resource is ‘dead.’ This state of affairs is represented in **Figure 1**, where dotted lines indicate ‘virtual’ instantiations of classes and properties that are expected to exist at some point in the future but do not belong to the present and cannot, therefore, be modelled in a strict sense.

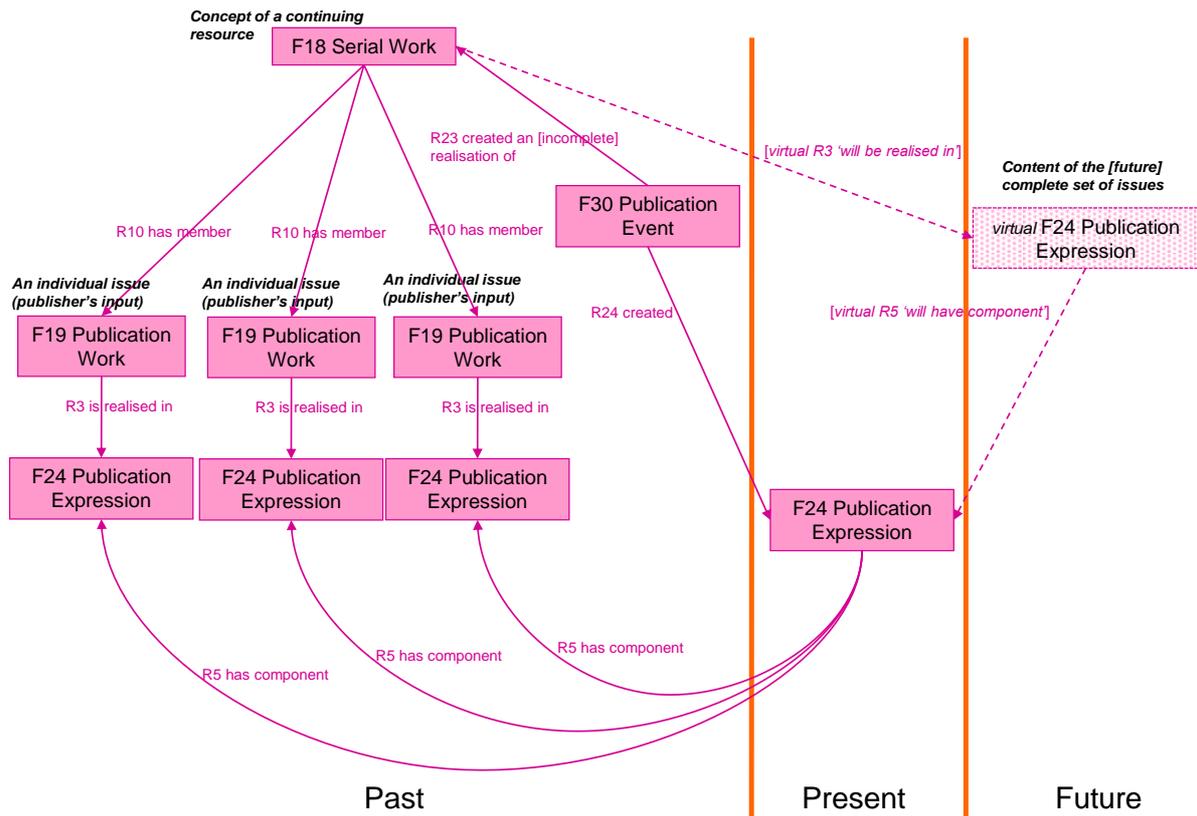


Figure 1. A continuing resource that is still being published

Once a continuing resource is 'dead,' it can be modelled in a strict sense as an object that exists in its entirety. **Figure 2** shows how 'dead' serials are modelled in PRESS₀₀, in the context of physical publishing (as opposed to online publishing).

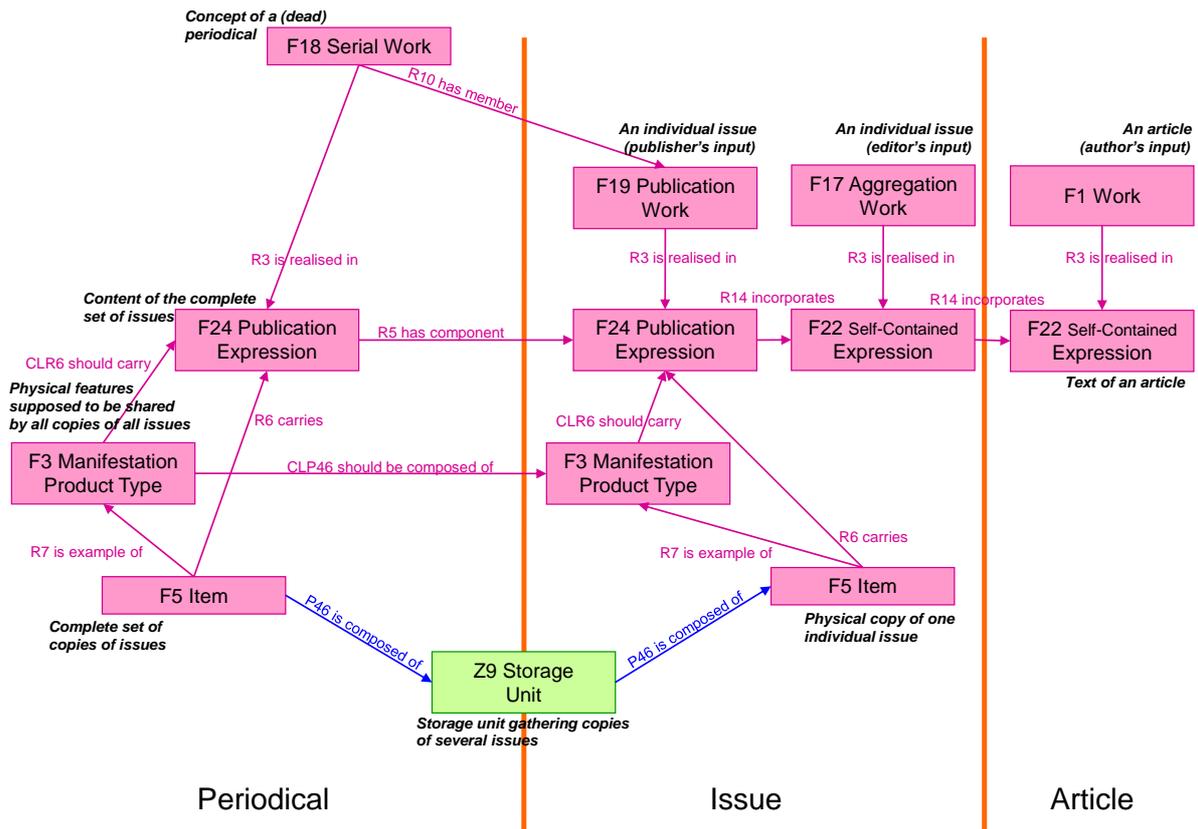


Figure 2. Serial, Issue, Article (physical publishing; assuming the serial is dead)

This figure shows more particularly how the serial is connected with each of its individual issues, and how each individual issue is connected with individual articles. Of course, more complex cases occur in real life; e.g., a lengthy article can be ‘sliced’ and published over several issues. Such a case can be easily modelled, using either the *R5 has component* or *R15 has fragment* FRBR₀₀ property.

PRESS₀₀ deals with all kinds of serials, including online serials. FRBR₀₀ distinguishes between physical publishing and electronic (i.e., online) publishing. Physical publishing involves the creation of an instance of F3 Manifestation Product Type, while electronic publishing ignores that notion altogether.

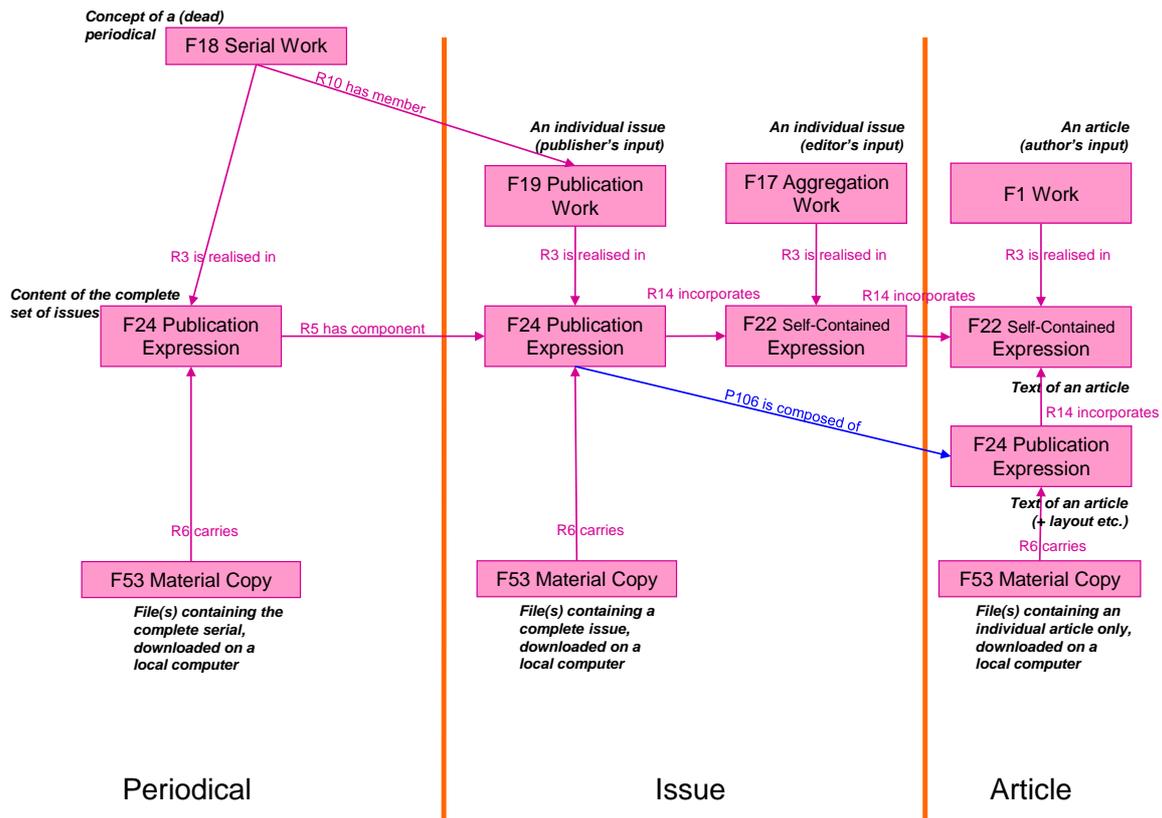


Figure 3. Serial, Issue, Article (electronic publishing; assuming the serial is dead)

Figure 3 shows how online serials are modelled in PRESS₀₀, i.e., without using the F3 Manifestation Product Type class, once they are dead. Instances of F53 Material Copy are downloaded files that carry either the publication expression of the complete serial, the publication expressions of individual issues, or the publication expression of an individual article. Figure 4 shows how cases of ‘continuation’ are modelled in PRESS₀₀.

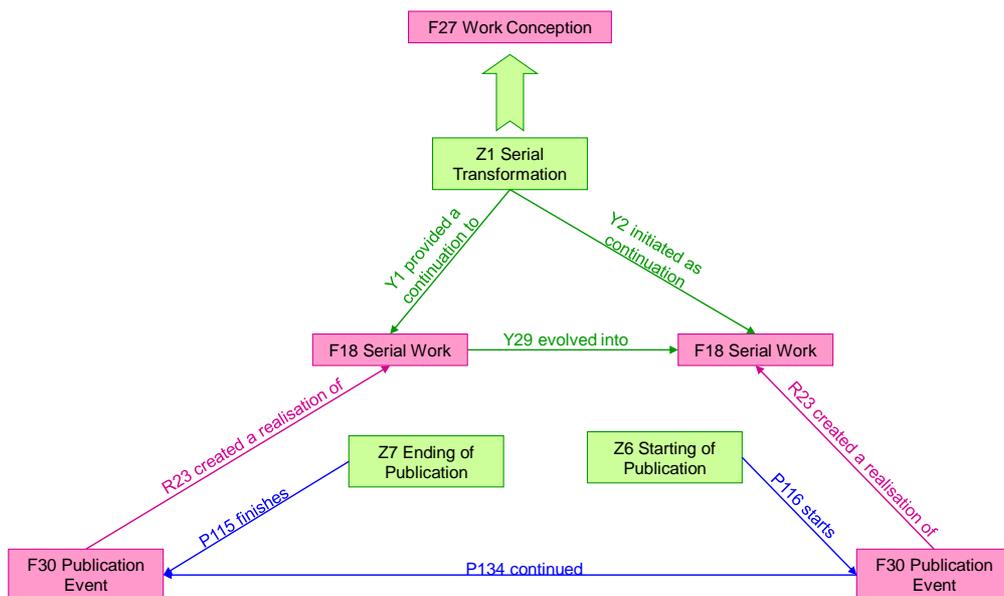


Figure 4. Modelling the relationship between two serials, one of which is the ‘continuation’ of the other

The ISBD prescriptions include very specific rules as to when to regard a serial as the ‘continuation’ of another serial; it is essentially a matter of title change. Some title changes are deemed ‘minor,’ in which case there is no formal ‘continuation,’ but just a title change for the same serial, while other title changes are deemed ‘major’ and imply the creation of a new bibliographic record for a serial that is regarded as distinct from what it was prior to the title change – no matter whether the publisher actually intended to publish a ‘new’ serial or not. Minor title changes are modelled through property *Y24 foresees use of title (is title foreseen in)* that relates a given title with a given instance of Z12 Issuing Rule, and the Z5 Issuing Rule Change class that allows for assigning chronological borders (if they are readily known) to the use of a specific title for one instance of F18 Serial Work. Major title changes are modelled through the notion of Z1 Serial Transformation which is introduced in PRESS₀₀ and does not exist in FRBR₀₀.

Figure 5 shows the modelling of cases of ‘replacement.’

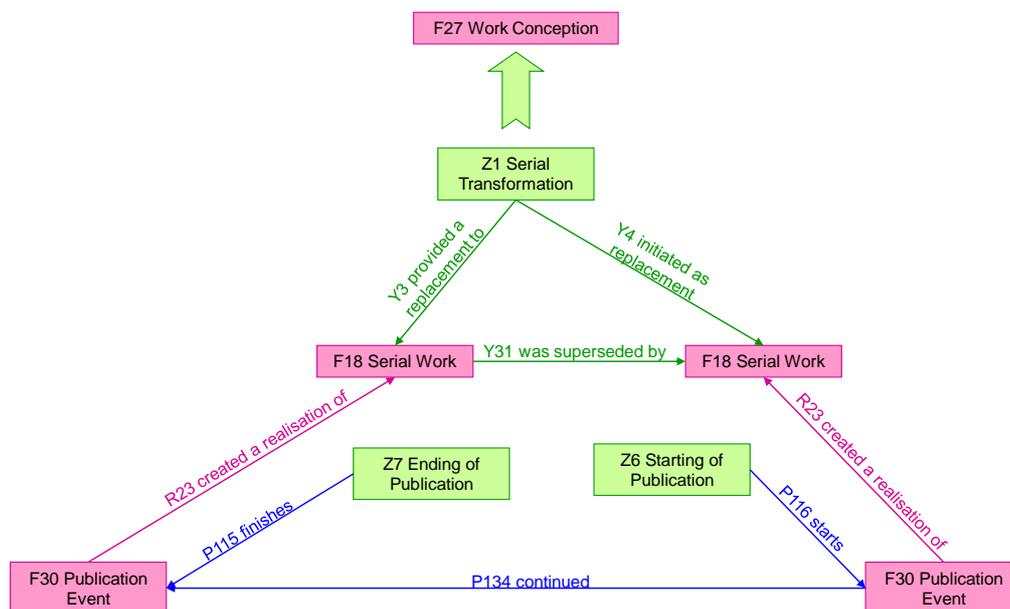


Figure 5. Modelling the relationship between two serials, one of which ‘supersedes’ the other

The notion of replacement is very close to that of continuation, except that some circumstances are particular: while cases of continuation most often result from a deliberate decision on behalf of the publisher or editor of the serial, cases of replacement can be the consequence of external events, such as suppression by censorship. Also, a serial can supersede another without strictly ‘continuing’ it, because it carries out the same function as the serial that has ceased to be published.

Figure 6 shows how cases of ‘absorption’ are modelled in PRESS₀₀.

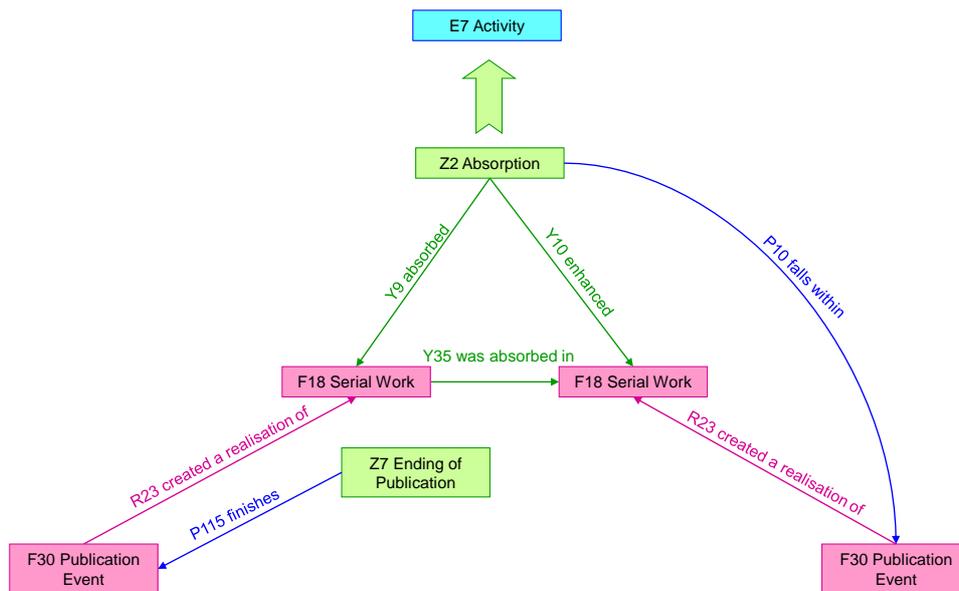


Figure 6. Modelling the relationship between two serials, one of which is 'absorbed' by the other

The activity of absorption is an event that puts an end to the publication of the absorbed serial(s) while it does not bring another serial into being but just 'falls within' (P10 property from CIDOC CRM) the publication process of the absorbing serial. A given serial can be absorbed by more than one serial. In some cases, a serial that was absorbed can be 'revived'.

Figure 7 shows how cases of 'separation' are modelled in PRESS₀₀.

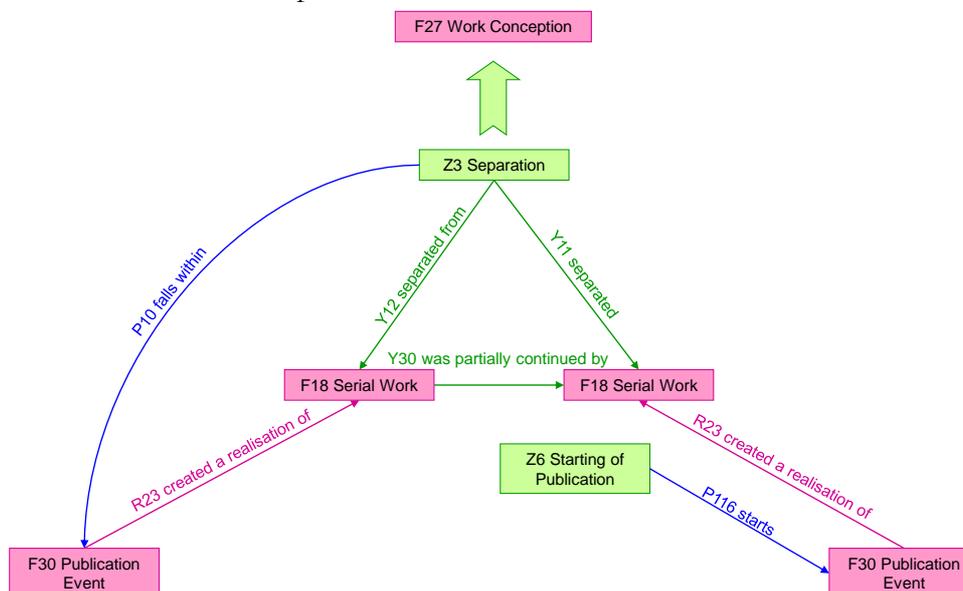


Figure 7. Modelling the relationship between two serials, one of which 'separated' itself from the other

The activity of separation is an event that initiates the publication of one (or more than one) serial that continues in part another serial which does not cease to be published. Such an event just 'falls within' the publication process of the original serial. In some cases, a serial that separated itself from another serial can be absorbed back by the serial of which it originally was a part.

Figure 8 shows how mergers are modelled in PRESS₀₀.

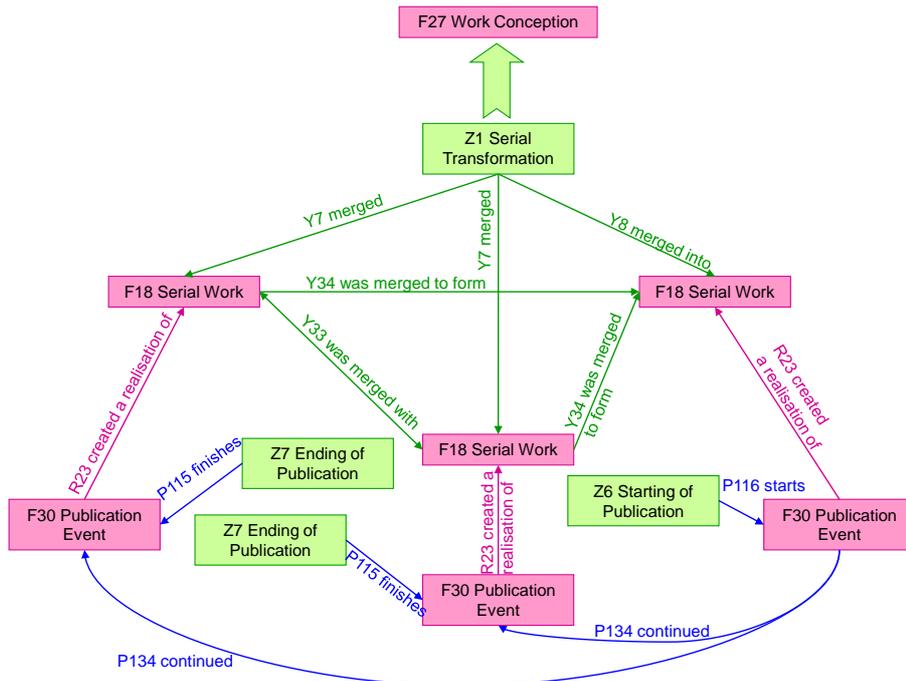


Figure 8. Modelling the relationships among three serials, two of which are ‘merged’ to create the third one

A merger is a particular case of Z1 Serial Transformation that simultaneously brings a new serial work into being, and puts an end to the publication of at least two serials.

Figure 9 shows how splits are modelled in PRESS₀₀.

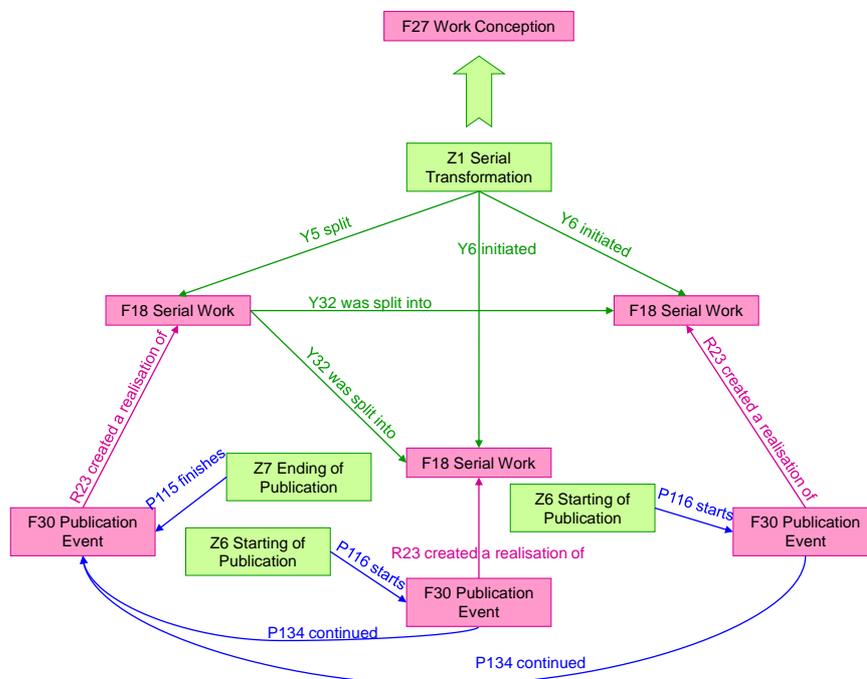


Figure 9. Modelling the relationships among three serials, one of which is ‘split’ to create the other two

A split is a particular case of Z1 Serial Transformation that simultaneously brings at least two new serial works into being, and puts an end to the publication of one serial.

Figure 10 shows how a case of temporary replacement of a serial with another serial (whether that other serial pre-existed the replacement or was created specifically on that occasion) is modelled in PRESS₀₀.

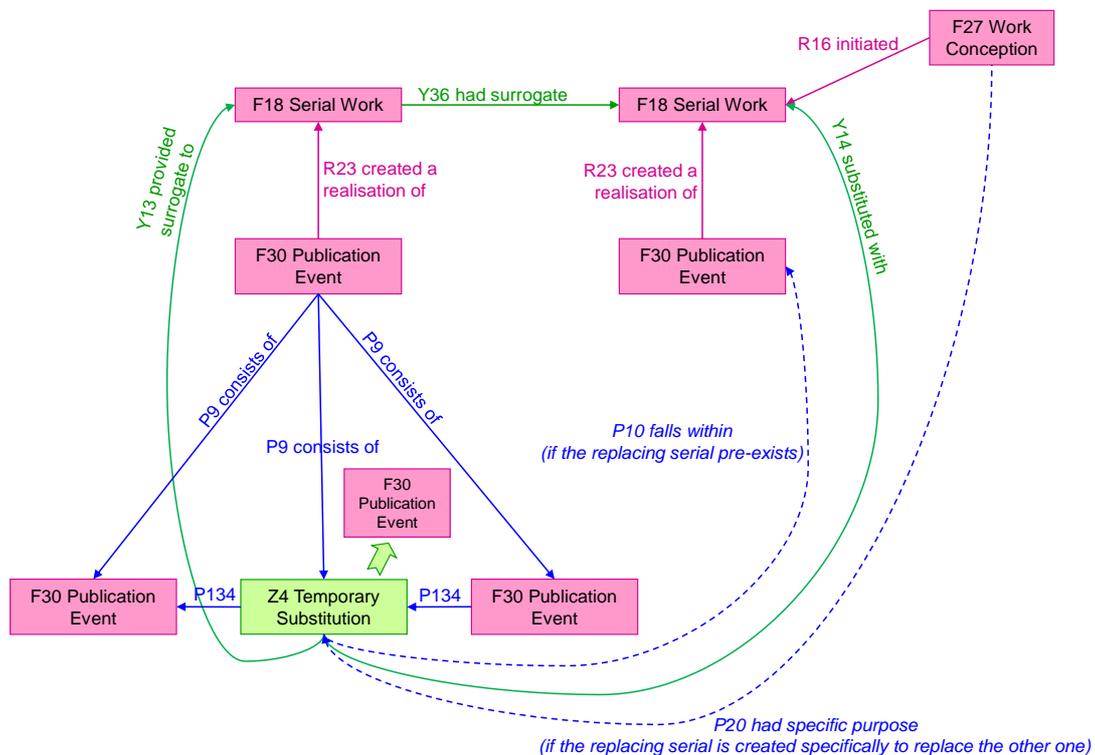


Figure 10. Modelling the temporary replacement of a serial with another serial

The replacement does not put an end to the event of publication of the serial, but is regarded as a component of the overall activity that consists of publishing the serial (Z4 Temporary Substitution is declared as a subclass of F30 Publication Event, which makes a clear distinction between a (temporary) replacement and a continuation, since the notion of continuation is understood as a specific case of Z1 Serial Transformation, which is subclass of F27 Work Conception). If the replacing serial pre-exists the replacement and continues to be published after the replacement period is over, then the replacement just *P10 falls within* the publication event that creates a realisation of the replacing serial. If the replacing serial is created specifically for the purpose of replacing the earlier serial (and ceases to be published after the replacement period is over), then it is possible to assert that the instance of F27 Work Conception that initiated the replacing serial *P20 has specific purpose* the instance of Z4 Temporary Substitution. **Figure 11** shows how the facsimile reprint of a (dead) serial as a monograph is modelled in FRBR₀₀ (there was no need to introduce any new class or property in PRESS₀₀ as everything that was required was already present in FRBR₀₀).

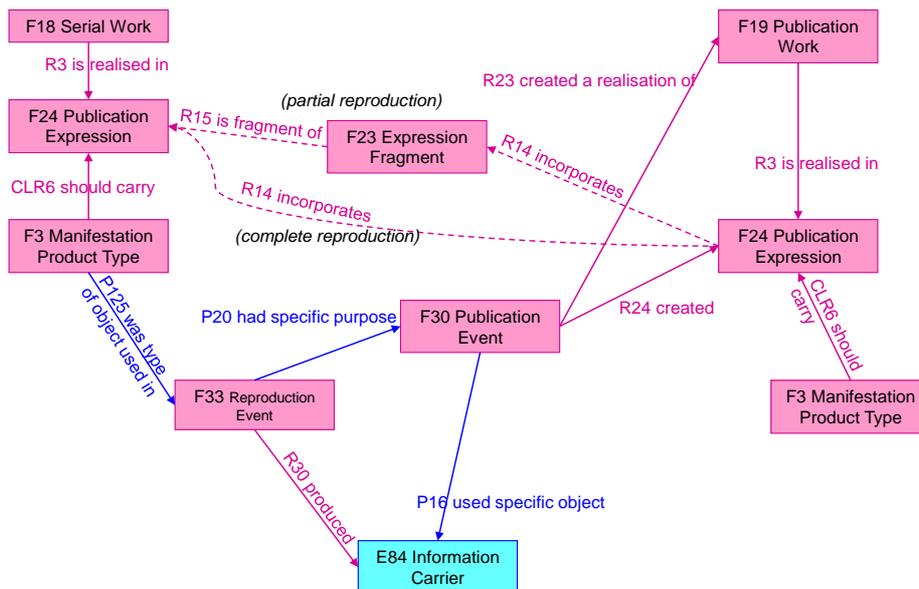


Figure 11. Modelling the relationship between a (dead) serial and its facsimile reprint as a monograph

The reprint is not necessarily a serial by its own nature; but end-users will usually expect to retrieve it even if they restrict their query parameters in a library catalogue to serials only. The *R14 incorporates* property between the two instances of F24 Publication Expression, in addition to the path from F18 Serial Work to F19 Publication work (the reprint) through F33 Reproduction Event, makes it possible to bypass this restriction and to include the reprint in the hit list without having to qualify wrongly the reprint as a serial.

Figure 12 shows how the digitization of a (dead) serial, and the subsequent publication of the resulting digital file on the Web, are modelled in FRBR_{OO}, with the adjunction of the corresponding classes in CRMdig (an extension of the CIDOC CRM model that deals specifically with digitization processes and digital preservation).

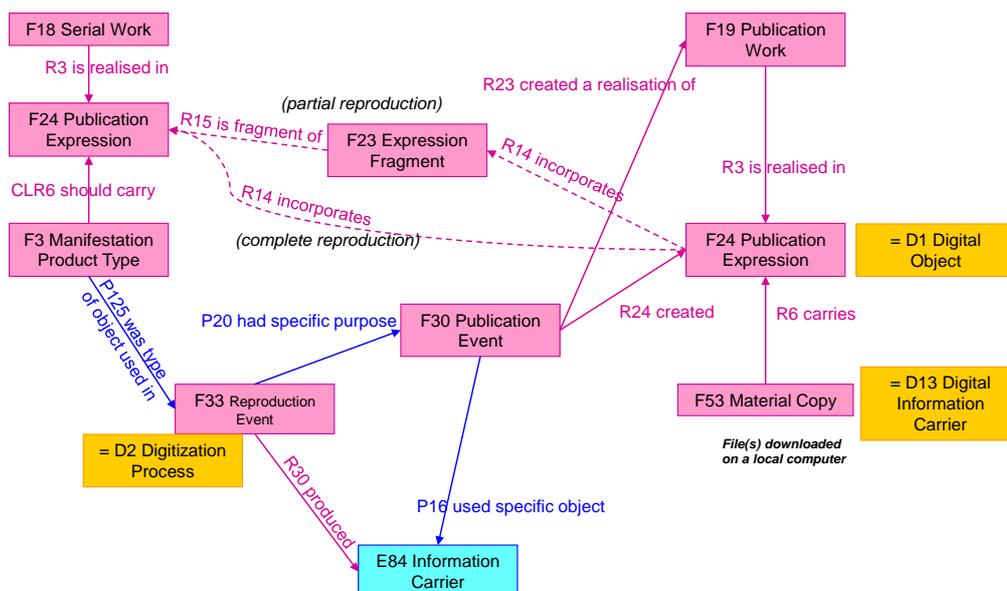


Figure 12. Modelling the relationship between a (dead) serial and its digitization made available online

The resulting digital files are not necessarily published in the form of a serial: they can also be published as monographs. Once again, the *R14 incorporates* property makes it possible to retrieve the digitization as a match to a query restricted on serials without having to qualify wrongly the digitization as a serial if it has been released as a monograph.

A cumulative issue that repeats the content of several previously released issues of a serial can be modelled as a publication that incorporates a fragment of the overall expression of a serial work (see **Figure 13**).

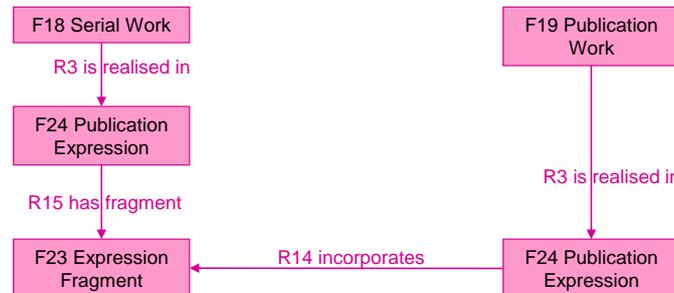


Figure 13. Modelling the relationship between a serial and a cumulative issue

Naming conventions

The following naming conventions have been applied throughout PRESS_{OO}:

- Classes borrowed from CIDOC CRM are identified by numbers preceded by the letter ‘E’, and are named using noun phrases. For example: E7 Activity.
- Classes borrowed from FRBR_{OO} are identified by numbers preceded by the letter ‘F’, and are named using noun phrases. For example: F1 Work.
- Classes declared for the first time in PRESS_{OO} are identified by numbers preceded by the letter ‘Z’ (which was chosen just because it is the last letter in the alphabet, and has no other meaning here), and are named using noun phrases. For example: Z1 Serial Transformation.
- Properties borrowed from CIDOC CRM are identified by numbers preceded by the letter ‘P’, and are named in both directions using verbal phrases. For example: *P1 identifies (is identified by)*.
- Properties borrowed from FRBR_{OO} are identified by numbers preceded by the letter ‘R’, the letters ‘CLP’ or the letters ‘CLR’, and are named in both directions using verbal phrases. For example: *R3 is realised in (realises)*; *CLP2 should have type (should be type of)*; *CLR6 should carry (should be carried by)*.
- Properties declared for the first time in PRESS_{OO} are identified by numbers preceded by the letter ‘Y’ (which was chosen just because it is the next to last letter in the alphabet, and has no other meaning here), and are named in both directions using verbal phrases. For example: *Y1 provided a continuation to (was continued through)*.
- Property names should be read in their non-parenthetical form for the domain-to-range direction, and in parenthetical form for the range-to-domain direction.
- Properties with a range that is a subclass of E59 Primitive Value have no parenthetical name form, because reading the property name in the range-to-domain direction is not regarded as meaningful.
- Properties that have identical domain and range are either symmetric or transitive. Instantiating a symmetric property implies that the same relation holds for both the domain-to-range and the range-to-domain directions. For example: *F18 Serial Work. Y33 was merged with: F18 Serial Work*. The names of symmetric properties have no parenthetical form, because reading in the range-to-domain direction is the same as the domain-to-range reading. Transitive asymmetric properties have a parenthetical form that relates to the meaning of the inverse direction. For example: *F18 Serial Work. Y34 was merged to form (resulted from merging): F18 Serial Work*.

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 (for either properties declared specifically for the PRESS_{OO} model, or properties repeated from FRBR_{OO} and CIDOC CRM) 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 one (0,1:0,1)	An individual domain instance and range instance of this property can have zero or one instance of this property. In other words, this property is optional for both its domain and range, and is not repeatable for either its domain or its 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”.
one to one, necessary (1,1:0,1)	An individual domain instance of this property must have exactly one instance 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 not repeatable for its domain, and optional but not repeatable for its range.
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, 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, dependent (1,n:1,n)	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 repeatable for both its domain and its range.
one to one, necessary, dependent (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 PRESS_{OO} does not distinguish between a value being unknown or the property not being applicable at all.

3 PRESS_{OO} class hierarchy, aligned with portions from the FRBR_{OO} and the CIDOC CRM class hierarchies

This class hierarchy lists:

- all classes declared in PRESS_{OO},
- all classes declared in FRBR_{OO} and CIDOC CRM that are declared as superclasses of classes declared in PRESS_{OO},
- all classes declared in FRBR_{OO} or CIDOC CRM that are either domain or range for a property declared in PRESS_{OO},
- all classes declared in FRBR_{OO} and CIDOC CRM that are either domain or range for a property declared in FRBR_{OO} or CIDOC CRM that is declared as superproperty of a property declared in PRESS_{OO},
- all classes declared in FRBR_{OO} and CIDOC CRM that are either domain or range for a property that is part of a complete path of which a property declared in PRESS_{OO} is declared to be a shortcut.

This class hierarchy does *not* list all classes that are necessary in order to account completely for the bibliographic description of a continuing resource; in particular, this class hierarchy does not list all the classes mentioned in the “Mapping from the data elements listed in the *ISSN Manual* to PRESS_{OO}” to be found in a subsequent section of the present document.

In this class hierarchy, all classes that were specifically declared in PRESS_{OO} appear in bold text. All classes that were declared as subclasses of more than one class are mentioned in roman text for their first occurrence, and in italic text for all subsequent occurrences. Dashes are used to symbolise the hierarchical levels.

E1	CRM Entity
E2	— Temporal Entity
E4	— — Period
E5	— — — Event
E7	— — — — Activity
Z2	— — — — — Absorption
Z5	— — — — — Issuing Rule Change
Z8	— — — — — Metadata Management
E11	— — — — — Modification
E12	— — — — — — Production
F28	— — — — — — — Expression Creation
F30	— — — — — — — — Publication Event
Z4	— — — — — — — — — Temporary Substitution
Z6	— — — — — — — — — Starting of Publication
Z7	— — — — — — — — — Ending of Publication
Z14	— — — — — — — — — Storage Unit Creation
E65	— — — — — — — Creation
F27	— — — — — — — — Work Conception
Z1	— — — — — — — — — Serial Transformation
Z3	— — — — — — — — — Separation
F28	— — — — — — — — — <i>Expression Creation</i>

F30	—	—	—	—	—	—	—	—	Publication Event
Z4	—	—	—	—	—	—	—	—	Temporary Substitution
Z6	—	—	—	—	—	—	—	—	Starting of Publication
Z7	—	—	—	—	—	—	—	—	Ending of Publication
Z14	—	—	—	—	—	—	—	—	Storage Unit Creation
E63	—	—	—	—	—	—	—	—	Beginning of Existence
E12	—	—	—	—	—	—	—	—	Production
F28	—	—	—	—	—	—	—	—	Expression Creation
F30	—	—	—	—	—	—	—	—	Publication Event
Z4	—	—	—	—	—	—	—	—	Temporary Substitution
Z6	—	—	—	—	—	—	—	—	Starting of Publication
Z7	—	—	—	—	—	—	—	—	Ending of Publication
Z14	—	—	—	—	—	—	—	—	Storage Unit Creation
E65	—	—	—	—	—	—	—	—	Creation
F27	—	—	—	—	—	—	—	—	Work Conception
Z1	—	—	—	—	—	—	—	—	Serial Transformation
Z3	—	—	—	—	—	—	—	—	Separation
F28	—	—	—	—	—	—	—	—	Expression Creation
F30	—	—	—	—	—	—	—	—	Publication Event
Z4	—	—	—	—	—	—	—	—	Temporary Substitution
Z6	—	—	—	—	—	—	—	—	Starting of Publication
Z7	—	—	—	—	—	—	—	—	Ending of Publication
Z14	—	—	—	—	—	—	—	—	Storage Unit Creation
E77	—	—	—	—	—	—	—	—	Persistent Item
E70	—	—	—	—	—	—	—	—	Thing
E72	—	—	—	—	—	—	—	—	Legal Object
E90	—	—	—	—	—	—	—	—	Symbolic Object
E73	—	—	—	—	—	—	—	—	Information Object
E31	—	—	—	—	—	—	—	—	Document
E32	—	—	—	—	—	—	—	—	Authority Document
F2	—	—	—	—	—	—	—	—	Expression
F23	—	—	—	—	—	—	—	—	Expression Fragment
E29	—	—	—	—	—	—	—	—	Design or Procedure
Z12	—	—	—	—	—	—	—	—	Issuing Rule
E33	—	—	—	—	—	—	—	—	Linguistic Object
E35	—	—	—	—	—	—	—	—	Title
E41	—	—	—	—	—	—	—	—	Appellation
E35	—	—	—	—	—	—	—	—	Title
E51	—	—	—	—	—	—	—	—	Contact Point
Z11	—	—	—	—	—	—	—	—	URL
E71	—	—	—	—	—	—	—	—	Man-Made Thing
E24	—	—	—	—	—	—	—	—	Physical Man-Made Thing
F4	—	—	—	—	—	—	—	—	Manifestation Singleton
Z9	—	—	—	—	—	—	—	—	Storage Unit
E28	—	—	—	—	—	—	—	—	Conceptual Object
E55	—	—	—	—	—	—	—	—	Type
Z10	—	—	—	—	—	—	—	—	Sequencing Pattern
E56	—	—	—	—	—	—	—	—	Language
E89	—	—	—	—	—	—	—	—	Propositional Object
F1	—	—	—	—	—	—	—	—	Work
F15	—	—	—	—	—	—	—	—	Complex Work

F18	—	—	—	—	—	—	—	—	Serial Work
F16	—	—	—	—	—	—	—	—	Container Work
F19	—	—	—	—	—	—	—	—	Publication Work
<i>F18</i>	—	—	—	—	—	—	—	—	<i>Serial Work</i>
Z13	—	—	—	—	—	—	—	—	Monograph
<i>E73</i>	—	—	—	—	—	—	—	—	<i>Information Object</i>
<i>E31</i>	—	—	—	—	—	—	—	—	<i>Document</i>
<i>E32</i>	—	—	—	—	—	—	—	—	<i>Authority Document</i>
<i>F2</i>	—	—	—	—	—	—	—	—	<i>Expression</i>
<i>F23</i>	—	—	—	—	—	—	—	—	<i>Expression Fragment</i>
<i>E29</i>	—	—	—	—	—	—	—	—	<i>Design or Procedure</i>
Z12	—	—	—	—	—	—	—	—	Issuing Rule
<i>E33</i>	—	—	—	—	—	—	—	—	<i>Linguistic Object</i>
<i>E35</i>	—	—	—	—	—	—	—	—	<i>Title</i>
<i>E90</i>	—	—	—	—	—	—	—	—	<i>Symbolic Object</i>
<i>E73</i>	—	—	—	—	—	—	—	—	<i>Information Object</i>
<i>E31</i>	—	—	—	—	—	—	—	—	<i>Document</i>
<i>E32</i>	—	—	—	—	—	—	—	—	<i>Authority Document</i>
<i>F2</i>	—	—	—	—	—	—	—	—	<i>Expression</i>
<i>F23</i>	—	—	—	—	—	—	—	—	<i>Expression Fragment</i>
<i>E29</i>	—	—	—	—	—	—	—	—	<i>Design or Procedure</i>
Z12	—	—	—	—	—	—	—	—	Issuing Rule
<i>E33</i>	—	—	—	—	—	—	—	—	<i>Linguistic Object</i>
<i>E35</i>	—	—	—	—	—	—	—	—	<i>Title</i>
<i>E41</i>	—	—	—	—	—	—	—	—	<i>Appellation</i>
<i>E35</i>	—	—	—	—	—	—	—	—	<i>Title</i>
<i>E51</i>	—	—	—	—	—	—	—	—	<i>Contact Point</i>
Z11	—	—	—	—	—	—	—	—	URL
E39	—	—	—	—	—	—	—	—	Actor
E53	—	—	—	—	—	—	—	—	Place
E54	—	—	—	—	—	—	—	—	Dimension

4 PRESS₀₀ property hierarchy, aligned with portions from the FRBR₀₀ and the CIDOC CRM property hierarchies

This property hierarchy lists:

- all properties declared in PRESS₀₀,
- all properties declared in FRBR₀₀ and CIDOC CRM that are declared as superproperties of properties declared in PRESS₀₀,
- all properties declared in FRBR₀₀ and CIDOC CRM that are part of a complete path of which a property declared in PRESS₀₀ is declared to be a shortcut.

This property hierarchy does *not* list all properties that are necessary in order to account completely for the bibliographic description of a continuing resource; in particular, this property hierarchy does not list all the properties mentioned in the “Mapping from the data elements listed in the *ISSN Manual* to PRESS₀₀” to be found in a subsequent section of the present document.

In this property hierarchy, all properties that were specifically declared in PRESS₀₀ appear in bold text. All properties that were declared as subproperties of more than one property are mentioned in roman text for their first occurrence, and in italic text for all subsequent occurrences. Dashes are used to symbolise the hierarchical levels.

Property id	Property name	Domain	Range
P2	has type (is type of)	E1 CRM Entity	E55 Type
Y43	— is indicative of (is exemplified by)	F23 Expression Fragment	Z10 Sequencing Pattern
P12	occurred in the presence of (was present at)	E5 Event	E77 Persistent Item
P11	— had participant (participated in)	E5 Event	E39 Actor
P14	— — carried out by (performed)	E7 Activity	E39 Actor
P16	— used specific object (was used for)	E7 Activity	E70 Thing
R19	— — created a realisation of (was realised through)	F28 Expression Creation	F1 Work
R23	— — — created a realisation of (was realised through)	F30 Publication Event	F19 Publication Work
Y13	— — — provided surrogate to (had surrogate through)	Z4 Temporary Substitution	F18 Serial Work
Y9	— — absorbed (was absorbed through)	Z2 Absorption	F18 Serial Work
Y10	— — enhanced (was enhanced through)	Z2 Absorption	F18 Serial work
Y14	— — substituted with (became surrogate through)	Z4 Temporary Substitution	F18 Serial Work
Y16	— — replaced with (was introduced through)	Z5 Issuing Rule Change	Z12 Issuing Rule
Y46	— — aggregated in a single	Z14 Storage Unit	E18 Physical Thing

Property id	Property name	Domain	Range
	storage unit (was aggregated in a single unit through)	Creation	
P31	— has modified (was modified by)	E11 Modification	E24 Physical Man-Made Thing
P108	— — has produced (was produced by)	E12 Production	E24 Physical Man-Made Thing
R18	— — — created (was created by)	F28 Expression Creation	F4 Manifestation Singleton
Y45	— — — — created (was created by)	Z14 Storage Unit Creation	Z9 Storage Unit
P92	— brought into existence (was brought into existence by)	E63 Beginning of Existence	E77 Persistent Item
P94	— — has created (was created by)	E65 Creation	E28 Conceptual Object
R16	— — — initiated (was initiated by)	F27 Work Conception	F1 Work
Y2	— — — — initiated as continuation (was initiated as continuation through)	Z1 Serial Transformation	F18 Serial Work
Y4	— — — — initiated as replacement (was replaced through)	Z1 Serial Transformation	F18 Serial Work
Y6	— — — — initiated (resulted from split)	Z1 Serial Transformation	F18 Serial Work
Y8	— — — — merged into (resulted from merger)	Z1 Serial Transformation	F18 Serial Work
Y11	— — — — separated (was separated through)	Z3 Separation	F18 Serial Work
<i>P108</i>	— — <i>has produced (was produced by)</i>	E12 Production	E24 Physical Man-Made Thing
<i>R18</i>	— — — <i>created (was created by)</i>	F28 Expression Creation	F4 Manifestation Singleton
Y45	— — — — created (was created by)	Z14 Storage Unit Creation	Z9 Storage Unit
P93	— took out of existence (was taken out of existence by)	E64 End of Existence	E77 Persistent Item
Y12	— separated from (was diminished through)	Z3 Separation	F18 Serial Work
Y15	— replaced (was replaced through)	Z5 Issuing Rule Change	Z12 Issuing Rule
P15	was influenced by (influenced)	E7 Activity	E1 CRM Entity
<i>P16</i>	— <i>used specific object (was used for)</i>	E7 Activity	E70 Thing
<i>R19</i>	— — <i>created a realisation of (was realised through)</i>	F28 Expression Creation	F1 Work
<i>R23</i>	— — — <i>created a realisation of (was realised through)</i>	F30 Publication Event	F19 Publication Work
Y13	— — — — provided surrogate to (had surrogate through)	Z4 Temporary Substitution	F18 Serial Work
Y9	— — absorbed (was absorbed)	Z2 Absorption	F18 Serial Work

Property id	Property name	Domain	Range
	<i>through</i>)		
Y10	— — <i>enhanced (was enhanced through)</i>	Z2 Absorption	F18 Serial Work
Y14	— — <i>substituted with (became surrogate through)</i>	Z4 Temporary Substitution	F18 Serial Work
Y16	— — <i>replaced with (was introduced through)</i>	Z5 Issuing Rule Change	Z12 Issuing Rule
Y46	— — <i>aggregated in a single storage unit (was aggregated in a single unit through)</i>	Z14 Storage Unit Creation	E18 Physical Thing
P17	— was motivated by (motivated)	E7 Activity	E1 CRM Entity
P134	— continued (was continued by)	E7 Activity	E7 Activity
P67	refers to (is referred to by)	E89 Propositional Object	E1 CRM Entity
P71	— lists (is listed in)	E32 Authority Document	E1 CRM Entity
Y20	— foresees type (is type foreseen in)	Z12 Issuing Rule	E55 Type
Y21	— — foresees use of language (is language foreseen in)	Z12 Issuing Rule	E56 Language
Y22	— — foresees sequencing pattern (is sequencing pattern foreseen in)	Z12 Issuing Rule	Z10 Sequencing Pattern
Y23	— foresees dimension (is dimension foreseen in)	Z12 Issuing Rule	E54 Dimension
Y24	— foresees use of title (is title foreseen in)	Z12 Issuing Rule	E35 Title
Y28	— foresees URL (is URL foreseen in)	Z12 Issuing Rule	Z11 URL
P69	has association with (is associated with)	E29 Design or Procedure	E29 Design or Procedure
Y25	— foresees association with (foresees to be associated with)	Z12 Issuing Rule	Z12 Issuing Rule
Y26	— — foresees other edition (foresees to be another edition of)	Z12 Issuing Rule	Z12 Issuing Rule
Y27	— — — foresees translation in (foresees translation of)	Z12 Issuing Rule	Z12 Issuing Rule
Y44	— foresees topic (is topic foreseen in)	Z12 Issuing Rule	E1 CRM Entity
P74	has current or former residence (is current or former residence of)	E39 Actor	E53 Place
P89	falls within (contains)	E53 Place	E53 Place
P115	finishes (is finished by)	E2 Temporal Entity	E2 Temporal Entity
P116	starts (is started by)	E2 Temporal Entity	E2 Temporal Entity
R11	has issuing rule (is issuing rule of)	F18 Serial Work	E29 Design or Procedure
Y37	— has former or current issuing rule (is former or current issuing rule)	F18 Serial Work	Z12 Issuing Rule

Property id	Property name	Domain	Range
Y38	— — has current issuing rule (is current issuing rule of)	F18 Serial Work	Z12 Issuing Rule
Y1	provided a continuation to (was continued through)	Z1 Serial Transformation	F18 Serial Work
Y3	provided a replacement to (was replaced through)	Z1 Serial Transformation	F18 Serial Work
Y5	split (was split through)	Z1 Serial Transformation	F18 Serial Work
Y7	merged (was merged through)	Z1 Serial Transformation	F18 Serial Work
Y17	launched (was launched through)	Z6 Starting of Publication	F18 Serial Work
Y18	ended (was ended through)	Z7 Ending of Publication	F18 Serial Work
Y19	concerned (was the concern of)	Z8 Metadata Management	F18 Serial Work
Y29	evolved into (continues)	F18 Serial Work	F18 Serial Work
Y30	was partially continued by (was separated from)	F18 Serial Work	F18 Serial Work
Y31	was superseded by (superseded)	F18 Serial Work	F18 Serial Work
Y32	was split into (resulted from splitting)	F18 Serial Work	F18 Serial Work
Y33	was merged with	F18 Serial Work	F18 Serial Work
Y34	was merged to form (resulted from merging)	F18 Serial Work	F18 Serial Work
Y35	was absorbed in (was enhanced by absorbing)	F18 Serial Work	F18 Serial Work
Y36	had surrogate (was surrogate for)	F18 Serial Work	F18 Serial Work
Y39	is enhanced by monograph (enhances serial)	F18 Serial Work	Z13 Monograph
Y40	enhances monograph (is enhanced by serial)	F18 Serial Work	Z13 Monograph
Y41	has former or current area of publication (is former or current area of publication)	F18 Serial Work	E53 Place
Y42	— has current area of publication (is current area of publication)	F18 Serial Work	E53 Place

5 PRESS₀₀ classes

5.1 Z1 Serial Transformation

Subclass of: [F27](#) Work Conception

Scope note: This class comprises activities that transform instances of F18 Serial Work into new instances of F18 Serial Work.

An instance of Z1 Serial Transformation consists of having the idea of starting the publication of one or more than one new serial (this is a particular case of F27 Work Conception), with a distinct intention of thus prolonging, under a new identity, one or more than one earlier serial, the publication of which has ceased, either due directly to the transformation project, or for any other reason.

The idea of starting a new serial can be contiguous with the disappearance of a serial, or occur quite some time after that event.

A transformation can be complete or only partial (e.g., a serial devoted to history of the Middle Ages and Renaissance can cease to be published as such and be continued by a new serial that is devoted to the Middle Ages only). This information element can be reflected through the *P2 has type (is type of)*: E55 Type from the CIDOC CRM model.

The most frequent cases of serial transformation are: continuation (in which a serial undergoes a major title change), replacement (in which a new serial supersedes an earlier serial), split (in which one serial is transformed into at least two serials), and merger (in which at least two serials are transformed into one serial).

The temporary substitution of a serial with another serial (either pre-existing or created for that purpose) is not regarded as a serial transformation but simply as an episode within the publication process of the serial that temporarily disappeared (see Scope Note for Z4 Temporary Substitution).

Cases of separation and absorption are not regarded as serial transformations either, as they do not involve the combination of the disappearance of a serial and the appearance of another serial, but just either the latter or the former.

Examples: Changing the title 'Journal of the Chemical Society. Dalton transactions' (ISSN '0300-9246') into 'Dalton: an international journal of inorganic chemistry' (ISSN '1470-479X') (a major title change)

Splitting the periodical entitled 'Colloids and surfaces' (ISSN '0166-6622') into the two periodicals entitled 'Colloids and surfaces. A, Physicochemical and engineering aspects' (ISSN '0927-7757') and 'Colloids and surfaces. B, Biointerfaces' (ISSN '0927-7765') (a split)

Merging the periodicals entitled 'Animal research' (ISSN '1627-3583'), 'Animal science' (ISSN '1357-7298'), and 'Reproduction nutrition development' (ISSN '0926-5287') into the periodical entitled 'Animal' (ISSN '1751-7311') (a merger)

Replacing the periodical entitled 'Le Patriote de Saône-et-Loire' (ISSN '1959-9935') with the new periodical entitled 'Le Démocrate de Saône-et-Loire' (ISSN '1959-9943') after the former was suppressed by censorship in 1850 (a definitive replacement)

Properties: [Y1](#) provided a continuation to (was continued through): [F18](#) Serial Work

[Y2](#) initiated as continuation (was initiated as continuation through): [F18](#) Serial Work

[Y3](#) provided a replacement to (was replaced through): [F18](#) Serial Work

[Y4](#) initiated as replacement (was initiated as replacement through): [F18](#) Serial Work

[Y5](#) split (was split through): [F18](#) Serial Work

[Y6](#) initiated (resulted from split): [F18](#) Serial Work

[Y7](#) merged (was merged through): [F18](#) Serial Work

[Y8](#) merged into (resulted from merger): [F18](#) Serial Work

5.2 Z2 Absorption

Subclass of:	E7 Activity
Scope note:	This class comprises activities that result in instances of F18 Serial Work being absorbed by pre-existing instances of F18 Serial Work. An absorption can be complete or only partial (e.g., a serial devoted to history in general can absorb specifically the portion devoted to the history of the Middle Ages of another serial that is devoted to the Middle Ages and Renaissance, while the portion devoted to the Renaissance is just abandoned). This information element can be reflected through the <i>P2 has type (is type of)</i> : E55 Type from the CIDOC CRM model.
Examples:	Absorbing the periodical entitled ‘Archiv für mathematische Logik und Grundlagenforschung’ (ISSN ‘0003-9268’) into the periodical entitled ‘Archiv für Philosophie’ (ISSN ‘0066-6467’)
Properties:	Y9 absorbed (was absorbed through): F18 Serial Work Y10 enhanced (was enhanced through): F18 Serial Work

5.3 Z3 Separation

Subclass of:	F27 Work Conception
Scope note:	This class comprises activities that result in new instances of F18 Serial Work coming into being as the ‘offspring’ of pre-existing instances of F18 Serial Work that continue to be published after the separation has occurred.
Examples:	Separating, in 1992, the periodical entitled ‘The Electrochemical society interface’ (ISSN ‘1064-8208’) from the periodical entitled ‘Journal of the Electrochemical society’ (ISSN ‘0013-4651’), which was founded in 1948 and continued to exist after 1992 Separating, in 1989, the annual publication entitled ‘Means plumbing cost data’ (ISSN ‘1042-3850’) from the periodical entitled ‘Means mechanical cost data’ (ISSN ‘0748-2698’), which was founded in 1983 and continued to exist after 1989
Properties:	Y11 separated (was separated through): F18 Serial Work Y12 separated from (was diminished through): F18 Serial Work

5.4 Z4 Temporary Substitution

Subclass of:	F30 Publication Event
Scope note:	This class comprises activities that consist of publishing an instance of F18 Serial Work as a temporary replacement for another instance of F18 Serial Work. The replacing instance of F18 Serial Work can either pre-exist the replacement, or be created specifically for the purpose of replacing the other instance of F18 Serial Work.
Examples:	Temporarily substituting the periodical entitled ‘Le Petit Ardennais’ (ISSN ‘2019-2606’) with the periodical entitled ‘Le Journal ardennais’ (ISSN ‘2103-1622’) during a strike of printers and typographers from 23 December 1922 to 5 January 1923 [<i>Comment: the periodical entitled ‘Le Journal ardennais’ was created specifically for the purpose of being substituted to ‘Le Petit Ardennais’ during the strike, and ceased to be published after the end of the strike</i>] Temporarily substituting the periodical entitled ‘L’Annonce: journal universel d’annonces civiles, judiciaires, commerciales et d’avis divers du département de la Seine’ with the periodical entitled ‘Le Pont-Neuf’ in April 1840 [<i>Comment: the periodical entitled ‘Le Pont-Neuf’ already existed prior to April 1840, and continued to be published after the periodical entitled ‘L’Annonce...’ resumed being published</i>]
Properties:	Y13 provided surrogate to (had surrogate through): F18 Serial Work Y14 substituted with (became surrogate through): F18 Serial Work

5.5 Z5 Issuing Rule Change

Subclass of:	E7 Activity
Scope note:	This class comprises activities resulting in the modification of an element of the issuing policy

followed in publishing a given continuing resource.

Examples: Transforming the bimonthly periodical entitled ‘L’Avispa’ (ISSN ‘1022-5870’) into a quarterly from issue No. 9 (1992, April-June)

Changing the complete title of the periodical ‘L’Avispa’ (ISSN ‘1022-5870’) from: ‘L’Avispa, bimensual de teoría y debate’ to: ‘L’Avispa, revista trimestrial de teoría y debate’ from issue No. 9 (1992, April-June)

Properties: [Y15](#) replaced (was replaced through): [Z12](#) Issuing Rule
[Y16](#) replaced with (was introduced through): [Z12](#) Issuing Rule

5.6 Z6 Starting of Publication

Subclass of: [F30](#) Publication Event

Scope note: This class comprises activities that consist of publishing the first issue of a given continuing resource.

An instance of Z6 Starting of Publication is part of the instance of F30 Publication Event that realises the entire continuing resource, and it is associated with it through property *P116 starts (is started by)* (i.e., the starting point of the instance of Z6 Starting of Publication coincides with the starting point of the instance of F30 Publication Event).

This class and Z7 Ending of Publication are not declared as disjoint, as the publication of the first issue of a continuing resource can also be the publication of its last issue, in cases where only one issue of a continuing resource was ever published. If no other issue of a continuing resource is published after the first issue, then both the instance of Z6 Starting of Publication and the instance of Z7 Ending of Publication *P114 [are] equal in time to* the instance of F30 Publication Event. As a matter of fact, the same event is then an instance of all three classes.

Examples: The publication of Volume 1, Number 1, of the periodical entitled ‘Animal’ (ISSN ‘1751-7311’) in February 1997

Properties: [Y17](#) launched (was launched through): [F18](#) Serial Work

5.7 Z7 Ending of Publication

Subclass of: [F30](#) Publication Event

Scope note: This class comprises activities that consist of publishing the latest known issue of a given continuing resource.

An instance of Z7 Ending of Publication is part of the instance of F30 Publication Event that realises the entire continuing resource, and it is associated with it through property *P115 finishes (is finished by)* (i.e., the ending point of the instance of Z7 Ending of Publication coincides with the ending point of the instance of F30 Publication Event).

This class and Z6 Starting of Publication are not declared as disjoint, as the publication of the first issue of a continuing resource can also be the publication of its latest known issue, in cases where only one issue of a continuing resource was ever published. If no other issue of a continuing resource is published after the first issue, then both the instance of Z6 Starting of Publication and the instance of Z7 Ending of Publication *P114 [are] equal in time to* the instance of F30 Publication Event. As a matter of fact, the same event is then an instance of all three classes.

Examples: The publication of Volume 15, Number 4, of the periodical entitled ‘The Mask’ in December 1929, which was not followed by the publication of any other issue of that periodical

Properties: [Y18](#) ended (was ended through): [F18](#) Serial Work

5.8 Z8 Metadata Management

Subclass of: [E7](#) Activity

Scope note: This class comprises activities performed by ISSN agencies (either at the international or a regional level) and consisting of exerting a responsibility on the metadata relating to a continuing resource identified by an ISSN, which includes, among other things: storing and preserving the metadata, checking the accuracy of the recorded information, making decisions as to whether new records and new ISSNs are required or not due to modifications in the continuing resource described, checking the uniqueness of key titles, etc. Z8 Metadata Management does not *necessarily* include the activity of *creating* the metadata.

A set of ISSN metadata can be managed by various agencies over time, but at a given point in time it cannot be managed by more than one agency. In practice, information relating to the agency that was previously responsible for a given set of metadata is erased from that set of metadata when the responsibility on it is handed over to another agency.

[*Comment.* This scope note is very restrictive and specific, while the label for the class is deliberately very vague and general. The intention is to make it possible in the future, if needed, to generalize this class and include it in other conceptual models.]

Examples: The activities performed by U.S. ISSN Center with regard to the metadata relating to the periodical entitled 'The Atlantic Monthly' (ISSN '1072-7825')

Properties: [Y19](#) concerned (was the concern of): [F18](#) Serial Work

5.9 Z9 Storage Unit

Subclass of: [F4](#) Manifestation Singleton

Scope note: This class comprises unique combinations of instances of E18 Physical Thing that are bound together, or otherwise physically united, for the sake of preservation, and are communicated to library users as single, indivisible units. The individual components of a given instance of Z9 Storage Unit are generally instances of F4 Manifestation Singleton and/or F5 Item, but the binding itself that holds them together can be a valuable piece of cultural heritage that is worth describing for its own sake. Z9 Storage Unit makes it possible to account indifferently for the description of the various materials (printed or manuscript or of any other type) that make up a holding, and of the binding (or any other type of device, e.g. a box, a casket, etc.) that was produced for that holding, if needed.

Examples: The physical storage unit held by the BnF and containing under one binding exemplars of Vol. 307, No. 1 (January 2011) through Vol. 308, No. 5 (December 2011) of the periodical entitled 'The Atlantic Monthly' (ISSN '1072-7825')

The physical storage unit held by the BnF and containing, under one binding with the arms of Madame de Pompadour, exemplars of volumes 3 and 4 (1674) of the periodical entitled 'Le Mercure galant'

The physical storage unit held by the BnF and containing, in one box, printed exemplars of volumes 1 to 6 (1930-33) of the periodical entitled 'Le Surréalisme au service de la révolution', together with holograph manuscripts by André Breton, Louis Aragon, Salvador Dalí, René Char, Max Ernst, and others (both the box and the individual bindings were created by bookbinder and craftsman Renaud Vernier in 2006)

5.10 Z10 Sequencing Pattern

Subclass of: [E55](#) Type

Scope note: This class comprises 'forms anticipated to be used in designating volumes/issues, etc. and/or dates for the individual units of the serial (e.g. Volume ..., number ...)' [*FRBR definition*].

A sequencing pattern is a type exemplified in one or more than one statement transcribed from one or more than one issue of a serial. The type itself is never recorded as such, but is only inferred from the transcribed statements.

Examples: The pattern consisting of a volume number in Arabic numerals, and an issue number in Arabic numerals, as exemplified by the statement 'Vol. 272, no. 5 (Nov. 1993)-'

5.11 Z11 URL

- Subclass of: [E51](#) Contact Point
- Scope note: This class comprises identifiers for servers from which digital files can be obtained online.
- Examples: 'http://www.mechanics-industry.org/action/displayJournal?jid=MIN'

5.12 Z12 Issuing Rule

- Subclass of: [E29](#) Design or Procedure
- Scope note: This class comprises plans that specify bits of the issuing policy followed at some point in time for instances of F18 Serial Work.

The notion of issuing policy may include: regularity, frequency, sequencing pattern, the language of the linguistic objects contained in each issue, dimension of each issue, the font used to print each issue, the layout and editorial rules adhered to in each issue, etc.

[*Note:* The notion of issuing rule is to be understood differently in PRESS_{OO} than in FRBR_{OO}. In FRBR_{OO}, property *R11 has issuing rule (is issuing rule)* points to a complete issuing policy that comprises a variety of parameters (regularity, frequency, dimension, language, etc.), while in PRESS_{OO} an instance of Z12 Issuing Rule focuses on only one of those parameters and consists of a plan for just the expected regularity, just the expected frequency, just the expected dimension, etc. This perspective shift was made necessary when it was realized that any change (i.e., any instance of Z5 Issuing Rule Change) in just one of those parameters led to a new instantiation of Z12 Issuing Rule and new instantiations of all the ranges of the associated properties, with exactly the same value for each of them except for the one parameter that changes. It was deemed preferable to associate an instance of Z12 Issuing Rule with just one parameter of the issuing policy, which makes it possible that, e.g., a monthly was transformed into a quarterly without having to repeat that the expected language of its issues remains English.]

- Examples: The policy consisting of publishing a magazine (entitled 'The Atlantic Monthly', ISSN '1072-7825') the issues of which are to be released every month
- The policy consisting of publishing a magazine (ISSN '1072-7825') the issues of which are to be entitled 'The Atlantic Monthly'
- The policy consisting of publishing a magazine (entitled 'The Atlantic Monthly', ISSN '1072-7825') the issues of which are to contain articles in English

- Properties: [Y20](#) foresees type (is type foreseen in): [E55](#) Type
Y20.1 has type: [E55](#) Type
[Y21](#) foresees use of language (is language foreseen in): [E56](#) Language
Y21.1 mode of use: [E55](#) Type
[Y22](#) foresees sequencing pattern (is sequencing pattern foreseen in): [Z10](#) Sequencing Pattern
[Y23](#) foresees dimension (is dimension foreseen in): [E54](#) Dimension
[Y24](#) foresees use of title (is title foreseen in): [E35](#) Title
Y24.1 has type: [E55](#) Type
[Y25](#) foresees association with (foresees to be associated with): [Z12](#) Issuing Rule
Y25.1 has type: [E55](#) Type
[Y26](#) foresees other edition (foresees to be another edition of): [Z12](#) Issuing Rule
Y26.1 has type: [E55](#) Type
[Y27](#) foresees translation in (foresees translation of): [Z12](#) Issuing Rule
[Y28](#) foresees URL (is URL foreseen in): [Z11](#) URL
[Y44](#) foresees topic (is topic foreseen in): [E1](#) CRM Entity

5.13 Z13 Monograph

- Subclass of: [F19](#) Publication Work
- Scope note: This class comprises instances of F19 Publication Work that are planned to result in an instance of F24 Publication Expression that should either be complete in one part, or completed within a

finite (and predetermined) number of parts, as opposed to instances of F18 Serial Work. [*Adapted from Appendix E: Glossary of ISBD, International Standard Bibliographic Description: Consolidated Edition, 2011*]

F18 Serial Work and Z13 Monograph are two distinct subclasses of F19 Publication Work; however, they are neither declared as disjoint nor complementary, in order to allow for a certain amount of uncertainty as to the actual nature of some publications.

- Examples: The sum of editorial concepts that should be conveyed through all copies of the instance of F3 Manifestation Product Type identified by ISBN ‘978-2-503-53894-5’ (the content of which is entitled: ‘Medieval manuscripts, their makers and users: a special issue of Viator in honor of Richard and Mary Rouse’)
- The sum of editorial concepts that should be conveyed through all copies of the instance of F3 Manifestation Product Type identified by ISBN ‘978-1-902896-80-9’ (the content of which is entitled: ‘The international lily register and checklist 2007’)

5.14 Z14 Storage Unit Creation

Subclass of: [F28](#) Expression Creation

Scope note: This class comprises activities through which instances of Z9 Storage Unit are produced.

Although the activity of producing a storage unit can be motivated by preservation only, it inevitably results in the creation of an expression that consists of the sum of all expressions conveyed by the individual items and/or manifestation singletons that make up the resulting storage unit. Z14 Storage Unit Creation is therefore declared as a subclass of F28 Expression Creation.

A given instance of Z14 Storage Unit Creation can involve truly artistic endeavours, such as the conception and realisation of a binding which can be regarded as a piece of cultural heritage in its own right.

Examples: The activity consisting of binding together exemplars of Vol. 307, No. 1 (January 2011) through Vol. 308, No. 5 (December 2011) of the periodical entitled ‘The Atlantic Monthly’ (ISSN ‘1072-7825’)

The activity consisting of producing a binding with the arms of Madame de Pompadour, that holds together exemplars of volumes 3 and 4 (1674) of the periodical entitled ‘Le Mercure galant’

The activity consisting of producing the individual bindings and the box for the physical storage unit held by the BnF and containing printed exemplars of volumes 1 to 6 (1930-33) of the periodical entitled ‘Le Surréalisme au service de la révolution’, together with holograph manuscripts by André Breton, Louis Aragon, Salvador Dalí, René Char, Max Ernst, and others (both the box and the individual bindings were created by bookbinder and craftsman Renaud Vernier in 2006)

Properties: [Y45](#) created (was created by): [Z9](#) Storage Unit

[Y46](#) aggregated in a single storage unit (was aggregated in a single storage unit through): [E18](#) Physical Thing

6 PRESS₀₀ properties

6.1 Y1 provided a continuation to (was continued through)

Domain: [Z1](#) Serial Transformation
Range: [F18](#) Serial Work
Shortcut of: [Z1](#) Serial Transformation. [Y2](#) initiated as continuation: [F18](#) Serial Work. [R23i](#) was realised through: [F30](#) Publication Event. [P134](#) continued: [F30](#) Publication Event. [R23](#) created a realisation of: [F18](#) Serial Work
Quantification: (0,1:0,1)
Scope note: This property associates an instance of Z1 Serial Transformation with an instance of F18 Serial Work that underwent a ‘major’ title change that transformed it into another instance of F18 Serial Work.
Examples: Changing the title ‘Journal of the Chemical Society. Dalton transactions’ (ISSN ‘0300-9246’) into ‘Dalton: an international journal of inorganic chemistry’ (ISSN ‘1470-479X’) (Z1) *Y1 provided a continuation to* the periodical entitled ‘Journal of the Chemical Society. Dalton transactions’ (ISSN ‘0300-9246’) (F18)

6.2 Y2 initiated as continuation (was initiated as continuation through)

Domain: [Z1](#) Serial Transformation
Range: [F18](#) Serial Work
Subproperty of: [F27](#) Work Conception. [R16](#) initiated (was initiated by): [F1](#) Work
Quantification: (0,1:0,1)
Scope note: This property associates an instance of Z1 Serial Transformation with an instance of F18 Serial Work that resulted from a ‘major’ title change that affected another instance of F18 Serial Work.
Examples: Changing the title ‘Journal of the Chemical Society. Dalton transactions’ (ISSN ‘0300-9246’) into ‘Dalton: an international journal of inorganic chemistry’ (ISSN ‘1470-479X’) (Z1) *Y2 initiated as continuation* the periodical entitled ‘Dalton: an international journal of inorganic chemistry’ (ISSN ‘1470-479X’) (F18)

6.3 Y3 provided a replacement to (was replaced through)

Domain: [Z1](#) Serial Transformation
Range: [F18](#) Serial Work
Shortcut of: [Z1](#) Serial Transformation. [Y4](#) initiated as replacement: [F18](#) Serial Work. [R23i](#) was realised through: [F30](#) Publication Event. [P134](#) continued: [F30](#) Publication Event. [R23](#) created a realisation of: [F18](#) Serial Work
Quantification: (0,n:0,1)
Scope note: This property associates an instance of Z1 Serial Transformation with an instance of F18 Serial Work the publication of which had ceased and that was superseded by one or more than one instance of F18 Serial Work.
Examples: Replacing the periodical entitled ‘Le Patriote de Saône-et-Loire’ (ISSN ‘1959-9935’) with the new periodical entitled ‘Le Démocrate de Saône-et-Loire’ (ISSN ‘1959-9943’) after the former had been suppressed by censorship in 1850 (Z1) *Y3 provided a replacement to* the periodical entitled ‘Le Patriote de Saône-et-Loire’ (ISSN ‘1959-9935’) (F18)

6.4 Y4 initiated as replacement (was initiated as replacement through)

Domain: [Z1](#) Serial Transformation
Range: [F18](#) Serial Work

Subproperty of: [F27](#) Work Conception. [R16](#) initiated (was initiated by): [F1](#) Work
Quantification: (0,n;0,1)
Scope note: This property associates an instance of Z1 Serial Transformation with an instance of F18 Serial Work that was created with the distinct intention of being published in lieu of another instance of F18 Serial Work the publication of which had ceased.
Examples: Replacing the periodical entitled ‘Le Patriote de Saône-et-Loire’ (ISSN ‘1959-9935’) with the new periodical entitled ‘Le Démocrate de Saône-et-Loire’ (ISSN ‘1959-9943’) after the former had been suppressed by censorship in 1850 (Z1) *Y4 initiated as replacement* the periodical entitled ‘Le Démocrate de Saône-et-Loire’ (ISSN ‘1959-9943’) (F18)

6.5 Y5 split (was split through)

Domain: [Z1](#) Serial Transformation
Range: [F18](#) Serial Work
Shortcut of: [Z1](#) Serial Transformation. [Y6](#) initiated: [F18](#) Serial Work. [R23i](#) was realised through: [F30](#) Publication Event. [P134](#) continued: [F30](#) Publication Event. [R23](#) created a realisation of: [F18](#) Serial Work
Quantification: (0,1;0,1)
Scope note: This property associates an instance of Z1 Serial Transformation with an instance of F18 Serial Work that was split in order to create new instances of F18 Serial Work.
Examples: Splitting the periodical entitled ‘Colloids and surfaces’ (ISSN ‘0166-6622’) into the two periodicals entitled ‘Colloids and surfaces. A, Physicochemical and engineering aspects’ (ISSN ‘0927-7757’) and ‘Colloids and surfaces. B, Biointerfaces’ (ISSN ‘0927-7765’) (Z1) *Y5 split* the periodical entitled ‘Colloids and surfaces’ (ISSN ‘0166-6622’) (F18)

6.6 Y6 initiated (resulted from split)

Domain: [Z1](#) Serial Transformation
Range: [F18](#) Serial Work
Subproperty of: [F27](#) Work Conception. [R16](#) initiated (was initiated by): [F1](#) Work
Quantification: (0,n;0,1)
Scope note: This property associates an instance of Z1 Serial Transformation with one or more than one instance of F18 Serial Work that resulted from splitting another instance of F18 Serial Work.
Examples: Splitting the periodical entitled ‘Colloids and surfaces’ (ISSN ‘0166-6622’) into the two periodicals entitled ‘Colloids and surfaces. A, Physicochemical and engineering aspects’ (ISSN ‘0927-7757’) and ‘Colloids and surfaces. B, Biointerfaces’ (ISSN ‘0927-7765’) (Z1) *Y6 initiated* the periodical entitled ‘Colloids and surfaces. A, Physicochemical and engineering aspects’ (ISSN ‘0927-7757’) (F18)
Splitting the periodical entitled ‘Colloids and surfaces’ (ISSN ‘0166-6622’) into the two periodicals entitled ‘Colloids and surfaces. A, Physicochemical and engineering aspects’ (ISSN ‘0927-7757’) and ‘Colloids and surfaces. B, Biointerfaces’ (ISSN ‘0927-7765’) (Z1) *Y6 initiated* the periodical entitled ‘Colloids and surfaces. B, Biointerfaces’ (ISSN ‘0927-7765’) (F18)

6.7 Y7 merged (was merged through)

Domain: [Z1](#) Serial Transformation
Range: [F18](#) Serial Work
Shortcut of: [Z1](#) Serial Transformation. [Y8](#) merged into: [F18](#) Serial Work. [R23i](#) was realised through: [F30](#) Publication Event. [P134](#) continued: [F30](#) Publication Event. [R23](#) created a realisation of: [F18](#) Serial Work
Quantification: (0,n;0,1)
Scope note: This property associates an instance of Z1 Serial Transformation with any one of the instances of F18 Serial Work that were merged with each other in order to create a new instance of F18 Serial

Work.

Examples: Merging the periodicals entitled ‘Animal research’ (ISSN ‘1627-3583’), ‘Animal science’ (ISSN ‘1357-7298’), and ‘Reproduction nutrition development’ (ISSN ‘0926-5287’) into the periodical entitled ‘Animal’ (ISSN ‘1751-7311’) (Z1) *Y7 merged* the periodical entitled ‘Animal research’ (ISSN ‘1627-3583’) (F18)

Merging the periodicals entitled ‘Animal research’ (ISSN ‘1627-3583’), ‘Animal science’ (ISSN ‘1357-7298’), and ‘Reproduction nutrition development’ (ISSN ‘0926-5287’) into the periodical entitled ‘Animal’ (ISSN ‘1751-7311’) (Z1) *Y7 merged* the periodical entitled ‘Animal science’ (ISSN ‘1357-7298’) (F18)

Merging the periodicals entitled ‘Animal research’ (ISSN ‘1627-3583’), ‘Animal science’ (ISSN ‘1357-7298’), and ‘Reproduction nutrition development’ (ISSN ‘0926-5287’) into the periodical entitled ‘Animal’ (ISSN ‘1751-7311’) (Z1) *Y7 merged* the periodical entitled ‘Reproduction nutrition development’ (ISSN ‘0926-5287’) (F18)

6.8 Y8 merged into (resulted from merger)

Domain: [Z1](#) Serial Transformation

Range: [F18](#) Serial Work

Subproperty of: [F27](#) Work Conception. [R16](#) initiated (was initiated by): [F1](#) Work

Quantification: (0,1:0,1)

Scope note: This property associates an instance of Z1 Serial Transformation with the instance of F18 Serial Work that resulted from merging other instances of F18 Serial Work.

Examples: Merging the periodicals entitled ‘Animal research’ (ISSN ‘1627-3583’), ‘Animal science’ (ISSN ‘1357-7298’), and ‘Reproduction nutrition development’ (ISSN ‘0926-5287’) into the periodical entitled ‘Animal’ (ISSN ‘1751-7311’) (Z1) *Y8 merged into* the periodical entitled ‘Animal’ (ISSN ‘1751-7311’) (F18)

6.9 Y9 absorbed (was absorbed through)

Domain: [Z2](#) Absorption

Range: [F18](#) Serial Work

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

Quantification: (1,n:0,1)

Scope note: This property associates an instance of Z2 Absorption with an instance of F18 Serial Work that was absorbed in another instance of F18 Serial Work.

Examples: Absorbing the periodical entitled ‘Archiv für mathematische Logik und Grundlagenforschung’ (ISSN ‘0003-9268’) in the periodical entitled ‘Archiv für Philosophie’ (ISSN ‘0066-6467’) (Z2) *Y9 absorbed* the periodical entitled ‘Archiv für mathematische Logik und Grundlagenforschung’ (ISSN ‘0003-9268’) (F18)

Absorbing the periodical entitled ‘Recueil des travaux chimiques des Pays-Bas’ (ISSN ‘0165-0513’) in the periodicals entitled ‘Liebigs Annalen’ (ISSN ‘0947-3440’) and ‘Chemische Berichte’ (ISSN ‘0009-2940’) (Z2) *Y9 absorbed* the periodical entitled ‘Recueil des travaux chimiques des Pays-Bas’ (ISSN ‘0165-0513’) (F18)

6.10 Y10 enhanced (was enhanced through)

Domain: [Z2](#) Absorption

Range: [F18](#) Serial Work

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 Z2 Absorption with an instance of F18 Serial Work that absorbed another instance of F18 Serial Work.

Examples: Absorbing the periodical entitled ‘Archiv für mathematische Logik und Grundlagenforschung’ (ISSN ‘0003-9268’) in the periodical entitled ‘Archiv für Philosophie’ (ISSN ‘0066-6467’) (Z2) *Y10 enhanced* the periodical entitled ‘Archiv für Philosophie’ (ISSN ‘0066-6467’) (F18)

Absorbing the periodical entitled ‘Recueil des travaux chimiques des Pays-Bas’ (ISSN ‘0165-0513’) in the periodicals entitled ‘Liebig’s Annalen’ (ISSN ‘0947-3440’) and ‘Chemische Berichte’ (ISSN ‘0009-2940’) (Z2) *Y10 enhanced* the periodical entitled ‘Liebig’s Annalen’ (ISSN ‘0947-3440’) (F18), and *Y10 enhanced* the periodical entitled ‘Chemische Berichte’ (ISSN ‘0009-2940’) (F18)

6.11 Y11 separated (was separated through)

Domain: [Z3](#) Separation

Range: [F18](#) Serial Work

Subproperty of: [F27](#) Work Conception. [R16](#) initiated (was initiated by): [F1](#) Work

Quantification: (1,n;0,n)

Scope note: This property associates an instance of Z3 Separation with an instance of F18 Serial Work that resulted from the separation.

Examples: Separating, in 1992, the periodical entitled ‘The Electrochemical society interface’ (ISSN ‘1064-8208’) from the periodical entitled ‘Journal of the Electrochemical society’ (ISSN ‘0013-4651’), which was founded in 1948 and continued to exist after 1992 (Z3) *Y11 separated* the periodical entitled ‘The Electrochemical society interface’ (ISSN ‘1064-8208’) (F18)

6.12 Y12 separated from (was diminished through)

Domain: [Z3](#) Separation

Range: [F18](#) Serial Work

Subproperty of: [E5](#) Event. [P12](#) occurred in the presence of (was present at): [E77](#) Persistent Item

Quantification: (1,n;0,n)

Scope note: This property associates an instance of Z3 Separation with the instance of F18 Serial Work that was diminished through the separation.

Examples: Separating, in 1992, the periodical entitled ‘The Electrochemical society interface’ (ISSN ‘1064-8208’) from the periodical entitled ‘Journal of the Electrochemical society’ (ISSN ‘0013-4651’), which was founded in 1948 and continued to exist after 1992 (Z3) *Y12 separated from* the periodical entitled ‘Journal of the Electrochemical society’ (ISSN ‘0013-4651’) (F18)

6.13 Y13 provided surrogate to (had surrogate through)

Domain: [Z4](#) Temporary Substitution

Range: [F18](#) Serial Work

Subproperty of: [E30](#) Publication Event. [R23](#) created a realisation of (was realised through): [F19](#) Publication Work

Quantification: (1,n;0,n)

Scope note: This property associates an instance of Z4 Temporary Substitution with an instance of F18 Serial Work the publication of which was interrupted and replaced with the publication of a distinct instance of F18 Serial Work.

Examples: Temporarily substituting the periodical entitled ‘Le Petit Ardennais’ (ISSN ‘2019-2606’) with the periodical entitled ‘Le Journal ardennais’ (ISSN ‘2103-1622’) during a strike of printers and typographers from 23 December 1922 to 5 January 1923 (Z4) *Y13 provided surrogate to* the periodical entitled ‘Le Petit Ardennais’ (ISSN ‘2019-2606’) (F18) [*Comment: the periodical entitled ‘Le Journal ardennais’ was created specifically for the purpose of being substituted to ‘Le Petit Ardennais’ during the strike, and ceased to be published after the end of the strike*]

Temporarily substituting the periodical entitled ‘L’Annonce: journal universel d’annonces civiles, judiciaires, commerciales et d’avis divers du département de la Seine’ with the periodical entitled ‘Le Pont-Neuf’ in April 1840 (Z4) *Y13 provided surrogate to* the periodical entitled ‘L’Annonce: journal universel d’annonces civiles, judiciaires, commerciales et d’avis divers du département de

la Seine' (ISSN '2019-2606') (F18) [*Comment: the periodical entitled 'Le Pont-Neuf' already existed prior to April 1840, and continued to be published after the periodical entitled 'L'Annonce...' resumed being published*]

6.14 Y14 substituted with (became surrogate through)

Domain: [Z4](#) Temporary Substitution
Range: [F18](#) Serial Work
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 Z4 Temporary Substitution with an instance of F18 Serial Work that temporarily replaced a distinct instance of F18 Serial Work the publication of which was interrupted.
Examples: Temporarily substituting the periodical entitled 'Le Petit Ardennais' (ISSN '2019-2606') with the periodical entitled 'Le Journal ardennais' (ISSN '2103-1622') during a strike of printers and typographers from 23 December 1922 to 5 January 1923 (Z4) *Y14 substituted with the periodical entitled 'Le Journal ardennais' (ISSN '2103-1622') (F18) [Comment: the periodical entitled 'Le Journal ardennais' was created specifically for the purpose of being substituted to 'Le Journal ardennais' during the strike, and ceased to be published after the end of the strike]*
Temporarily substituting the periodical entitled 'L'Annonce: journal universel d'annonces civiles, judiciaires, commerciales et d'avis divers du département de la Seine' with the periodical entitled 'Le Pont-Neuf' in April 1840 (Z4) *Y14 substituted with the periodical entitled 'Le Pont-Neuf' (F18) [Comment: the periodical entitled 'Le Pont-Neuf' already existed prior to April 1840, and continued to be published after that date]*

6.15 Y15 replaced (was replaced through)

Domain: [Z5](#) Issuing Rule Change
Range: [Z12](#) Issuing Rule
Subproperty of: [E5](#) Event. [P12](#) occurred in the presence of (was present at): [E77](#) Persistent Item
Quantification: (1,1;0,1)
Scope note: This property associates an instance of Z5 Issuing Rule Change with the instance of Z12 Issuing Rule that became obsolete through that process.
Examples: Transforming the bimonthly periodical entitled 'L'Avispa' (ISSN '1022-5870') into a quarterly from issue No. 9 (1992, April-June) (Z5) *Y15 replaced the policy of issuing the periodical entitled 'L'Avispa' (ISSN '1022-5870') every two months (Z12)*
Changing the title of the periodical identified by ISSN '1022-5870' from: 'L'Avispa, bimensual de teoría y debate' to: 'L'Avispa, revista trimestrial de teoría y debate' from issue No. 9 (1992, April-June) (Z5) *Y15 replaced the policy of issuing the periodical identified by ISSN '1022-5870' with the title: 'L'Avispa, bimensual de teoría y debate' (Z12)*

6.16 Y16 replaced with (was introduced through)

Domain: [Z5](#) Issuing Rule Change
Range: [Z12](#) Issuing Rule
Subproperty of: [E7](#) Activity. [P16](#) used specific object (was used for): [E70](#) Thing
Quantification: (1,1;0,1)
Scope note: This property associates an instance of Z5 Issuing Rule Change with the instance of Z12 Issuing Rule that came into force through that process.
Examples: Transforming the bimonthly periodical entitled 'L'Avispa' (ISSN '1022-5870') into a quarterly from issue No. 9 (1992, April-June) (Z5) *Y16 replaced with the policy of issuing the periodical entitled 'L'Avispa' (ISSN '1022-5870') every three months (Z12)*
Changing the title of the periodical identified by ISSN '1022-5870' from: 'L'Avispa, bimensual de teoría y debate' to: 'L'Avispa, revista trimestrial de teoría y debate' from issue No. 9 (1992, April-

June) (Z5) *Y16 replaced with* the policy of issuing the periodical identified by ISSN ‘1022-5870’ with the title: ‘L’Avispa, revista trimestrial de teoría y debate’ (Z12)

6.17 Y17 launched (was launched through)

Domain: [Z6](#) Starting of Publication
Range: [F18](#) Serial Work
Shortcut of: [Z6](#) Starting of Publication. [P116](#) starts (is started by): [F30](#) Publication Event. [R23](#) created a realisation of (was realised through): [F18](#) Serial Work
Quantification: (1,1:1,1)
Scope note: This property associates an instance of Z6 Starting of Publication with the serial the first issue of which was published through that process.
Examples: The publication of Volume 1, Number 1, of the periodical entitled ‘Animal’ (ISSN ‘1751-7311’) in February 1997 (Z6) *Y17 launched* the periodical entitled ‘Animal’ (ISSN ‘1751-7311’) (F18)

6.18 Y18 ended (was ended through)

Domain: [Z7](#) Ending of Publication
Range: [F18](#) Serial Work
Shortcut of: [Z7](#) Ending of Publication. [P115](#) finishes (is finished by): [F30](#) Publication Event. [R23](#) created a realisation of (was realised through): [F18](#) Serial Work
Quantification: (1,1:0,1)
Scope note: This property associates an instance of Z7 Ending of Publication with the serial the last issue of which was published through that process.
Examples: The publication of Volume 15, Number 4, of the periodical entitled ‘The Mask’ in December 1929, which was not followed by the publication of any other issue of that periodical (Z7) *Y18 ended* the periodical entitled ‘The Mask’ (F18)

6.19 Y19 concerned (was the concern of)

Domain: [Z8](#) Metadata Management
Range: [F18](#) Serial Work
Shortcut of: [Z8](#) Metadata Management. [P16](#) used specific object (was used for): [E32](#) Authority Document. [P71](#) lists (is listed in): [F18](#) Serial Work
Quantification: (1,1:0,1)
Scope note: This property associates an instance of Z8 Metadata Management with the instance of F18 Serial Work that is described in the metadata over which the ISSN agency performing the instance of Z8 Metadata Management has a responsibility.
Examples: The activities performed by U.S. ISSN Center with regard to the metadata relating to the periodical entitled ‘The Atlantic Monthly’ (ISSN ‘1072-7825’) (Z8) *Y19 concerned* the periodical entitled ‘The Atlantic Monthly’ (ISSN ‘1072-7825’) (F18)

6.20 Y20 foresees type (is type foreseen in)

Domain: [Z12](#) Issuing Rule
Range: [E55](#) Type
Subproperty of: [E89](#) Propositional Object. [P67](#) refers to (is referred to by): [E1](#) CRM Entity
Superproperty of: [Z12](#) Issuing Rule. [Y21](#) foresees use of language (is language foreseen in): [E56](#) Language
[Z12](#) Issuing Rule. [Y22](#) foresees sequencing pattern (is sequencing pattern foreseen in): [Z10](#) Sequencing Pattern
Quantification: (0,n:0,n)
Scope note: This property associates an instance of Z12 Issuing Rule with an instance of E55 Type that the

issues of the continuing resource published while the instance of Z12 Issuing Rule obtained should have.

The *Y20.1 has type* property of the property allows the nature of the association to be specified; examples of types of types foreseen in instances of Z12 Issuing Rule include: regularity, frequency, nature of the carrier, digital format, content type, media type, target audience, etc.

Examples: The policy followed in publishing the periodical entitled ‘The Atlantic Monthly’ (ISSN ‘1072-7825’) (Z12) *Y20 foresees type* regular (E55) *Y20.1 has type* regularity policy (E55)

The policy followed in publishing the periodical entitled ‘The Atlantic Monthly’ (ISSN ‘1072-7825’) (Z12) *Y20 foresees type* monthly (E55) *Y20.1 has type* frequency (E55)

The policy followed in publishing the periodical entitled ‘L’Avispa, bimensual de teoría y debate’ (ISSN ‘1022-5870’) before April 1992 (Z12) *Y20 foresees type* bimonthly (E55) *Y20.1 has type* frequency (E55)

The policy followed in publishing the periodical entitled ‘L’Avispa, revista trimestrial de teoría y debate’ (ISSN ‘1022-5870’) from April 1992 on (Z12) *Y20 foresees type* quarterly (E55) *Y20.1 has type* frequency (E55)

The policy followed in publishing the periodical entitled ‘Kid’s again’ (ISSN ‘1950-7534’) (Z12) *Y20 foresees type* CDROM (E55) or DVD (E55) *Y20.1 has type* carrier type policy (E55)

The policy followed in publishing the periodical entitled ‘Bibliodiversity: publishing & globalisation’ (ISSN ‘1775-3759’) (Z12) *Y20 foresees type* PDF (E55), and *Y20 foresees type* ePub (E55) *Y20.1 has type* digital format policy (E55)

The policy followed in publishing the periodical entitled ‘The journal of interactive technology and pedagogy’ (ISSN ‘2166-6245’) (Z12) *Y20 foresees type* text (E55), *Y20 foresees type* three-dimensional moving image (E55), and *Y20 foresees type* spoken word (E55) *Y20.1 has type* content type policy (E55)

The policy followed in publishing the periodical entitled ‘The journal of interactive technology and pedagogy’ (ISSN ‘2166-6245’) (Z12) *Y20 foresees type* computer (E55), *Y20 foresees type* video (E55), and *Y20 foresees type* audio (E55) *Y20.1 has type* media type policy (E55)

Properties: Y20.1 has type: [E55](#) Type

6.21 Y21 foresees use of language (is language foreseen in)

Domain: [Z12](#) Issuing Rule

Range: [E56](#) Language

Subproperty of: [Z12](#) Issuing Rule. [Y20](#) foresees type (is type foreseen in): [E55](#) Type

Quantification: (0,n;0,n)

Scope note: This property associates an instance of Z12 Issuing Rule with one or more than one language in which the contents of the serial are planned to be expressed.

The *Y21.1 mode of use* property of the property makes it possible to specify whether the language pointed to is envisioned as the language of the main body of text or of the abstracts only or as one of several parallel languages, etc.

Examples: The language policy followed in publishing the periodical entitled ‘The Atlantic Monthly’ (ISSN ‘1072-7825’) (Z12) *Y21 foresees use of language* English (E56) *Y21.1 mode of use* language of main text (E55)

The language policy followed in publishing the periodical entitled ‘Aber’ (ISSN ‘1625-3787’) (Z12) *Y21 foresees use of language* Breton (E56) *Y21.1 mode of use* language of main text (E55), and *Y21 foresees use of language* English (E56) *Y21.1 mode of use* language of abstracts (E55)

Properties: Y21.1 mode of use: [E55](#) Type

6.22 Y22 foresees sequencing pattern (is sequencing pattern foreseen in)

Domain: [Z12](#) Issuing Rule

Range: [Z10](#) Sequencing Pattern

Subproperty of: [Z12](#) Issuing Rule. [Y20](#) foresees type (is type foreseen in): [E55](#) Type

Quantification: (0,n;0,n)

Scope note: This property associates an instance of Z12 Issuing Rule with a sequencing pattern foreseen for the issues of a serial that follows that policy.

Typically, a sequencing pattern is not recorded in its archetypical form, but through the transcription of a statement found on one or more than one issue of the serial. The complete semantics of the relation between the serial described and the statement transcribed is contained in the following circle: F18 Serial Work *R10 has member* F19 Publication Work [= the concepts of the individual issue from which the statement is transcribed] *R3 is realised in* F24 Publication Expression *R15 has fragment* F23 Expression Fragment *Y43 is indicative of* Z10 Sequencing Pattern *Y22i is sequencing pattern foreseen in* Z12 Issuing Rule *Y37i is former or current issuing rule of* F18 Serial Work.

FRBR_{ER} distinguishes between the archetypical *Sequencing Pattern*, an attribute of the Expression entity, and the actual *Numbering*, an attribute of the Manifestation entity. The FRBR_{ER} *Sequencing Pattern* notion corresponds to Z10 Sequencing Pattern in PRESS_{OO}, while the FRBR_{ER} *Numbering* corresponds to the instance of F23 Expression Fragment used to convey the archetypical sequencing pattern and does not call for a specific class in PRESS_{OO}.

Examples: The sequencing pattern policy followed in publishing the periodical entitled ‘The Atlantic Monthly’ (ISSN ‘1072-7825’) (Z12) *Y22 foresees sequencing pattern* the pattern consisting of a volume number in Arabic numerals, and an issue number in Arabic numerals, as exemplified by the statement ‘Vol. 272, no. 5 (Nov. 1993)-’ transcribed in the record found in the Library of Congress’s catalogue (Z10)

6.23 Y23 foresees dimension (is dimension foreseen in)

Domain: [Z12](#) Issuing Rule

Range: [E54](#) Dimension

Subproperty of: [E89](#) Propositional Object. [P67](#) refers to (is referred to by): [E1](#) CRM Entity

Quantification: (0,n;0,n)

Scope note: This property associates an instance of Z12 Issuing Rule with a dimension foreseen for exemplars of the issues of a serial that follows that policy.

Typically, this property is observed on one exemplar of an issue of a serial, and extrapolated to all other exemplars of the issue and of other issues to come. This logical inference is an induction along the path that can be modelled as: F18 Serial Work *Y37 has former or current issuing rule* Z12 Issuing Rule, and F18 Serial Work *R10 has member* F19 Publication Work *R3 is realised in* F24 Publication Expression *R6i is carried by* F5 Item *P39i was measured by* E16 Measurement *P40 observed dimension* E54 Dimension. [*adapted from scope note for CLP43 should have dimension in FRBR_{OO}*]

Examples: The dimension policy followed in publishing the periodical entitled ‘The Atlantic Monthly’ (ISSN ‘1072-7825’) (Z12) *Y23 foresees dimension* the dimension observed on the copy of the issue of ‘The Atlantic Monthly’ that was used to create the ISSN Registry bibliographic record for ‘The Atlantic Monthly’, namely: 27 cm (E54)

6.24 Y24 foresees use of title (is title foreseen in)

Domain: [Z12](#) Issuing Rule

Range: [E35](#) Title

Subproperty of: [E89](#) Propositional Object. [P67](#) refers to (is referred to by): [E1](#) CRM Entity

Quantification: (0,n;0,n)

Scope note: This property associates an instance of Z12 Issuing Rule with the title that each individual issue of a serial should display as long as that serial follows that policy.

The property *Y24.1 has type* allows for specifying a particular type of title, the same way as the CIDOC CRM property *P102 has title (is title of)* from E71 Man-Made Thing to E35 Title has a property, *P102.1 has type*, that makes it possible to clarify the relationship between a man-made thing and the title associated with it.

The key title and abridged key title used to identify a serial cannot be referred to through this property, as they are artificial constructs forged by cataloguers, even though they may happen to look identical with the title proper foreseen by the issuing policy. The relationship between an instance of F18 Serial Work and a key title or abridged key title is expressed by using the *P48 has preferred identifier* property from CIDOC CRM.

Examples: The title policy according to which the periodical entitled 'L'Avispa' (ISSN '1022-5870') was to be issued every three months and each of its issues was to be entitled 'L'Avispa: revista trimestrial de teoría y debate' (Z12) *Y24 foresees use of title* 'revista trimestrial de teoría y debate' (E35) *Y24.1 has type* other title information (E55)

The title policy according to which each issue of the yearbook entitled 'Canadian minerals yearbook' (ISSN '0068-9270') was to have spine title: 'CMY ... review and outlook' (Z12) *Y24 foresees use of title* 'CMY ... review and outlook' (E35) *Y24.1 has type* spine title (E55)

Properties: Y24.1 has type: E55 Type

6.25 Y25 foresees association with (foresees to be associated with)

Domain: [Z12](#) Issuing Rule

Range: [Z12](#) Issuing Rule

Subproperty of: [E29](#) Design or Procedure. [P69](#) has association with (is associated with): [E29](#) Design or Procedure

Superproperty of: [Z12](#) Issuing Rule. [Y26](#) foresees other edition (foresees to be another edition of): [Z12](#) Issuing Rule

Quantification: (0,n;0,n)

Scope note: This property associates an instance of Z12 Issuing Rule with an instance of Z12 Issuing Rule associated with a continuing resource that the first instance of Z12 Issuing Rule regards as related in some way with the continuing resource of which it is an issuing rule.

It can denote a dynamic, asymmetric relationship where the range expresses the dependant publication, if such a direction can be established. Otherwise, it denotes a symmetric relationship, where none of the two continuing resources is regarded as dependant on the other.

The *Y25.1 has type* property of the property allows the nature of the association to be specified; examples of types of association between instances of Z12 Issuing Rule include: supplement, issued with, insert, etc.

Examples: The association policy followed in publishing the periodical entitled 'Applied economics quarterly' (ISSN '1611-6607') (Z12) *Y25 foresees association with* the association policy followed in publishing the periodical entitled 'Applied economics quarterly. Supplement' (ISSN '1612-2127') (Z12) *Y25.1 has type* supplement (E55)

The association policy followed in publishing the periodical entitled 'BMS. Bulletin de méthodologie sociologique' (ISSN '0759-1063') (Z12) *Y25 foresees association with* the association policy followed in publishing the periodical entitled 'RC 33 newsletter' (ISSN '1023-5833') (Z12) *Y25.1 has type* insert (E55)

The association policy followed in publishing the periodical entitled 'La Revue européenne' (ISSN '1147-6818') (Z12) *Y25 foresees association with* the association policy followed in publishing the series entitled 'Collection de la Revue européenne' (ISSN '1245-5601') (Z12)

Properties: Y25.1 has type: [E55](#) Type

6.26 Y26 foresees other edition (foresees to be another edition of)

Domain: [Z12](#) Issuing Rule

Range: [Z12](#) Issuing Rule

Subproperty of: [Z12](#) Issuing Rule. [Y25](#) foresees association with (foresees to be associated with): [Z12](#) Issuing Rule

Superproperty of: [Z12](#) Issuing Rule. [Y27](#) foresees translation in (foresees translation of): [Z12](#) Issuing Rule

Quantification: (0,n;0,n)

Scope note: This property associates an instance of Z12 Issuing Rule with an instance of Z12 Issuing Rule associated with a continuing resource that the first instance of Z12 Issuing Rule regards as another edition of the continuing resource of which it is an issuing rule.

It can denote a dynamic, asymmetric relationship where the range expresses the dependant publication, if such a direction can be established. Otherwise, it denotes a symmetric relationship, where none of the two continuing resources is regarded as dependant on the other.

In addition to being a subproperty of *Y25 foresees association with (foresees to be associated with)*, it can also be analysed as a shortcut of the more developed path: *Z12 Issuing Rule Y37i is former or current issuing rule of F18 Serial Work R10i is member of F15 Complex Work R10 has member F18 Serial Work Y37 has former or current issuing rule Z12 Issuing Rule*.

The *Y26.1 has type* property of the property allows the nature of the association to be specified; examples of types of association between instances of *Z12 Issuing Rule* include: other edition, other format, local edition, other edition on a different type of carrier, abridged edition, edition in a different language, etc.

Examples: The multi-edition policy followed in publishing the printed periodical entitled ‘East European politics’ (ISSN ‘2159-9165’) (*Z12*) *Y26 foresees other edition* the multi-edition policy followed in publishing the online periodical entitled ‘East European politics’ (ISSN ‘2159-9173’) (*Z12*) *Y26.1 has type* other edition on a different type of carrier (E55)

The multi-edition policy followed in publishing the periodical entitled ‘The Garden Conservancy open days directory’ ([national edition]) (ISSN ‘1087-7738’) (*Z12*) *Y26 foresees other edition* the multi-edition policy followed in publishing the periodical entitled ‘The Garden Conservancy open days directory. The guide to visiting private gardens in the Midwest’ (ISSN ‘1546-8747’) (*Z12*) *Y26.1 has type* local edition (E55)

The multi-edition policy followed in publishing the periodical entitled ‘Чернобыль-индекс’ (*Z12*) *Y26 foresees other edition* the multi-edition policy followed in publishing the periodical entitled ‘Chernobyl digest of current relevant literature’ (*Z12*) *Y26.1 has type* abridged edition (E55)

The multi-edition policy followed in publishing the periodical entitled ‘Wall Street journal (Eastern ed.)’ (ISSN ‘0099-9660’) (*Z12*) *Y26 foresees other edition* the multi-edition policy followed in publishing the periodical entitled ‘Wall Street journal (Central ed.)’ (ISSN ‘1092-0935’) (*Z12*) *Y26.1 has type* other edition (E55)

Propriétés: *Y26.1 has type*: E55 Type

6.27 *Y27 foresees translation in (foresees translation of)*

Domain: [Z12 Issuing Rule](#)

Range: [Z12 Issuing Rule](#)

Subproperty of: [Z12 Issuing Rule](#). [Y26](#) foresees other edition (foresees to be another edition of): [Z12 Issuing Rule](#)

Quantification: (0,n;0,n)

Scope note: This property associates an instance of *Z12 Issuing Rule* with an instance of *Z12 Issuing Rule* associated with a continuing resource that, according to the respective issuing policies of the two continuing resources, should contain a translation of the content of the first continuing resource.

This is not the same notion as the association of a continuing resource with one or more than one ‘edition in a different language’, which is expressed through property *Y26 foresees other edition (foresees to be another edition of)*.

Examples: The translation policy followed in publishing the French-language periodical entitled ‘Sud de France: la lettre’ (ISSN ‘1962-3305’) (*Z12*) *Y27 foresees translation in* the translation policy followed in publishing the English-language periodical entitled ‘Sud de France: newsletter’ (ISSN ‘1962-3313’) (*Z12*)

6.28 *Y28 foresees URL (is URL foreseen in)*

Domain: [Z12 Issuing Rule](#)

Range: [Z11 URL](#)

Subproperty of: [E89](#) Propositional Object. [P67](#) refers to (is referred to by): [E1](#) CRM Entity

Quantification: (0,n;0,n)

Scope note: This property associates an instance of *Z12 Issuing Rule* with an instance of *Z11 URL* that identifies the server from which digital files containing the issues of the continuing resource with

which the instance of Z12 Issuing Rule is associated are available on the Web.

Examples: The URL policy followed in publishing the online periodical entitled 'Mechanics & industry: an international journal on mechanical sciences and engineering applications' (ISSN '2257-7750') (Z12) *Y28 foresees URL* 'http://www.mechanics-industry.org/action/display_Journal?jid=MIN' (E51)

6.29 Y29 evolved into (continues)

Domain: [F18](#) Serial Work
Range: [F18](#) Serial Work
Shortcut of: [F18](#) Serial Work. [Y1i](#) was continued through: [Z1](#) Serial Transformation. [Y2](#) initiated as continuation: [F18](#) Serial Work
Quantification: (0,1;0,1)
Scope note: This property associates an instance of F18 Serial Work with the instance of F18 Serial Work into which it was transformed, due to a 'major' title change.
Examples: The periodical entitled 'Journal of the Chemical Society. Dalton transactions' (ISSN '0300-9246') (F18) *Y29 evolved into* the periodical entitled 'Dalton: an international journal of inorganic chemistry' (ISSN '1470-479X') (F18)

6.30 Y30 was partially continued by (was separated from)

Domain: [F18](#) Serial Work
Range: [F18](#) Serial Work
Shortcut of: [F18](#) Serial Work. [Y12i](#) was diminished through (separated from): [Z3](#) Separation. [Y11](#) separated (was separated through): [F18](#) Serial Work
Quantification: (0,n;0,n)
Scope note: This property associates an instance of F18 Serial Work with an instance of F18 Serial Work that was separated from it through an instance of Z3 Separation.
Examples: The periodical entitled 'Journal of the Electrochemical society' (ISSN '0013-4651') (F18) *Y30 was partially continued by* the periodical entitled 'The Electrochemical society interface' (ISSN '1064-8208') (F18)

6.31 Y31 was superseded by (superseded)

Domain: [F18](#) Serial Work
Range: [F18](#) Serial Work
Shortcut of: [F18](#) Serial Work. [Y3i](#) was replaced through: [Z1](#) Serial Transformation. [Y4](#) initiated as replacement: [F18](#) Serial Work
Quantification: (0,n;0,n)
Scope note: This property associates an instance of Z1 Serial Transformation with an instance of F18 Serial Work that was created with the distinct intention of being published in lieu of another instance of F18 Serial Work the publication of which had ceased.
Examples: The periodical entitled 'Le Patriote de Saône-et-Loire' (ISSN '1959-9935') (F18) *Y31 was superseded by* the periodical entitled 'Le Démocrate de Saône-et-Loire' (ISSN '1959-9943')

6.32 Y32 was split into (resulted from splitting)

Domain: [F18](#) Serial Work
Range: [F18](#) Serial Work
Shortcut of: [F18](#) Serial Work. [Y5i](#) was split through: [Z1](#) Serial Transformation. [Y6](#) initiated: [F18](#) Serial Work
Quantification: (0,n;0,1)
Scope note: This property associates an instance of F18 Serial Work with any one of the instances of F18

Serial Work that were created on the occasion of its split.

Examples: The periodical entitled 'Colloids and surfaces' (ISSN '0166-6622') (F18) *Y32 was split into* the periodical entitled 'Colloids and surfaces. A, Physicochemical and engineering aspects' (ISSN '0927-7757') (F18)

The periodical entitled 'Colloids and surfaces' (ISSN '0166-6622') (F18) *Y32 was split into* the periodical entitled 'Colloids and surfaces. B, Biointerfaces' (ISSN '0927-7765') (F18)

6.33 Y33 was merged with

Domain: [F18](#) Serial Work

Range: [F18](#) Serial Work

Shortcut of: [F18](#) Serial Work. [Y7i](#) was merged through: [Z1](#) Serial Transformation. [Y7](#) merged: [F18](#) Serial Work

Quantification: (0,n;0,n)

Scope note: This symmetrical property associates an instance of F18 Serial Work with any one of the instances of F18 Serial Work with which it was merged in order to create a new instance of F18 Serial Work.

Examples: The periodical entitled 'Animal research' (ISSN '1627-3583') (F18) *Y33 was merged with* the periodical entitled 'Animal science' (ISSN '1357-7298') (F18)

The periodical entitled 'Animal research' (ISSN '1627-3583') (F18) *Y33 was merged with* the periodical entitled 'Reproduction nutrition development' (ISSN '0926-5287') (F18)

6.34 Y34 was merged to form (resulted from merging)

Domain: [F18](#) Serial Work

Range: [F18](#) Serial Work

Shortcut of: [F18](#) Serial Work. [Y7i](#) was merged through: [Z1](#) Serial Transformation. [Y8](#) merged into: [F18](#) Serial Work

Quantification: (0,1;0,n)

Scope note: This property associates instances of F18 Serial Work with an instance of F18 Serial Work that was created by merging them.

Examples: The periodical entitled 'Animal research' (ISSN '1627-3583') (F18) *Y34 was merged to form* the periodical entitled 'Animal' (ISSN '1751-7311') (F18)

The periodical entitled 'Animal science' (ISSN '1357-7298') (F18) *Y34 was merged to form* the periodical entitled 'Animal' (ISSN '1751-7311') (F18)

The periodical entitled 'Reproduction nutrition development' (ISSN '0926-5287') (F18) *Y34 was merged to form* the periodical entitled 'Animal' (ISSN '1751-7311') (F18)

6.35 Y35 was absorbed in (was enhanced by absorbing)

Domain: [F18](#) Serial Work

Range: [F18](#) Serial Work

Shortcut of: [F18](#) Serial Work. [Y9i](#) was absorbed through: [Z2](#) Absorption. [Y10](#) enhanced: [F18](#) Serial Work

Quantification: (0,n;0,n)

Scope note: This property associates instances of F18 Serial Work with the instances of F18 Serial Work that absorbed them.

Examples: The periodical entitled 'Archiv für mathematische Logik und Grundlagenforschung' (ISSN '0003-9268') (F18) *Y35 was absorbed in* the periodical entitled 'Archiv für Philosophie' (ISSN '0066-6467') (F18)

The periodical entitled 'Recueil des travaux chimiques des Pays-Bas' (ISSN '0165-0513') *Y35 was absorbed in* the periodical entitled 'Liebig's Annalen' (ISSN '0947-3440') (F18), and *Y35 was absorbed*

in the periodical entitled ‘Chemische Berichte’ (ISSN ‘0009-2940’) (F18)

6.36 Y36 had surrogate (was surrogate for)

Domain: [F18](#) Serial Work
Range: [F18](#) Serial Work
Shortcut of: [F18](#) Serial Work. [Y13i](#) had surrogate through: [Z4](#) Temporary Substitution. [Y14](#) substituted with: [F18](#) Serial Work
Quantification: (0,n;0,n)
Scope note: This property associates an instance of F18 Serial Work with an instance of F18 Serial Work that temporarily replaced it.
Examples: The periodical entitled ‘Le Petit Ardennais’ (ISSN ‘2019-2606’) (F18) *Y36 had surrogate* the periodical entitled ‘Le Journal ardennais’ (ISSN ‘2103-1622’) (F18)
The periodical entitled ‘L’Annonce: journal universel d’annonces civiles, judiciaires, commerciales et d’avis divers du département de la Seine’ (F18) *Y36 had surrogate* the periodical entitled ‘Le Pont-Neuf’ (F18)

6.37 Y37 has former or current issuing rule (is former or current issuing rule of)

Domain: [F18](#) Serial Work
Range: [Z12](#) Issuing Rule
Subproperty of: [F18](#) Serial Work. [R11](#) has issuing rule (is issuing rule of): [E29](#) Design or Procedure
Superproperty of: [F18](#) Serial Work. [Y38](#) has current issuing rule (is current issuing rule of): [Z12](#) Issuing Rule
Quantification: (0,n;0,n)
Scope note: This property associates an instance of F18 Serial Work with instances of Z12 Issuing Rule that specify aspects of the issuing policy planned at some time by this Work, such as sequencing pattern, expected frequency or expected regularity. This property does not specify whether these instances of Z12 Issuing Rule are still in force at the time of validity of the record or database containing the statement that uses this property, and it can point to obsolete instances of Z12 Issuing Rule.
Examples: The periodical identified by ISSN ‘1022-5870’ (‘L’Avispa’) (F18) *Y37 has former or current issuing rule* the rule that obtained prior to 1992, according to which the periodical identified by ISSN ‘1022-5870’ (‘L’Avispa’) was to be issued every two months (Z12)
The periodical identified by ISSN ‘1022-5870’ (‘L’Avispa’) (F18) *Y37 has former or current issuing rule* the rule that obtained prior to 1992, according to which the periodical identified by ISSN ‘1022-5870’ was to be issued with the complete title: ‘L’Avispa, bimensual de teoría y debate’ (Z12)

6.38 Y38 has current issuing rule (is current issuing rule of)

Domain: [F18](#) Serial Work
Range: [Z12](#) Issuing Rule
Subproperty of: [F18](#) Serial Work. [Y37](#) has former or current issuing rule (is former or current issuing rule of): [Z12](#) Issuing Rule
Quantification: (1,1;0,n)
Scope note: This property associates an instance of F18 Serial Work with instances of Z12 Issuing Rule that specify aspects of the issuing policy planned by this Work, such as sequencing pattern, expected frequency or expected regularity, at the time of validity of the record or database containing the statement that uses this property.
If the publication has ceased, this property reflects the latest known issuing rules followed by the continuing resource when its last known issue was released (i.e., the issuing rules followed in the instance of Z7 Ending of Publication associated with the continuing resource), rather than the ‘current’ issuing rules (since in that case, strictly speaking, there are no ‘current’ issuing rules).
Examples: The periodical identified by ISSN ‘1022-5870’ (‘L’Avispa’) (F18) *Y38 has current issuing rule* the rule

that obtained after 1992, according to which the periodical identified by ISSN ‘1022-5870’ (‘L’Avispa’) is to be issued every three months (Z12)

The periodical identified by ISSN ‘1022-5870’ (‘L’Avispa’) (F18) *Y38 has current issuing rule* the rule that obtained after 1992, according to which the periodical identified by ISSN ‘1022-5870’ is to be issued with the complete title: ‘L’Avispa, revista trimestrial de teoría y debate’ (Z12)

6.39 Y39 is enhanced by monograph (enhances serial)

Domain:	F18 Serial Work
Range:	Z13 Monograph
Shortcut of:	F18 Serial Work. R23i was realised through (created a realisation of): F30 Publication Event. P17i motivated (was motivated by): F30 Publication Event. R23 created a realisation of (was realised through): Z13 Monograph
Quantification:	(0,n;0,n)
Scope note:	This property associates an instance of F18 Serial Work with an instance of Z13 Monograph that constitutes an enhancement of its content. [<i>Note.</i> The relationship between a series and a monograph published as a volume within that series, or between a periodical and one of its regular issues, is not expressed through this property, but by stating that the monograph or regular issue is a member of the series or periodical, i.e., F18 Serial Work <i>R10 has member (is member of)</i> F19 Publication Work. Special issues of a periodical that are included in that periodical’s numbering are also modelled simply as members of the periodical, not as monographs that enhance it.] The <i>Y39.1 has type</i> property of the property allows the nature of the association to be specified; examples of types of enhancement of an instance of F18 Serial Work by a monograph include: supplementing monograph, special issue, etc.
Examples:	The periodical entitled ‘Viator: Medieval and Renaissance studies’ (ISSN ‘0083-5897’) (F18) <i>Y39 is enhanced by monograph</i> the sum of editorial concepts in the monograph entitled ‘Medieval manuscripts, their makers and users: a special issue of Viator in honor of Richard and Mary Rouse’, associated with the instance of F3 Manifestation Product Type identified by ISBN ‘978-2-503-53894-5’ (Z13) <i>Y39.1 has type</i> special issue (E55) The periodical entitled ‘Cerebrovascular diseases’ (ISSN ‘1015-9770’) (F18) <i>Y39 is enhanced by monograph</i> the sum of editorial concepts in the monograph entitled ‘Ischemic stroke: knowledge and research, challenges and goals’, associated with the instance of F3 Manifestation Product Type identified by ISBN ‘978-3-8055-9051-8’ (Z13) <i>Y39.1 has type</i> supplementing monograph (E55)
Properties:	Y39.1 has type: E55 Type

6.40 Y40 enhances monograph (is enhanced by serial)

Domain:	F18 Serial Work
Range:	Z13 Monograph
Shortcut of:	F18 Serial Work. R23i was realised through (created a realisation of): F30 Publication Event. P17 was motivated by (motivated): F30 Publication Event. R23 created a realisation of (was realised through): Z13 Monograph
Quantification:	(0,n;0,n)
Scope note:	This property associates an instance of F18 Serial Work with an instance of Z13 Monograph the content of which is enhanced by the instance of F18 Serial Work. The <i>Y40.1 has type</i> property of the property allows the nature of the association to be specified; examples of types of enhancement of a monograph by an instance of F18 Serial Work include: supplemented monograph, base volume for an updating loose-leaf, etc.
Examples:	The updating loose-leaf entitled ‘Surgical techniques in orthopaedics and traumatology’ (ISSN ‘1632-3386’) (F18) <i>Y40 enhances monograph</i> the sum of editorial concepts in the monograph entitled ‘Surgical techniques in orthopaedics and traumatology’, associated with the instance of F3 Manifestation Product Type identified by ISBN ‘2-84299-168-0’ (Z13) <i>Y40.1 has type</i> base volume

(E55)

The periodical entitled ‘The international lily register and checklist 2007. Supplement’ (F18) *Y40 enhances monograph* the sum of editorial concepts in the monograph entitled ‘The international lily register and checklist 2007’, associated with the instance of F3 Manifestation Product Type identified by ISBN ‘978-1-902896-80-9’ (Z13) *Y40.1 has type* supplemented monograph (E55)

Properties: Y40.1 has type: [E55](#) Type

6.41 Y41 has former or current area of publication (is former or current area of publication of)

Domain: [F18](#) Serial Work

Range: [E53](#) Place

Shortcut of: [F18](#) Serial Work [R23i](#) was realised through (created a realisation of): [E30](#) Publication Event. [P14](#) carried out by (performed): [E39](#) Actor. [P74](#) has current or former residence (is current or former residence of): [E53](#) Place [a city]. [P89](#) falls within (contains): [E53](#) Place [a country]

Superproperty of: [F18](#) Serial Work. [Y42](#) has current area of publication (is current area of publication of): [E53](#) Place

Quantification: (0,n;0,n)

Scope note: This property associates an instance of F18 Serial Work with an instance of E53 Place that corresponds to the country (in the sense of ISO standard ISO 3166) in which the publisher (or one of the publishers) of the serial work is established.

It makes no statement as to whether the publisher whose headquarters is located within the country referred to is still the publisher of the serial work at the time of validity of the record or database containing the statement that uses this property, nor does it make any statement as to whether the publisher is still located within that country.

Examples: The periodical entitled ‘Aschkenas: Zeitschrift für Geschichte und Kultur der Juden’ (ISSN ‘1016-4987’), published first in Vienna, Austria, from 1991 to 2003, then in Tübingen, Germany, from 2003 on (F18) *Y41 has former or current area of publication* Austria (E53)

6.42 Y42 has current area of publication (is current area of publication of)

Domain: [F18](#) Serial Work

Range: [E53](#) Place

Subproperty of: [F18](#) Serial Work. [Y41](#) has former or current area of publication (is former or current area of publication of): [E53](#) Place

Quantification: (0,n;0,n)

Scope note: This property associates an instance of F18 Serial Work with an instance of E53 Place that corresponds to the country (in the sense of ISO standard ISO 3166) in which the publisher (or one of the publishers) of the serial work is established, at the time of validity of the record or database containing the statement that uses this property.

[*Comment:* The choice of the ISSN agency that performs an instance of Z8 Metadata Management on a given instance of F18 Serial Work is determined by the current area(s) of publication of that instance of F18 Serial Work.]

Examples: The periodical entitled ‘Aschkenas: Zeitschrift für Geschichte und Kultur der Juden’ (ISSN ‘1016-4987’), published first in Vienna, Austria, from 1991 to 2003, then in Tübingen, Germany, from 2003 on (F18) *Y42 has current area of publication* Germany (E53)

The periodical entitled ‘St-Barth weekly’ (ISSN ‘1766-9278’) (F18) *Y43 has current area of publication* Guadeloupe (E53)

The periodical entitled ‘International music & opera guide’ (ISSN ‘0955-7121’), published jointly in London by Tantivy Press and in New York by New York Zoetrope (F18) *Y43 has current area of publication* United-Kingdom (E53), and *Y43 has current area of publication* United States of America (E53)

The periodical entitled ‘SPARC newsletter, a project of the World climate research programme’ (ISSN ‘1245-4680’), published in Paris by Météo-France from 1993 to 2004, in Toronto by the

University of Toronto from 2004 to 2012, and in Zurich by ETH Zurich from 2012 on (F18) *Y43 has current area of publication* Switzerland (E53)

6.43 Y43 is indicative of (is exemplified by)

Domain: [F23](#) Expression Fragment
Range: [Z10](#) Sequencing Pattern
Subproperty of: [E1](#) CRM Entity. [P2](#) has type (is type of): [E55](#) Type
Quantification: (0,1;0,n)
Scope note: This property associates an instance of F23 Expression Fragment with the instance of Z10 Sequencing Pattern of which it provides an example.
Examples: ‘Vol. 272, No. 5 (1993, Nov.)’ (F23) *Y43 is indicative of* the pattern consisting of a volume number in Arabic numerals, corresponding to the year of publication, and an issue number in Arabic numerals, corresponding to the month of publication (Z10)

6.44 Y44 foresees topic (is topic foreseen in)

Domain: [Z12](#) Issuing Rule
Range: [E1](#) CRM Entity
Subproperty of: [E89](#) Propositional Object. [P67](#) refers to (is referred to by): [E1](#) CRM Entity
Quantification: (0,n;0,n)
Scope note: This property associates an instance of Z12 Issuing Rule with an instance of E1 CRM Entity that is the main subject that all articles aggregated in each single issue of the serial should be about, even more or less loosely.
Examples: The editorial policy followed in publishing the periodical entitled ‘FBI. Fishing boat international’ (ISSN ‘0998-3201’) (Z12) *Y44 foresees topic* fishing (E55, a type of activity)

6.45 Y45 created (was created by)

Domain: [Z14](#) Storage Unit Creation
Range: [Z9](#) Storage Unit
Subproperty of: [F28](#) Expression Creation. [R18](#) created (was created by): [F4](#) Manifestation Singleton
Quantification: (1,n;0,1)
Scope note: This property associates an instance of Z14 Storage Unit Creation with the instances of Z9 Storage Unit in which it resulted.
Examples: The activity (performed by bookbinder and craftsman Renaud Vernier in 2006) of producing the individual bindings and the box for the physical storage unit held by the BnF and containing printed exemplars of volumes 1 to 6 (1930-33) of the periodical entitled ‘Le Surréalisme au service de la révolution’, together with holographs by André Breton, Louis Aragon, Salvador Dalí, René Char, Max Ernst, and others (Z14) *created* the physical storage unit held by the BnF and identified through shelf mark ‘RES FOL- NFZ- 11’ (Z9)

6.46 Y46 aggregated in a single storage unit (was aggregated in a single storage unit through)

Domain: [Z14](#) Storage Unit Creation
Range: [E18](#) Physical Thing
Subproperty of: [E7](#) Activity. [P16](#) used specific object (was used for): [E70](#) Thing
Quantification: (1,n;0,1)
Scope note: This property associates an instance of Z14 Storage Unit Creation with the instances of E18 Physical Thing that were aggregated in a single storage unit through that process.
Examples: The activity (performed by bookbinder and craftsman Renaud Vernier in 2006) of producing the

individual bindings and the box for the physical storage unit held by the BnF and containing printed exemplars of volumes 1 to 6 (1930-33) of the periodical entitled 'Le Surréalisme au service de la révolution', together with holograph manuscripts by André Breton, Louis Aragon, Salvador Dalí, René Char, Max Ernst, and others (Z14) *aggregated in a single storage unit* volume 4 of the periodical entitled 'Le Surréalisme au service de la révolution' (F5)

The activity (performed by bookbinder and craftsman Renaud Vernier in 2006) of producing the individual bindings and the box for the physical storage unit held by the BnF and containing printed exemplars of volumes 1 to 6 (1930-33) of the periodical entitled 'Le Surréalisme au service de la révolution', together with holograph manuscripts by André Breton, Louis Aragon, Salvador Dalí, René Char, Max Ernst, and others (Z14) *aggregated in a single storage unit* one holograph manuscript by Max Ernst (F4)

7 Mapping from the data elements listed in the *ISSN Manual* to PRESS₀₀

The *ISSN Manual*, 2012 release, was used as a source document for the development of the PRESS₀₀ model. For the ISSN International Centre, it was crucial to ensure that all data elements listed in that manual are correctly expressed as properties from PRESS₀₀, FRBR₀₀ or CIDOC CRM. This is the reason why this mapping from the *ISSN Manual* to PRESS₀₀ was done.

Note: instance numbers in curly brackets represent instances of the class mentioned just before. For example: Publication Event {instance 1} means “the publication event n°1”.

ISSN Manual data element	Condition/ Comments	Mapping
Date of the record creation	(out of scope of PRESS ₀₀)	
Publication status		F18 Serial Work <i>P2 has type (is type of)</i> E55 Type
Start date		F18 Serial Work <i>R23i was realised through (created a realisation of)</i> F30 Publication Event <i>P116i is started by (starts)</i> Z6 Beginning of Publication <i>P82 at some time within</i> E61 Time Primitive
End date		F18 Serial Work <i>R23i was realised through (created a realisation of)</i> F30 Publication Event <i>P115i is finished by (finishes)</i> Z7 Ending of Publication <i>P82 at some time within</i> E61 Time Primitive
Country of publication	Current country of publication	F18 Serial Work <i>Y42 has current area of publication (is current area of publication)</i> E53 Place
Country of publication	Former country of publication	F18 Serial Work <i>Y41 has former or current area of publication (is former or current area of publication)</i> E53 Place
Frequency		F18 Serial Work <i>Y37 has former or current issuing rule (is former or current issuing rule of)</i> Z12 Issuing Rule <i>Y20 foresees type (is type foreseen in) (Y20.1 has type</i> E55 Type {frequency}) E55 Type <i>P149 is identified by (identifies)</i> E75 Conceptual Object Appellation
ISSN Centre code		F18 Serial Work <i>Y19i was the concern of (concerned)</i> Z8 Metadata Management <i>P14 carried out by (performed)</i> E40 Legal Body <i>P131 is identified by (identifies)</i> E82 Actor Appellation
Type of publication		F18 Serial Work <i>P2 has type (is type of)</i> E55 Type <i>P149 is identified by (identifies)</i> E75 Conceptual Object Appellation
Form of original item	(obsolete)	
Form of item	(obsolete)	
Alphabet of original title		F18 Serial Work <i>Y38 has current issuing rule</i> Z12 Issuing Rule <i>Y24 foresees use of title (is title foreseen in) (Y24.1 has type</i> E55 Type {title proper}) E35 Title <i>P2 has type</i> E55 Type {[alphabet of title proper]} <i>P149 is identified by (identifies)</i>

ISSN Manual data element	Condition/Comments	Mapping
		E75 Conceptual Object Appellation
Language of publication		F18 Serial Work Y37 <i>has former or current issuing rule (is former or current issuing rule of)</i> Z12 Issuing Rule Y21 <i>foresees use of language (is language foreseen in)</i> E56 Language P149 <i>is identified by (identifies)</i> E75 Conceptual Object Appellation
Physical medium		F18 Serial Work Y37 <i>has former or current issuing rule (is former or current issuing rule of)</i> Z12 Issuing Rule Y20 <i>foresees type (is type foreseen in)</i> (Y20.1 <i>has type</i> E55 Type {type of carrier}) E55 Type P149 <i>is identified by (identifies)</i> E75 Conceptual Object Appellation
ISSN		F18 Serial Work P1 <i>is identified by (identifies)</i> F13 Identifier P2 <i>has type (is type of)</i> E55 Type {instance: ISSN}
ISSN-L		F18 Serial Work R10i <i>is member of (has member)</i> F15 Complex Work P1 <i>is identified by (identifies)</i> F13 Identifier P2 <i>has type (is type of)</i> E55 Type {instance: ISSN-L}
CODEN or other codes		F18 Serial Work P149 <i>is identified by (identifies)</i> E75 Conceptual Object Appellation {P2 <i>has type (is type of)</i> E55 Type {instance: CODEN}}
Universal Decimal Classification		F18 Serial Work P129 <i>is about (is subject of)</i> E1 CRM Entity P1 <i>is identified by (identifies)</i> F12 Nomen R37i <i>is stated as nomen in (states as nomen)</i> F35 Nomen Use Statement R35 <i>is specified by (specifies)</i> F34 KOS {instance: UDC version [version identifier]}
Dewey Decimal Classification		F18 Serial Work P129 <i>is about (is subject of)</i> E1 CRM Entity P1 <i>is identified by (identifies)</i> F12 Nomen R37i <i>is stated as nomen in (states as nomen)</i> F35 Nomen Use Statement R35 <i>is specified by (specifies)</i> F34 KOS {instance: DDC version [version identifier]}
Abbreviated key title		F18 Serial Work P1 <i>is identified by (identifies)</i> F50 Controlled Access Point P2 <i>has type (is type of)</i> E55 Type {instance: abbreviated key title}
Key title		F18 Serial Work P1 <i>is identified by (identifies)</i> F50 Controlled Access Point P2 <i>has type (is type of)</i> E55 Type {instance: key title}
Title proper		F18 Serial Work Y37 <i>has former or current issuing rule (is former or current issuing rule of)</i> Z12 Issuing Rule Y24 <i>foresees use of title (is title foreseen in)</i> (Y24.1 <i>has type:</i> E55 Type {instance: title proper}) E35 Title
Variant title		F18 Serial Work Y37 <i>has former or current issuing rule (is former or current issuing rule of)</i> Z12 Issuing Rule Y24 <i>foresees use of title (is title foreseen in)</i> (Y24.1 <i>has type:</i> E55 Type {instance: running title, historical variant, spine title, etc.}) E35 Title
Publishing information	Various publishers over time; statement dealt with as a mere literal	F18 Serial Work R23i <i>was realised through (created a realisation of)</i> F30 Publication Event {instance 1} P9 <i>consists of (forms part of)</i> F30 Publication Event {instance 2} P3 <i>has note</i> E62 String P3.1 <i>has type</i> E55 Type {instance: publishing information}
Publishing	Various	F18 Serial Work R23i <i>was realised through (created a</i>

ISSN Manual data element	Condition/ Comments	Mapping
information	publishers over time; statements dealt with as names in their own right	<p><i>realisation of</i>) F30 Publication Event {instance 1} P9 consists of (<i>forms part of</i>) F30 Publication Event {instance 2} P14 carried out by (<i>performed</i>) (P14.1 in the role of E55 Type {instance: publisher}) E39 Actor:</p> <ul style="list-style-type: none"> - P1 is identified by (<i>identifies</i>) F12 Nomen R33 has content (R33.1 has encoding E55 Type) E62 String - P74 has current or former residence (<i>is current or former residence of</i>) E53 Place P1 is identified by (<i>identifies</i>) F12 Nomen R33 has content (R33.1 has encoding E55 Type) E62 String <p>and</p> <p>F30 Publication Event {instance 2} P4 has time-span (<i>is time-span of</i>) E52 Time-Span P78 is identified by (<i>identifies</i>) E50 Date P3 has note (P3.1 has type E55 Type) E62 String</p>
Publishing information	Various distributors over time; statements dealt with as names in their own right	<p>F18 Serial Work R23i was realised through (<i>created a realisation of</i>) F30 Publication Event {instance 1} P9 consists of (<i>forms part of</i>) F30 Publication Event {instance 2} R24 created (<i>was created through</i>) F24 Publication Expression P104 is subject to (<i>applies to</i>) E30 Right (P2 has type (<i>is type of</i>) E55 Type {instance: right to distribute}) P75i is possessed by (<i>possesses</i>) E39 Actor:</p> <ul style="list-style-type: none"> - P1 is identified by (<i>identifies</i>) F12 Nomen R33 has content (R33.1 has encoding E55 Type) E62 String - P74 has current or former residence (<i>is current or former residence of</i>) E53 Place P1 is identified by (<i>identifies</i>) F12 Nomen R33 has content (R33.1 has encoding E55 Type) E62 String
Publishing information	Various printers over time; statements dealt with as names in their own right	<p>F18 Serial Work R23i was realised through (<i>created a realisation of</i>) F30 Publication Event {instance 1} P9 consists of (<i>forms part of</i>) F30 Publication Event {instance 2} R24 created (<i>was created through</i>) F24 Publication Expression R27i was used by (<i>used as source material</i>) F32 Carrier Production Event P14 carried out by (<i>performed</i>) (P14.1 in the role of E55 Type {instance: printer, manufacturer, etc.}) E39 Actor:</p> <ul style="list-style-type: none"> - P1 is identified by (<i>identifies</i>) F12 Nomen R33 has content (R33.1 has encoding E55 Type) E62 String - P74 has current or former residence (<i>is current or former residence of</i>) E53 Place P1 is identified by (<i>identifies</i>) F12 Nomen R33 has content (R33.1 has encoding E55 Type) E62 String <p>and</p> <p>F30 Publication Event {instance 2} P4 has time-span (<i>is time-span of</i>) E52 Time-Span P78 is identified by (<i>identifies</i>) E50 Date P3 has note (P3.1 has type E55 Type) E62 String</p>
Dates of publication and/or sequential	Understood as an indication of the numbering pattern	<p>F18 Serial Work Y37 has former or current issuing rule (<i>is former or current issuing rule of</i>) Z12 Issuing Rule Y22 foresees sequencing pattern (<i>is sequencing pattern foreseen in</i>) Z10 Sequencing Pattern Y43i is exemplified by (<i>is indicative of</i>)</p>

ISSN Manual data element	Condition/ Comments	Mapping
designation		F23 Expression Fragment <i>P3 has note (P3.1 has type E55 Type {instance: transcription})</i> E62 String
Dates of publication and/or sequential designation	Understood as number of first issue	F18 Serial Work <i>Y37 has former or current issuing rule (is former or current issuing rule of)</i> Z12 Issuing Rule <i>Y22 foresees sequencing pattern (is sequencing pattern foreseen in)</i> Z10 Sequencing Pattern <i>Y43i is exemplified by (is indicative of)</i> F23 Expression Fragment <i>R24i was created through (created)</i> Z6 Starting of Publication
Dates of publication and/or sequential designation	Understood as number of latest known issue	F18 Serial Work <i>Y37 has former or current issuing rule (is former or current issuing rule of)</i> Z12 Issuing Rule <i>Y22 foresees sequencing pattern (is sequencing pattern foreseen in)</i> Z10 Sequencing Pattern <i>Y43i is exemplified by (is indicative of)</i> F23 Expression Fragment <i>R24i was created through (created)</i> Z7 Ending of Publication
Coverage by abstracting and indexing services	If the serial described is indexed by another serial	F18 Serial Work <i>P67i is referred to by (refers to) (P67.1 has type E55 Type {instance: abstracting, indexing, etc.})</i> F18 Serial Work <i>P48 has preferred identifier (is preferred identifier of)</i> F13 Identifier <i>P2 has type (is type of)</i> E55 Type {instance: ISSN}
Coverage by abstracting and indexing services	If the serial described is indexed by a monograph	F18 Serial Work <i>P67i is referred to by (refers to) (P67.1 has type E55 Type {instance: abstracting, indexing, etc.})</i> F1 Work
Reproduction note	(See Figures 8 and 9)	
Name of issuing body as on piece		F18 Serial Work <i>R23i was realised through (created a realisation of)</i> F30 Publication Event {instance 1} <i>P9 consists of (forms part of)</i> F30 Publication Event {instance 2} <i>P3 has note E62 String P3.1 has type E55 Type {instance: name of issuing body as on piece}</i>
Name of issuing body or conference as established by national cataloguing practice		F18 Serial Work <i>R16i was initiated by (initiated)</i> F27 Work Conception <i>P14 carried out by (performed) (P14.1 in the role of)</i> E55 Type {instance: issuing body} F11 Corporate Body <i>P131 is identified by (identifies)</i> E82 Actor Appellation
Original language entry		F18 Serial Work <i>Y37 has former or current issuing rule (is former or current issuing rule of)</i> Z12 Issuing Rule <i>Y21 foresees use of language (is language foreseen in)</i> E56 Language
Translation entry		F18 Serial Work <i>Y37 has former or current issuing rule (is former or current issuing rule of)</i> Z12 Issuing Rule <i>Y27 foresees translation in (foresees translation of)</i> Z12 Issuing Rule <i>Y37i is former or current issuing rule of (has former or current issuing rule)</i> F18 Serial Work
Main series entry		F18 Serial Work (<i>P2 has type (is type of)</i> E55 Type {instance: series}) <i>P148i is component of (has component)</i> F18 Serial Work (<i>P2 has type (is type of)</i> E55 Type {instance: series})

ISSN Manual data element	Condition/Comments	Mapping
Sub-series entry		F18 Serial Work (P2 has type (is type of) E55 Type {instance: series}) P148 has component (is component of) F18 Serial Work (P2 has type (is type of) E55 Type {instance: series})
Other edition (language) entry		F18 Serial Work Y37 has former or current issuing rule (is former or current issuing rule of) Z12 Issuing Rule Y26 foresees other edition (foresees to be another edition of) (Y26.1 has type: E55 Type {instance: other edition in a different language}) Z12 Issuing Rule Y37i is former or current issuing rule of (has former or current issuing rule) F18 Serial Work
Additional physical form entry		F18 Serial Work Y37 has former or current issuing rule (is former or current issuing rule of) Z12 Issuing Rule Y26 foresees other edition (foresees to be another edition of) (Y26.1 has type: E55 Type {instance: other edition on a different type of carrier}) Z12 Issuing Rule Y37i is former or current issuing rule of (has former or current issuing rule) F18 Serial Work
Supplement parent entry		F18 Serial Work Y37 has former or current issuing rule (is former or current issuing rule of) Z12 Issuing Rule Y25i foresees to be associated with (foresees association with) (Y25.1 has type E55 Type {instance: supplement, or instance: insert}) Z12 Issuing Rule Y37i is former or current issuing rule of (has former or current issuing rule) F18 Serial Work
Issued with entry		F18 Serial Work Y37 has former or current issuing rule (is former or current issuing rule of) Z12 Issuing Rule Y25 foresees association with (foresees to be associated with) (Y25.1 has type E55 Type {instance: issued with, etc.}) Z12 Issuing Rule Y37i is former or current issuing rule of (has former or current issuing rule) F18 Serial Work
Former title	6 possibilities (continuation, replacement, split, merger, separation, temporary substitution)	<p>Continuation: F18 Serial Work {instance 1} Y2i resulted from continuation (initiated) Z1 Serial Transformation Y1 provided a continuation to (was continued through) F18 Serial Work {instance 2} (<u>shortcut</u>: F18 Serial Work {instance 1} Y29i continues (evolved into) F18 Serial Work {instance 2})</p> <p>Replacement: F18 Serial Work {instance 1} Y4i was initiated as replacement through (initiated as replacement) Z1 Serial Transformation Y3 provided a replacement to (was replaced through) F18 Serial Work {instance 2} (<u>shortcut</u>: F18 Serial Work {instance 1} Y31i superseded (was superseded by) F18 Serial Work {instance 2})</p> <p>Split: F18 Serial Work {instance 1} Y6i resulted from split (initiated) Z1 Serial Transformation Y5 split (was split through) F18 Serial Work {instance 2} (<u>shortcut</u>: F18 Serial Work {instance 1} Y32i resulted from splitting (was split into) F18 Serial Work {instance 2})</p> <p>Merger:</p>

ISSN Manual data element	Condition/ Comments	Mapping
		<p>F18 Serial Work {instance 1} <i>Y8i resulted from merger (merged into)</i> Z1 Serial Transformation <i>Y7 merged (was merged through)</i> F18 Serial Work {instance 2} (<u>shortcut</u>: F18 Serial Work {instance 1} <i>Y34i resulted from merging (was merged to form)</i> F18 Serial Work {instance 2})</p> <p>Separation: F18 Serial Work {instance 1} <i>Y11i was separated through (separated)</i> Z3 Separation <i>Y12 separated from (was diminished through)</i> F18 Serial Work {instance 2} (<u>shortcut</u>: F18 Serial Work {instance 1} <i>Y30i was separated from (was partially continued by)</i> F18 Serial Work {instance 2})</p> <p>Temporary substitution: F18 Serial Work {instance 1} <i>Y14i became surrogate through (substituted with)</i> Z4 Temporary Substitution <i>Y13 provided surrogate to (had surrogate through)</i> F18 Serial Work {instance 1} (<u>shortcut</u>: F18 Serial Work_i <i>Y36i was surrogate for (had surrogate)</i> F18 Serial Work {instance 2})</p>
Successor title	6 possibilities (continuation, replacement, split, merger, separation, temporary substitution)	<p>Continuation: F18 Serial Work {instance 1} <i>Y1i was continued through (provided a continuation to)</i> Z1 Serial Transformation <i>Y2 initiated as continuation (was initiated as continuation through)</i> F18 Serial Work {instance 2} (<u>shortcut</u>: F18 Serial Work {instance 1} <i>Y29 evolved into (continues)</i> F18 Serial Work {instance 2})</p> <p>Replacement: F18 Serial Work {instance 1} <i>Y3i was replaced through (provided a replacement to)</i> Z1 Serial Transformation <i>Y4 initiated as replacement (was initiated as replacement through)</i> F18 Serial Work {instance 2} (<u>shortcut</u>: F18 Serial Work {instance 1} <i>Y31 was superseded by (superseded)</i> F18 Serial Work {instance 2})</p> <p>Split: F18 Serial Work {instance 1} <i>Y5i was split through (split)</i> Z1 Serial Transformation <i>Y6 initiated (resulted from split)</i> F18 Serial Work {instance 2} (<u>shortcut</u>: F18 Serial Work {instance 1} <i>Y32 was split into (resulted from splitting)</i> F18 Serial Work {instance 2})</p> <p>Merger: F18 Serial Work {instance 1} <i>Y7i was merged through (merged)</i> Z1 Serial Transformation <i>Y8 merged into (resulted from merger)</i> F18 Serial Work {instance 2} (<u>shortcut</u>: F18 Serial Work {instance 1} <i>Y34 was merged to form (resulted from merging)</i> F18 Serial Work {instance 2})</p> <p>Separation: F18 Serial Work {instance 1} <i>Y12i was diminished through (separated from)</i> Z3 Separation <i>Y11 separated (was separated through)</i> F18 Serial Work {instance 2} (<u>shortcut</u>: F18 Serial Work {instance 1} <i>Y30 was partially continued by (was separated from)</i> F18 Serial Work {instance 2})</p>

ISSN Manual data element	Condition/ Comments	Mapping
		<p>Temporary substitution: F18 Serial Work {instance 1} <i>Y13i had surrogate through (provided surrogate to)</i> Z4 Temporary Substitution Y14 <i>substituted with (became surrogate through)</i> F18 Serial Work {instance 2} (<u>shortcut:</u> F18 Serial Work {instance 1} Y36 <i>had surrogate (was surrogate for)</i> F18 Serial Work {instance 2})</p>
Is related title		<p>F18 Serial Work Y37 <i>has former or current issuing rule (is former or current issuing rule of)</i> Z12 Issuing Rule Y25 <i>foresees association with (foresees to be associated with)</i> (Y25.1 <i>has type:</i> E55 Type) Z12 Issuing Rule Y37i <i>is former or current issuing rule of (has former or current issuing rule)</i> F18 Serial Work</p>
Supplement / special issue entry	Supplement	<p>F18 Serial Work Y37 <i>has former or current issuing rule (is former or current issuing rule of)</i> Z12 Issuing Rule Y25 <i>foresees association with (foresees to be associated with)</i> (Y25.1 <i>has type:</i> E55 Type {supplement, or insert}) Z12 Issuing Rule Y37i <i>is former or current issuing rule of (has former or current issuing rule)</i> F18 Serial Work</p>
Supplement / special issue entry	Special issue entry	<p>F18 Serial Work Y39 <i>is enhanced by monograph (enhances serial)</i> (Y39.1 <i>has type:</i> E55 Type {instance: special issue}) F19 Publication Work</p>
Electronic location		<p>F18 Serial Work Y37 <i>has former or current issuing rule (is former or current issuing rule of)</i> Z12 Issuing Rule Y28 <i>foresees URL (is URL foreseen in)</i> Z11 URL</p>

8 Referred to FRBR_{OO} Classes and Properties

Since PRESS_{OO} refers to and reuses, wherever appropriate, large parts of FRBR_{OO}, this section provides a comprehensive list of all constructs used from that model, together with their definitions following version 2.4 (November 2015). Use in this context includes: reference as immediate superclass, superproperty or element of a path expression in a mapping statement.

Some of these constructs appear only in the mapping between the *ISSN Manual* and PRESS_{OO}, and not in the declaration of PRESS_{OO} classes and properties, because they are generic in nature. It was deemed preferable not to overload the description of PRESS_{OO} with generic notions that were already developed in either FRBR_{OO} or CIDOC CRM.

8.1 List of Referred to FRBR_{OO} Classes

In this section we present the classes of the FRBR_{OO} model version 2.4 referred to by PRESS_{OO} as a list. The classes that appear indirectly in the PRESS_{OO} model, i.e., either as superclasses of classes defined in the model, or as the domain or range of referred to FRBR_{OO} properties, are marked in bold.

- F1 Work**
- F2 Expression**
- F4 Manifestation Singleton**
- F11 Corporate Body
- F12 Nomen
- F13 Identifier
- F15 Complex Work**
- F16 Container Work**
- F18 Serial Work**
- F19 Publication Work**
- F22 Self-Contained Expression**
- F23 Expression Fragment**
- F24 Publication Expression
- F27 Work Conception**
- F28 Expression Creation**
- F30 Publication Event**
- F32 Carrier Production Event
- F34 KOS
- F35 Nomen Use Statement
- F50 Controlled Access Point

8.2 List of Referred to FRBR_{OO} Properties

In this section we present the properties of the FRBR_{OO} model version 2.4 referred to by PRESS_{OO} as a list. The properties that appear indirectly in the PRESS_{OO} model, i.e., as superproperties of properties defined in the model, are marked in bold.

Property id	Property name	Domain	Range
R10	has member (is member of)	F15 Complex Work	F1 Work
R11	has issuing rule (is issuing rule of)	F18 Serial Work	E29 Design or Procedure
R16	initiated (was initiated by)	F27 Work Conception	F1 Work
R18	created (was created by)	F28 Expression Creation	F4 Manifestation Singleton
R19	created a realisation of (was realised through)	F28 Expression Creation	F1 Work
R23	created a realisation of (was realised through)	F30 Publication Event	F19 Publication Work
R24	created (was created through)	F30 Publication Event	F24 Publication Expression
R27	used as source material (was used by)	F32 Carrier Production Event	F24 Publication Expression
R33	has content	F12 Nomen	E62 String
R35	is specified by (specifies)	F35 Nomen Use Statement	F34 KOS
R37	states as nomen (is stated as nomen in)	F35 Nomen Use Statement	F12 Nomen

8.3 Referred to FRBR_{OO} Classes

This section contains the complete definitions of the classes of the FRBR_{OO} model version 2.4 referred to by PRESS_{OO}. The properties within these class definitions which are referred to in PRESS_{OO} are presented in bold face.

For the sake of clarity, the PRESS_{OO} classes of which these FRBR_{OO} classes are superclasses are repeated here, in italics, although this information is absent from the original definition of the FRBR_{OO} model. Also, the PRESS_{OO} properties for which these FRBR_{OO} classes are declared as domain are repeated here, in italics as well, although this information is naturally absent from the original definition of the FRBR_{OO} model.

F1 Work

Subclass of: [E89](#) Propositional Object

Superclass of: *F14 Individual Work*
[F15](#) Complex Work
[F16](#) Container Work
F21 Recording Work

Scope note: This class comprises distinct concepts or combinations of concepts identified in artistic and intellectual expressions, such as poems, stories or musical compositions. Such concepts may appear in the course of the coherent evolution of an original idea into one or more expressions that are dominated by the original idea. A Work may be elaborated by one or more Actors simultaneously or over time. The substance of Work is ideas. A Work may have members that are works in their own right.

A Work can be either *individual* or *complex*. If it is individual its concept is completely realised in a single F22 Self-Contained Expression. If it is complex its concept is embedded in an F15 Complex Work. An F15 Complex Work consists of alternative members that are either F15 Complex Works themselves or F14 Individual Works.

A Work is the product of an intellectual process of one or more persons, yet only indirect evidence about it is at our hands. This can be contextual information such as the existence of an order for a work, reflections of the creators themselves that are documented somewhere, and finally the expressions of the work created. As ideas normally take shape during discussion, elaboration and implementation, it is not reasonable to assume that a work starts with a complete concept. In some cases, it can be very difficult or impossible to define the whole of the concept of a work at a particular time. The objective evidence for such a notion can only be based on a stage of expressions at a given time. In this sense, the sets of ideas that constitute particular self-contained expressions may be regarded as a kind of “snap-shot” of a work.

A Work may include the concept of aggregating expressions of other works into a new expression. For instance, an anthology of poems is regarded as a work in its own right that makes use of expressions of the individual poems that have been selected and ordered as part of an intellectual process. This does not make the contents of the aggregated expressions part of this work, but only parts of the resulting expression.

Examples: Abstract content of Giovanni Battista Piranesi’s ‘Carcere XVI: the pier with chains: 1st state’ (F14)
‘La Porte de l’Enfer’ by Auguste Rodin conceived between 1880 and 1917 (F15)
‘Hamlet’ by William Shakespeare (F15)

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): F22 Self-Contained Expression

R40 has representative expression (is representative expression for): F22 Self-Contained Expression

F2 Expression

Subclass of: [E73](#) Information Object

Superclass of: [F22](#) Self-Contained Expression
[F23](#) Expression Fragment
F34 KOS
F35 Nomen Use Statement
F43 Identifier Rule

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.

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

Inasmuch as the form of F2 Expression is an inherent characteristic of the F2 Expression, any change in form (e.g., from alpha-numeric notation to spoken word, a poem created in capitals and rendered in lower case) is a new F2 Expression. Similarly, changes in the intellectual conventions or instruments that are employed to express a *work* (e.g., translation from one language to another) result in the creation of a new F2 Expression. Thus, if a text is revised or modified, the resulting F2 Expression is considered to be a new F2 Expression. Minor changes, such as corrections of spelling and punctuation, etc., are normally considered variations within the same F2 Expression. On a practical level, the degree to which distinctions are made between variant *expressions* of a *work* will depend to some extent on the nature of the F1 Work itself, and on the anticipated needs of users.

The genre of the work may provide an indication of which features are essential to the expression. In some cases, aspects of physical form, such as typeface and page layout, are not integral to the intellectual or artistic realisation of the *work* as such, and therefore are not distinctive criteria for the respective expressions. For another work, features such as layout may be essential. For instance, the author or a graphic designer may wrap a poem around an image.

An expression of a work may include expressions of other works within it. For instance, an anthology of poems is regarded as a work in its own right that makes use of expressions of the individual poems that have been selected and ordered as part of an intellectual process. This does not make the contents of the aggregated expressions part of this work, but only parts of the resulting expression.

If an instance of F2 Expression is of a specific form, such as text, image, etc., it may be simultaneously instantiated in the specific classes representing these forms in CIDOC CRM. Thereby one can make use of the more specific properties of these classes, such as language (which is applicable to instances of E33 Linguistic Object only).

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*) (F22 and E33)

The Italian text of Dante's 'Inferno' as found in the same edition (F22 and E33)

'Nel mezzo del cammin di nostra vita
mi ritrovai per una selva oscura
ché la diritta via era smarrita' [the Italian text of the first stanza of Dante's 'Inferno' and 'Divina Commedia'] (F23 and E33)

The signs which make up Christian Morgenstern's 'Fisches Nachtgesang' [a poem consisting simply of '—' and '∞' signs, arranged in a determined combination] (F22)

Properties: R4 carriers provided by (comprises carriers of): F3 Manifestation Product Type
R5 has component (is component of): F22 Self-Contained Expression
R15 has fragment (is fragment of): F23 Expression Fragment
R41 has representative manifestation product type (is representative manifestation product type for): F3 Manifestation Product Type

F4 Manifestation Singleton

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

Superclass of: [Z9](#) Storage Unit

Scope note: This class comprises physical objects that each carry an instance of F2 Expression, and that were produced as unique objects, with no siblings intended in the course of their production. It should be noted that if all but one copy of a given publication are destroyed, then that copy does not become an instance of F4 Manifestation Singleton, because it was produced together with sibling copies, even though it now happens to be unique. Examples of instances of F4 Manifestation Singleton include manuscripts, preparatory sketches and the final clean draft sent by an author or a composer to a publisher.

Examples: 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

Properties: R42 is representative manifestation singleton for (has representative manifestation singleton): F2 Expression

F11 Corporate Body

Subclass of: [E74](#) Group

Superclass of: [E40](#) Legal Body

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

To be considered an 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: [E41](#) Appellation

Superclass of: [F13](#) Identifier

Scope note: This class comprises any sign 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 a specific instance of some class or category within a certain context. The scripts or type sets for the types of symbols used to compose an instance of F12 Nomen have to be explicitly specified. The identity of an instance of F12 Nomen is given by the order of its symbols and their individual role with respect to their scripts, regardless of the semantics of the larger structural components it may be built from. Structural tags occurring in the nomen string are regarded as symbols constituting the nomen. Spelling variants are regarded as different nomina, whereas the use of different fonts (visual representation variants) or different digital encodings do not change the identity.

Examples: ‘杜甫’ [the name of a Chinese poet of the 8th century, in simplified Chinese characters]
‘Du Fu’ [Pinyin romanised form of the name of a Chinese poet of the 8th century]
‘Tu Fu’ [another romanised form of the name of a Chinese poet of the 8th century]
‘Thơ Đô Phủ’ [Vietnamese form of the name of a Chinese poet of the 8th century]
‘جامعة صفاقس’ [Arabic name of the Sfax University (Tunisia), in Arabic script]
‘Ġāmi‘at Sfax’ [Arabic name of the Sfax University (Tunisia), transliterated]
‘Université de Sfax’ [French name of the Sfax University (Tunisia)]
‘3-[(2S)-1-methylpyrrolidin-2-yl]pyridine’ [the IUPAC systematic name for nicotine]
‘Murders in the rue Morgue’ [English title of a textual work]
‘Poe, Edgar Allan, 1809-1849. Murders in the rue Morgue’ (F50) [controlled author/title access point for a textual work]
‘modelling’ [not the activity, just the written signs that represent its English name in British spelling]
‘modeling’ [not the activity, just the written signs that represent its English name in American spelling]

Properties: [R33](#) has content: [E62](#) String
([R33.1](#) has encoding: [E55](#) Type)

F13 Identifier

Subclass of: [F12](#) Nomen

Superclass of: [F50](#) Controlled Access Point

Equal to: [E42](#) Identifier

Scope note: This class comprises strings or codes assigned to instances of E1 CRM Entity in order to identify them uniquely and permanently within the context of one or more organisations. Such codes are often known as inventory numbers, registration codes, etc. and are typically composed of alphanumeric sequences. The class E42 Identifier is not normally used for machine-generated identifiers used for automated processing unless these are also used by human agents. *[Adapted from the Scope Note of CIDOC CRM E42 Identifier ver. 5.0.1]*

Examples: ISSN ‘0041-5278’
ISRC ‘FIFIN8900116’
Shelf mark ‘Res 8 P 10’

‘Guillaume de Machaut (1300?-1377)’ (F50) [a controlled personal name access point that follows the French rules]

‘Guillaume, de Machaut, ca. 1300-1377’ (F50) [a controlled personal name access point that follows the AACR rules]

‘Rite of spring (Choreographic work: Bausch)’ (F50) [a controlled access point that follows the AACR2 rules]

Properties: R8 consists of (forms part of): E90 Symbolic Object

F15 Complex Work

Subclass of: [F1](#) Work

Superclass of: [F18](#) Serial Work

Scope note: This class comprises works that have other works as members. The members of a Complex Work may constitute alternatives to, derivatives of, or self-contained components of other members of the same Complex Work.

In practice, no clear line can be drawn between parallel and subsequent processes in the evolution of a work. One part may not be finished when another is already revised. An initially monolithic work may be taken up and evolve in pieces. The member relationship of Work is based on the conceptual relationship, and should not be confused with the internal structural parts of an individual expression. The fact that an expression may contain parts from other work(s) does not make the expressed work complex. For instance, an anthology for which only one version exists is not a complex work.

The boundaries of a Complex Work have nothing to do with the value of the intellectual achievement but only with the dominance of a concept. Thus, derivations such as translations are regarded as belonging to the same Complex Work, even though in addition they constitute an Individual Work themselves. In contrast, a Work that significantly takes up and merges concepts of other works so that it is no longer dominated by the initial concept is regarded as a new work. In cataloguing practice, detailed rules are established prescribing which kinds of derivation should be regarded as crossing the boundaries of a complex work. Adaptation and derivation graphs allow the recognition of distinct sub-units, i.e. a complex work contained in a larger complex work.

As a Complex Work can be taken up by any creator who acquires the spirit of its concept, it is never finished in an absolute sense.

Examples: Work entitled ‘La Porte de l’Enfer’ by Auguste Rodin

Work entitled ‘Hamlet’ by William Shakespeare

Work entitled ‘Der Ring der Nibelungen’ by Richard Wagner

Work entitled ‘Carceri d’invenzione’ by Giovanni Battista Piranesi

Work entitled ‘Mass in B minor BWV 232’ by Johann Sebastian Bach

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

F16 Container Work

Subclass of: [F1](#) Work

Superclass of: [F17](#) Aggregation Work

[F19](#) Publication Work

[F20](#) Performance Work

Scope note: This class comprises works whose essence is to enhance or add value to expressions from one or more other works without altering them, by the selection, arrangement and/or addition of features of different form, such as layout to words, recitation and movement to texts,

performance to musical scores etc. This does not make the contents of the incorporated expressions part of the Container Work, but only part of the resulting expression. Container Work may include the addition of new, original parts to the incorporated expressions, such as introductions, graphics, etc.

This class is an “abstract class,” in that it only serves as an umbrella for its three subclasses. As a consequence, it can only be instantiated by instances of any of its subclasses: nothing can be an instance of it, unless it is an instance of either F17 Aggregation Work, F19 Publication Work, or F20 Performance Work.

A new version of a container work does not make the resulting complex work a Container Work as well. The inclusion of expressions from a complex work in a Container Work does not make the Container Work itself complex.

- Examples:
- 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 (F17)
 - The concept for the layout created by printer Guido Morris for the text of Michael Hamburger’s English translation of 12 poems by Georg Trakl for publication in 1952 (F19)
 - The concept by the publisher named ‘Dell’ of issuing together, in 2002, three novels entitled ‘The Partner’, ‘The Street Lawyer’, and ‘A time to kill’, by the author named ‘John Grisham’, with just the statement ‘Three #1 bestsellers by John Grisham’ as a collective title (F19)
 - The concept of Sergei Radlov’s mise-en-scène of a Yiddish translation of the textual work entitled ‘King Lear’ in Moscow in 1935 (F20)
 - The concept of putting together the English text of ‘King Lear’ and a Spanish translation thereof in a bilingual edition of ‘King Lear’ (F17)

F18 Serial Work

- Subclass of: [F15](#) Complex Work
[F19](#) Publication 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 a Complex Work, which contains the Serial Work and the Individual 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 ‘Courier 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**
[Y29](#) evolved into (continues): [F18](#) Serial Work
[Y30](#) was partially continued by (was separated from): [F18](#) Serial Work
[Y31](#) was superseded by (superseded): [F18](#) Serial Work
[Y32](#) was split into (resulted from splitting): [F18](#) Serial Work
[Y33](#) was merged with: [F18](#) Serial Work
[Y34](#) was merged to form (resulted from merging): [F18](#) Serial Work

[Y35](#) was absorbed in (was enhanced by absorbing): [F18](#) Serial Work
[Y36](#) had surrogate (was surrogate for): [F18](#) Serial Work
[Y37](#) has former or current issuing rule (is former or current issuing rule of): [Z12](#) Issuing Rule
[Y38](#) has current issuing rule (is current issuing rule of): [Z12](#) Issuing Rule
[Y39](#) is enhanced by monograph (enhances serial): [Z13](#) Monograph
[Y40](#) enhances monograph (is enhanced by serial): [Z13](#) Monograph
[Y41](#) has former or current area of publication (is former or current area of publication of): [E53](#) Place
[Y42](#) has current area of publication (is current area of publication of): [E53](#) Place

F19 Publication Work

- Subclass of: [F16](#) Container Work
- Superclass of: [F18](#) Serial Work
[Z13](#) Monograph
- Scope note: This class comprises works that have been planned to result in a manifestation product type or an electronic publishing service and that pertain to the rendering of expressions from other works.
- Examples: The concept of publishing Stephen Crane’s complete poems (as edited by Joseph Katz), which includes the idea that every time a stanza jumps over a page change, the statement ‘[NO STANZA BREAK]’ should be printed as a warning for readers that the new page continues the same stanza
- The concept, on behalf of publisher named ‘Verlag Neue Kunsthandlung’, of issuing together, around 1925, three formerly independent publications (‘Emil Orlik’ by Max Osborn – vol. 2 within the series named ‘Graphiker der Gegenwart’, published in 1920; ‘Anders Zorn’ by Paul Friedrich – vol. 10 within the series named ‘Graphiker der Gegenwart’, published in 1924; and ‘Max Slevogt’ by Julius Elias – vol. 11 within the series named ‘Graphiker der Gegenwart’, published in 1923) as one, new publication, entitled ‘102 Bilder aus der Sammlung *Graphiker der Gegenwart*’
- The concept, on behalf of publisher named ‘Dell’, of issuing together in 2002 three novels, titled ‘The partner’, ‘The street lawyer’, and ‘A time to kill’, by author named ‘John Grisham’, with just the statement ‘Three #1 bestsellers by John Grisham’ as a collective title

F22 Self-Contained Expression

- Subclass of: [F2](#) Expression
- Superclass of: [F24](#) Publication Expression
F25 Performance Plan
F26 Recording
- Scope note: This class comprises the immaterial realisations of individual works at a particular time that are regarded as a complete whole. The quality of wholeness reflects the intention of its creator that this expression should convey the concept of the work. Such a whole can in turn be part of a larger whole.
- Inherent to the notion of work is the completion of recognisable outcomes of the work. These outcomes, i.e. the Self-Contained Expressions, are regarded as the symbolic equivalents of Individual Works, which form the atoms of a complex work. A Self-Contained Expression may contain expressions or parts of expressions from other work, such as citations or items collected in anthologies. Even though they are incorporated in the Self-Contained Expression, they are not regarded as becoming members of the expressed container work by their inclusion in the expression, but are rather regarded as foreign or referred to elements.
- F22 Self-Contained Expression can be distinguished from F23 Expression Fragment in that an F23 Expression Fragment was not intended by its creator to make sense by itself. Normally creators would characterise an outcome of a work as finished. In other cases, one could recognise an outcome of a work as complete from the elaboration or logical coherence of its content, or if there is any historical knowledge about the creator deliberately or accidentally never finishing

(completing) that particular expression. In all those cases, one would regard an expression as self-contained.

- Examples:
- 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)
 - The musical notation of Franz Schubert's lied known as 'Ave Maria'
 - The musical notation of Franz Schubert's lieder cycle entitled 'Seven Songs after Walter Scott's The Lady of the Lake', of which 'Ave Maria' is a distinct part
 - The musical notation of Franz Liszt's piano transcription of Franz Schubert's lied known as 'Ave Maria'
 - The musical notation of fragments of the unfinished string quartet sketched by Arnold Schoenberg in 1926

F23 Expression Fragment

Subclass of: [F2](#) Expression

Scope note: This class comprises parts of Expressions and these parts are not Self-Contained Expressions themselves.

The existence of an instance of F23 Expression Fragment can be due to accident, such as loss of material over time, e.g. the only remaining manuscript of an antique 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 F23 Expression Fragment is only identified with respect to its occurrence in a known or assumed whole. The size of an instance of F23 Expression Fragment ranges from more than 99% of an instance of F22 Self-Contained 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 movie, etc.).

- Examples:
- The only remnants of Sappho's poems
 - The words 'Beati pauperes spiritu' (excerpted from Matthew's Gospel 5,3 in Latin translation)

Properties: [Y43](#) is indicative of (is exemplified by): [Z10](#) Sequencing Pattern

F24 Publication Expression

Subclass of: [F22](#) Self-Contained Expression

Scope note: This class comprises complete sets of signs present in publications, reflecting publishers' final decisions as to both selection of content and layout of the publications. Frequently the creation of a Publication Expression includes both adding graphical form and fonts to Expressions consisting of words alone and selecting illustrations and other content. As such, an instance of Publication Expression incorporates all Expressions combined for the resulting final form of rendering, whether visual, audio or tactile. An instance of Publication Expression is one entity regardless of the number of independent Expressions published within it, as long as it represents one unit of release. The published third party content can be associated via the property *P165 incorporates (is incorporated in)*.

- Examples:
- The text, its layout and the textual and graphic (Saur's logo on p. [i]) content of front and back cover, spine (spine title), and p. [i-iv] of the publication entitled 'Functional Requirements for Bibliographic Records: final report', published by K. G. Saur in 1998, identified by ISBN '3-598-11382-X'

The overall content of the book identified by ISBN '0-8014-9130-4': the text of Stephen Crane's complete poems as edited by Joseph Katz, the numbering system introduced by Joseph Katz in order to identify each individual poem by Stephen Crane, page numbers, the text of Joseph Katz's dedication, preface, acknowledgements, and introduction, the table of contents, the index of first

lines, the statements found on title page, back of title page (including CIP bibliographic record), cover front, back front, and spine, and the layout of the publication; for one of Stephen Crane's longer poems, printed on p. 142-143, a statement reads at bottom of p. 142: '[NO STANZA BREAK]': obviously, this statement does not belong to the Self-Contained Expression intended by Stephen Crane, and presumably not to the one intended by editor Joseph Katz either, but was more probably added by the publishing team, due to characteristics of the layout of the publication: a cautious reader can easily interpret '[NO STANZA BREAK]' as non-belonging to the poem itself, but an OCR process would not make the distinction between the text of the poem and the statement made by the publisher; '[NO STANZA BREAK]' belongs to the Publication Expression, although it does not belong to the Self-Contained Expression intended by Stephen Crane and Joseph Katz

The overall content of the LP sound recording identified by label and label number 'CBS 34-61237': a recorded performance of Terry Riley's musical work 'In C', the text of liner notes by Paul Williams translated into French by Bernard Weinberg, technical statements such as 'Stereo,' publisher's logo, series logo, title and statement of responsibility on front, back, and spine of the cover and on the recording itself, duration statement, cover art by G. Joly, overall layout, etc.; a special, shunting sound was added at the end of side one and beginning of side two, as Terry Riley's work is in the form of a continuous musical flow without any interruption and the technical possibilities of vinyl LPs did not allow the complete performance to be contained on just one side: that special, shunting sound was not intended in Riley's score nor in the performance but was added by the publisher (with or without Riley's consent, this detail is not documented), and as such it is part of the Publication Expression although it is not part of the composer's and the performers' Self-Contained Expression (this shunting sound was no longer needed in subsequent releases on CD)

The overall content of the DVD entitled 'The Aviator (2-Disc Full Screen Edition)', released in 2004: Martin Scorsese's movie itself; layout of the box and the two DVDs contained in the box; pictures on the DVDs themselves; English, Spanish, and French subtitles; English and French audio tracks; and bonuses: commentaries by director Martin Scorsese, editor Thelma Schoonmaker, and producer Michael Mann; a deleted scene ('Howard Tells Ava About His Car Accident'); and featurettes 'A Life Without Limits: The Making of The Aviator'; 'The Role of Howard Hughes in Aviation History'; 'Modern Marvels: Howard Hughes, A Documentary by the History Channel'; 'The Visual Effects of The Aviator'; 'The Affliction of Howard Hughes: Obsessive Compulsive Disorder'; 'The Age of Glamour: The Hair And Makeup of The Aviator'; 'Costuming The Aviator: The Work of Sandy Powell'; 'Constructing The Aviator: The Work of Dante Ferretti'; 'An evening with Leonardo DiCaprio and Alan Alda'; 'OCD Panel Discussion With Leonardo DiCaprio, Martin Scorsese, and Howard Hughes' Widow Terry Moore'; 'Still Gallery'; 'Scoring The Aviator: The Work Of Howard Shore'; and 'The Wainwright Family – Loudon, Rufus and Martha'

F27 Work Conception

Subclass of: [E65 Creation](#)

Superclass of: [Z1 Serial Transformation](#)
[Z3 Separation](#)

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

An instance of F27 Work Conception marks the initiation of the creation of a work. The work, as an intellectual construction, evolves from this point on, until the last known expression of it. The 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 'Asterix in Britain' [*comment: Goscinny wrote the script and Uderzo made the drawings; both are regarded as co-creators of that collaborative, 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
- Superclass of: F29 Recording Event
[E30](#) Publication Event
[Z14](#) Storage Unit Creation
- Scope note: This class comprises activities that result in instances of F2 Expression coming into existence. This class characterises the externalisation of an Individual Work.
- 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 F4 Manifestation Singleton; F28 Expression Creation is a subclass of E12 Production because the recording of the expression causes a physical modification of the carrying E18 Physical Thing. The work becomes manifest by being expressed on a physical carrier different from 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 F4 Manifestation Singleton 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).
- 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 [each individual take is a distinct instance of F2 Expression]

Properties: R17 created (was created by): F2 Expression
R18 created (was created by): F4 Manifestation Singleton
R19 created a realisation of (was realised through): F1 Work

F30 Publication Event

Subclass of: [F28](#) Expression Creation

Superclass of: [Z4](#) *Temporary Substitution*
[Z6](#) *Starting of Publication*
[Z7](#) *Ending of Publication*

Scope note: This class comprises the activities of publishing. Such an event includes the creation of an F24 Publication Expression and setting up the means of production. The end of this event is regarded as the date of publication, regardless of whether the carrier production is started. Publishing can be either physical or electronic. Electronic publishing is regarded as making an instance of F24 Publication Expression available in electronic form on a public network. Electronic Publishing does not mean producing a physical instance of F5 Item by partially electronic means. Making an electronic file available on a physical carrier can be regarded as equivalent to setting up the means of production; downloading the file is regarded as the electronic equivalent of F32 Carrier Production Event.

Examples: Publishing Amerigo Vespucci's 'Mundus novus' in Paris ca. 1503-1504
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 available online the article by Allen Renear, Christopher Phillippe, Pat Lawton, and David Dubin, entitled 'An XML document corresponds to which FRBR Group 1 entity?' <<http://conferences.idealliance.org/extreme/html/2003/Lawton01/EML2003Lawton01.html>>

Properties: **R23 created a realisation of (was realised through): F19 Publication Work**
R24 created (was created through): F24 Publication Expression

F32 Carrier Production Event

Subclass of: [E12](#) Production

Scope note: This class comprises activities that result in instances of F54 Utilised Information Carrier 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 property *R27 used as source material* F24 Publication Expression.

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 now on the link <http://cidoc.ics.forth.gr/docs/cidoc_crm_version_4.0.pdf>, and thus downloading on my PC a reproduction of the electronic file titled 'Definition of the CIDOC Conceptual Reference Model... version 4.0' 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): F3 Manifestation Product Type
R27 used as source material (was used by): F24 Publication Expression
R28 produced (was produced by): F5 Item

F34 KOS

Subclass of: [E32](#) Authority Document
[E29](#) Design or Procedure
[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 Knowledge Organisation System (KOS) that affects the validity status of its elements defines a new release (Expression) of the KOS. Note that identifiers created following a rule in a KOS are to be regarded as being taken from this KOS, even though not explicitly spelled out. This definition of KOS reflects current library practice and not the use of the term in general.

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

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

Scope note: This class comprises statements relating a Thema with a particular Nomen and its usage in the context of a common Complex Work realized by one or more KOS.

Examples: '010 __ |a sh 85082387'...'150 __ |a Maxwell equations' [MARC21 encoding of the preferred subject access point from LCSH, <http://lccn.loc.gov/sh85082387>, as of 19 November 2012]

'010 __ |a sh 85082387'...'450 __ |a Equations, Maxwell' [MARC21 encoding of a variant subject access point, from the same source]

'001 FRBNF119547493'...'100 w.0..barus.\$aGončarova\$mNatal'á Sergeevna\$d1881-1962'
[INTERMARC encoding of the preferred access point for a personal name, from the authority file of the National Library of France, <http://catalogue.bnf.fr/ark:/12148/cb119547494/INTERMARC>, as of 15 June 2012]

'001 FRBNF119547493'...'100 w.0..c.rus.\$aГончарова\$mНаталья Сергеевна\$d1881-1962'
[INTERMARC encoding of a parallel access point from the same source]

'001 FRBNF119547493'...'400 \$w...b.eng.\$aGoncharova\$mNatalia\$d1881-1962'
[INTERMARC encoding of a variant access point from the same source]

'<eac-cpf [...]> <control> <recordId>beinecke.7h44|bj</recordId> [...] </control>' ...
'<cpfDescription> <identity> <entityType>family</entityType> <nameEntry xml:lang="eng"

scriptCode="Latn"><part localType="100a">Boswell family</part> [...] </nameEntry> [...] </identity> </cpfDescription> [...] </eac-cpf>' [EAC encoding of the preferred access point for a family]

Properties: R32 is warranted by (warrants): F52 Name Use Activity
R35 is specified by (specifies): F34 KOS
(R35.1 has status: E55 Type)
R36 uses script conversion (is script conversion used in): F36 Script Conversion
R37 states as nomen (is stated as nomen in): F12 Nomen
R38 refers to thema (is thema of): E1 CRM Entity
R39 is intended for (is target audience in): E74 Group
R54 has nomen language (is language of nomen in): E56 Language
R55 has nomen form (is nomen form in): E55 Type
R56 has related use (is related use for): F35 Nomen Use Statement
(R56.1 has type: E55 Type)

F50 Controlled Access Point

Subclass of: [F13 Identifier](#)

Scope note: This class comprises identifiers that are not only designed to be unique for the thing they identify, but also to ensure, by following adequate rules based on widely known and accepted properties for their generation, that an independent agency using the same rule would create the same identifier for the same thing.

F50 Controlled Access Point covers the notion of both “preferred” and “variant” forms. It does not cover the notion of “cross references”. A cross reference may not uniquely identify one entity, but can be shared by two or more entities, regardless of whether it displays the same structural characteristics as preferred controlled access points.

Examples: ‘Maxwell equations’ [preferred subject access point from LCSH, <http://lccn.loc.gov/sh85082387>, as of 19 November 2012]

‘Equations, Maxwell’ [variant subject access point, from the same source]

‘Gončarova, Natal’â Sergeevna (1881-1962)’ [preferred access point for a personal name, from the authority file of the National Library of France, <http://catalogue.bnf.fr/ark:/12148/cb119547494/PUBLIC>, as of 15 June 2012]

‘Гончарова, Наталья Сергеевна (1881-1962)’ [parallel access point from the same source]

‘Goncharova, Natalia (1881-1962)’ [variant access point from the same source]

8.4 Referred to FRBR_{OO} Properties

This section contains the complete definitions of the properties of the FRBR_{OO} model version 2.4 referred to by PRESS_{OO}.

For the sake of clarity, the PRESS_{OO} properties of which these FRBR_{OO} properties are superproperties are repeated here, in italics, although this information is absent from the original definition of the FRBR_{OO} model.

R10 has member (is member of)

Domain:	F15 Complex Work
Range:	F1 Work
Subproperty of:	E89 Propositional Object. P148 has component (is component of): E89 Propositional Object
Quantification:	(2,n;0,n)
Scope note:	This property associates an instance of F15 Complex Work with an instance of F1 Work that forms part of it. The Work becomes complex by the fact that it has other instances of Work as members.
Examples:	Dante's textual work entitled 'Divina Commedia' (F15) <i>R10 has member</i> Dante's textual work entitled 'Inferno' (F15) Dante's textual work entitled 'Inferno' (F15) <i>R10 has member</i> the abstract content of the pseudo-old French text of Émile Littré's translation entitled 'L'Enfer mis en vieux langage françois et en vers' [a 19th century translation of Dante's 'Inferno' into old French] published in Paris in 1879 (F14) Giovanni Battista Piranesi's graphic work entitled 'Carceri' (F15) <i>R10 has member</i> Giovanni Battista Piranesi's graphic work entitled 'Carcere XVI: the pier with chains' (F15) Giovanni Battista Piranesi's graphic work entitled 'Carcere XVI: the pier with chains' (F15) <i>R10 has member</i> the abstract content of Giovanni Battista Piranesi's graphic work entitled 'Carcere XVI: the pier with chains: 2nd state' (F14)

R11 has issuing rule (is issuing rule of)

Domain:	F18 Serial Work
Range:	E29 Design or Procedure
<i>Superproperty of:</i>	<i>F18 Serial Work. Y37 has former or current issuing rule (is former or current issuing rule of): Z12 Issuing Rule</i>
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 Work, such as sequencing pattern, expected frequency and expected regularity. This property is a shortcut of the full path: F18 Serial Work <i>R23B was realised through</i> F30 Publication Event <i>P16 used specific object</i> E29 Design or Procedure.
Examples:	The serial entitled 'Quarterly journal of pure and applied mathematics', identified by ISSN '1549-6724' (F18) <i>R11 has issuing rule</i> 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)

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
Superproperty of:	Z1 Serial Transformation. Y2 initiated as continuation (was initiated as continuation through): F18 Serial Work Z1 Serial Transformation. Y4 initiated as replacement (was initiated as replacement through): F18 Serial Work Z1 Serial Transformation. Y6 initiated (resulted from split): F18 Serial Work Z1 Serial Transformation. Y8 merged into (resulted from merger): F18 Serial Work Z1 Serial Transformation. Y11 separated (was separated through): F18 Serial Work
Quantification:	(1,n:1,1)
Scope note:	This property associates the first conception of a work and the 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) <i>R16 initiated</i> Ludwig van Beethoven's Fifth Symphony (F15) Pablo Picasso's acceptance, in 1930, of Ambroise Vollard's commission for a set of 100 etchings, now known as the 'Vollard Suite' (F27) <i>R16 initiated</i> the 'Vollard Suite' (F15) René Goscinny's and Albert Uderzo's decision to collaborate on the comic book entitled 'Asterix in Britain' (F27) <i>R16 initiated</i> the comic book entitled 'Asterix in Britain' (F15) 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) <i>R16 initiated</i> Oscar Wilde's poem entitled 'The ballad of the Reading gaol' (F15)

R18 created (was created by)

Domain:	F28 Expression Creation
Range:	F4 Manifestation Singleton
Subproperty of:	E12 Production. P108 has produced (was produced by): E24 Physical Man-Made Thing
Superproperty of:	Z14 Storage Unit Creation. Y45 created (was created by): Z9 Storage Unit
Quantification:	(1,n:0,1)
Scope note:	This property associates an instance of F28 Expression Creation with the first physical objects 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) <i>R18 created</i> the manuscript now identified as 'Massachusetts Cambridge Harvard University Houghton Library bMS Am 1118.3 (203c, 203d)' (F4) 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) <i>R18 created</i> the manuscript now identified as 'Massachusetts Cambridge Harvard University Houghton Library bMS Am 1118.5 (74c)' (F4) 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 (F28) <i>R18 created</i> 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 (F4) (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' (F4) <i>R18B was created by</i> 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
Superproperty of: F29 Recording Event. R22 created a realisation of (was realised through): F21 Recording Work
[F30](#) Publication Event. [R23](#) created a realisation of (was realised through): [F19](#) Publication Work
Quantification: (1,n:1,1)
Scope note: This property associates an instance of F28 Expression Creation with the corresponding instance of F14 Individual Work or an instance of F15 Complex Work of which the corresponding instance of F14 Individual Work is a member.
Examples: Giovanni Battista Piranesi's creating the image identified as 'Carcere XVI: the pier with chains: 2nd state' (F28) *R19 created a realisation of* the concept of Giovanni Battista Piranesi's graphic work entitled 'Carcere XVI: the pier with chains: 2nd state' (F14)
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) *R19 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 (F21)

R23 created a realisation of (was realised through)

Domain: [F30](#) Publication Event
Range: [F19](#) Publication Work
Subproperty of: [F28](#) Expression Creation. [R19](#) created a realisation of (was realised through): [F1](#) Work
Superproperty of: [Z4](#) Temporary Substitution. [Y13](#) provided surrogate to (had surrogate through): [F18](#) Serial Work
Quantification: (0,1:0,n)
Scope note: This property associates an instance of F30 Publication Event with the instance of F19 Publication Work it realised.
Examples: Establishing in 1972 the layout, features, and prototype for the publication of Stephen Crane's complete poems (F30) *R23 created a realisation of* Cornell University Press's concepts for an edition of Stephen Crane's complete poems (F19)

R24 created (was created through)

Domain: [F30](#) Publication Event
Range: [F24](#) Publication Expression
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 F24 Publication Expression that was created during a particular F30 Publication Event with that F30 Publication Event.

Examples: Establishing in 1972 the layout, features, and prototype for the publication of Stephen Crane's complete poems (F30) *R24 created* the set of signs and instructions as to manufacturing established by Cornell University Press for a publication of Stephen Crane's complete poems (F24)

R27 used as source material (was used by)

Domain: [F32](#) Carrier Production Event
Range: [F24](#) Publication Expression
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.
Examples: The production of copies of the publication identified by ISBN '1-86197-612-7' (F32) *R27 used as source material* 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' (F24)

R33 has content

Domain: [F12](#) Nomen
Range: [E62](#) String
Subproperty of: [E1](#) CRM Entity. [P3](#) has note: [E62](#) String
Quantification: (1,n:0,n)
Scope note: This property associates an instance of F12 Nomen with one or more equivalent serialized content models for it. In digital form the symbol arrangement constituting an instance of F12 Nomen can only be represented through a particular encoding, for example ASCII or Latin1 for the Latin script. We call such a representation a content model. The property *R33.1 has encoding: E55 Type* allows for specifying the encoding of a particular associated content model. Together with this specification, a content model allows for unambiguously defining a nomen independently from the encoding used for representing the content.
Examples: The term 'earth' encoded as ASCII (F12) *R33 has content* '0x65 0x61 0x72 0x74 0x68' (E62) *R33.1 has encoding* ASCII (E55)
The term 'earth' encoded as UNICODE UTF16 (F12) *R33 has content* '0x0065 0x0061 0x0072 0x0074 0x0068' *R33.1 has encoding* UNICODE UTF16 (E55)
The term 'earth' in Latin Arial font (F12) *R33 has content* 'earth' (E62) *R33.1 has encoding* printed Latin Arial (E55)
Properties: *R33.1 has encoding: E55 Type*

R35 is specified by (specifies)

Domain: [F35](#) Nomen Use Statement
Range: [F34](#) KOS
Subproperty of: [E89](#) Propositional Object. [P148](#) has component (is component of): [E89](#) Propositional Object
Quantification: (1,1:1,n)
Scope note: This property associates an instance of F35 Nomen Use Statement with an instance of F34 KOS 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 KOS. An instance of *R35 is specified by* should have only one status.

Examples: ‘acoustic surface wave device’ (F35) *R35 is specified by* INSPEC Thesaurus version January 1973 (F34) *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)

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

R37 states as nomen (is stated as nomen in)

Domain: [F35](#) Nomen Use Statement

Range: [F12](#) Nomen

Subproperty of: [E89](#) Propositional Object. [P67](#) refers to (is referred to by): [E1](#) CRM Entity

Quantification: (1,1:0,n)

Scope note: This property associates an instance of F35 Nomen Use Statement with the instance of F12 Nomen for which it declares usage.

Examples: ‘PTBNP|20891’...‘200 1‡a Whitman, ‡b Walt, ‡f 1819-1892’ [an instance of F35 Nomen Use Statement in UNIMARC format] (F35) *R37 states as nomen* ‘Whitman, Walt (1819-1892)’ (F50)

‘001 FRBNF120864715’...‘100 \$w.0..ba...\$aDu\$mFu\$d0712-0770’ [an instance of F35 Nomen Use Statement in INTERMARC format] (F35) *R37 states as nomen* ‘Du, Fu (0712-0770)’ (F50)

‘001 FRBNF119547493’...‘100 w.0..barus.\$aGončarova\$mNatal’á Sergeevna\$d1881-1962’ [an instance of F35 Nomen Use Statement in INTERMARC format] (F35) *R37 states as nomen* ‘Gončarova, Natal’á Sergeevna (1881-1962)’ (F50)

‘010 __ |a n 79021736’...‘400 1_ |a Пруст, Марсель, |d 1871-1922’ (F35) *R37 states as nomen* ‘Пруст, Марсель, 1871-1922’ (F50)

‘010 __ |a sh 85074230’...‘150__ |a Lamniformes’ [an instance of F35 Nomen Use Statement in MARC 21 format] (F35) *R37 states as nomen* ‘Lamniformes’ (F12)

‘010 __ |a sh 85074230’...‘053 _0 |a QL638.94.L36 |c Zoology’ [an instance of F35 Nomen Use Statement in MARC 21 format] (F35) *R37 states as nomen* the Library of Congress classification number ‘QL638.94.L36’ (F12)

‘ID: 300024668’...‘navaja (C,U,Spanish,UF,U,SN)’ *R37 states as nomen* ‘navaja’(F12) (“used for” term, Getty Art & Architecture Thesaurus Online, retrieved 19/11/2012)

‘ID: 7010879’...‘Candia (H,V,Greek (transliterated),U) ...Venetian corruption of Arabic name, used from 13th cen.’ *R37 states as nomen* ‘Candia’ (F12) (“historical term”, Getty Thesaurus of Geographic Names Online, retrieved 19/11/2012)

‘ID: 7010879’...‘Ēracleion (NA,V,Greek (transliterated),U)’ *R37 states as nomen* ‘Ēracleion’ (F12) (“not-applicable term”, Getty Thesaurus of Geographic Names Online, retrieved 19/11/2012)

‘<eac-cpf [...]> <control> <recordId>beinecke.7h44jbj</recordId> [...] </control>’ ... ‘<cpfDescription> <identity> <entityType>family</entityType> <nameEntry xml:lang="eng" scriptCode="Latn"><part localType="100a">Boswell family</part> [...] </nameEntry> [...] </identity> </cpfDescription> [...] </eac-cpf>’ [an instance of F35 Nomen Use Statement in EAC] (F35) *R37 states as nomen* ‘Boswell family’ (F12)

9 Referred to CIDOC CRM Classes and Properties

Since PRESS₀₀ refers to and reuses, wherever appropriate, large parts of the CIDOC Conceptual Reference Model, this section provides a comprehensive list of all constructs used from CIDOC CRM, together with their definitions following the May 2015 version 6.2 maintained by CIDOC. Use in this context includes: reference as immediate superclass, superproperty or element of a path expression in a mapping statement.

Some of these constructs appear only in the mapping between the *ISSN Manual* and PRESS₀₀, and not in the declaration of PRESS₀₀ classes and properties, because they are generic in nature. It was deemed preferable not to overload the description of PRESS₀₀ with generic notions that were already developed in either FRBR₀₀ or CIDOC CRM.

9.1 List of Referred to CIDOC CRM Classes

In this section we present the classes of the CIDOC CRM Conceptual Reference Model version 5.1 referred to by PRESS₀₀ as a list. The classes that appear indirectly in the PRESS₀₀ model, i.e., either as superclasses of classes defined in the model, or as the domain or range of referred to CRM properties, are marked in bold.

- E1 CRM Entity**
- E2 Temporal Entity**
- E4 Period**
- E5 Event**
- E7 Activity**
- E11 Modification**
- E12 Production**
- E18 Physical Thing**
- E24 Physical Man-Made Thing**
- E28 Conceptual Object**
- E29 Design or Procedure**
- E30 Right
- E31 Document**
- E32 Authority Document**
- E33 Linguistic Object**
- E35 Title**
- E39 Actor**
- E40 Legal Body
- E41 Appellation**
- E42 Identifier
- E49 Time Appellation
- E50 Date
- E51 Contact Point**
- E52 Time-Span
- E53 Place**
- E54 Dimension**

E55 Type
E56 Language
E59 Primitive Value
E61 Time Primitive
E62 String
E63 Beginning of Existence
E64 End of Existence
E65 Creation
E70 Thing
E71 Man-Made Thing
E72 Legal Object
E73 Information Object
E74 Group
E75 Conceptual Object Appellation
E77 Persistent Item
E82 Actor Appellation
E89 Propositional Object
E90 Symbolic Object

9.2 List of Referred to CIDOC CRM Properties

In this section we present the properties of the CIDOC CRM 6.2 referred to by PRESS₀₀ as a list. The properties that appear indirectly in the PRESS₀₀ model, i.e., as superproperties of properties defined in the model, are marked in bold.

Property id	Property name	Domain	Range
P1	is identified by (identifies)	E1 CRM Entity	E41 Appellation
P2	has type (is type of)	E1 CRM Entity	E55 Type
P3	has note	E1 CRM Entity	E62 String
P4	has time-span (is time-span of)	E2 Temporal Entity	E52 Time-Span
P9	consists of (forms part of)	E4 Period	E4 Period
P11	had participant (participated in)	E5 Event	E39 Actor
P12	occurred in the presence of (was present at)	E5 Event	E77 Persistent Item
P14	carried out by (performed)	E7 Activity	E39 Actor
P15	was influenced by (influenced)	E7 Activity	E1 CRM Entity
P16	used specific objet (was used for)	E7 Activity	E70 Thing
P17	was motivated by (motivated)	E7 Activity	E71 Man-Made Thing
P31	has modified (was modified by)	E11 Modification	E24 Physical Man-Made Thing
P48	has preferred identifier (is preferred identifier of)	E1 CRM Entity	E42 Identifier
P67	refers to (is referred to by)	E89 Propositional Object	E1 CRM Entity
P69	has association with (is associated with)	E29 Design or Procedure	E29 Design or Procedure
P71	lists (is listed in)	E32 Authority Document	E1 CRM Entity
P74	has current or former residence (is current or former residence of)	E39 Actor	E53 Place
P75	possess (is possessed by)	E39 Actor	E30 Right
P78	is identified by (identifies)	E52 Time-Span	E49 Time Appellation
P82	at some time within	E52 Time-Span	E61 Time Primitive
P89	falls within (contains)	E53 Place	E53 Place
P92	brought into existence (was brought into existence by)	E63 Beginning of Existence	E77 Persistent Item
P93	took out of existence (was taken out of existence by)	E64 End of Existence	E77 Persistent Item
P94	has created (was created by)	E65 Creation	E28 Conceptual Object
P104	is subject to (applies to)	E72 Legal Object	E30 Right
P108	has produced (was produced by)	E12 Production	E24 Physical Man-Made Thing
P115	finishes (is finished by)	E2 Temporal Entity	E2 Temporal Entity
P116	starts (is started by)	E2 Temporal Entity	E2 Temporal Entity
P131	is identified by (identifies)	E39 Actor	E82 Actor Appellation
P134	continued (was continued by)	E7 Activity	E7 Activity
P148	has component (is component of)	E89 Propositional Object	E89 Propositional Object
P149	is identified by (identifies)	E28 Conceptual Object	E75 Conceptual Object Appellation

9.3 Referred to CIDOC CRM Classes

This section contains the complete definitions of the classes of the CIDOC CRM Conceptual Reference Model version 6.2 referred to by PRESS_{OO}. The properties within these class definitions which are referred to in PRESS_{OO} are presented in bold face.

For the sake of clarity, the PRESS_{OO} and FRBR_{OO} classes of which these CIDOC CRM classes are superclasses are repeated here, in italics, although this information is absent from the original definition of the CIDOC CRM model. Also, the PRESS_{OO} properties for which these CIDOC CRM classes are declared as domain are repeated here, in italics as well, although this information is naturally absent from the original definition of the CIDOC CRM model.

Each main issue should be discussed in individual chapter (numbered).

For each issue, an action should be proposed (i.e. recommendations, suggestions, etc.)

Depending of the length of the document and issues discussed, a list of recommendations should be added at the end of the document.

E1 CRM Entity

Superclass of: [E2](#) Temporal Entity
[E52](#) Time-Span
[E53](#) Place
[E54](#) Dimension
[E77](#) Persistent Item
E92 Spacetime Volume

Scope note: This class comprises all things in the universe of discourse of the CIDOC Conceptual Reference Model.

It is an abstract concept providing for three general properties:

1. Identification by name or appellation, and in particular by a preferred identifier
2. Classification by type, allowing further refinement of the specific subclass an instance belongs to
3. Attachment of free text for the expression of anything not captured by formal properties

With the exception of E59 Primitive Value, all other classes within the CRM are directly or indirectly specialisations of E1 CRM Entity.

Examples: the earthquake in Lisbon 1755 (E5)

In First Order Logic:

E1(x)

Properties: **P1 is identified by (identifies): [E41](#) Appellation**
P2 has type (is type of): [E55](#) Type
P3 has note: [E62](#) String
(P3.1 has type: [E55](#) Type)
P48 has preferred identifier (is preferred identifier of): [E42](#) Identifier
P137 exemplifies (is exemplified by): E55 Type
(P137.1 in the taxonomic role: E55 Type)

E2 Temporal Entity

Subclass of: [E1](#) CRM Entity

Superclass of: [E3 Condition State](#)
[E4 Period](#)

Scope note: This class comprises all phenomena, such as the instances of [E4 Periods](#), [E5 Events](#) and states, which happen over a limited extent in time. This extent in time must be contiguous, i.e., without gaps. In case the defining kinds of phenomena for an instance of [E2 Temporal Entity](#) cease to happen, and occur later again at another time, we regard that the former [E2 Temporal Entity](#) has ended and a new instance has come into existence. In more intuitive terms, the same event cannot happen twice.

In some contexts, these are also called perdurants. This class is disjoint from [E77 Persistent Item](#). This is an abstract class and has no direct instances. [E2 Temporal Entity](#) is specialized into [E4 Period](#), which applies to a particular geographic area (defined with a greater or lesser degree of precision), and [E3 Condition State](#), which applies to instances of [E18 Physical Thing](#).

Examples: [Bronze Age \(E4\)](#)
the earthquake in Lisbon 1755 ([E5](#))
the Peterhof Palace near Saint Petersburg being in ruins from 1944 – 1946 ([E3](#))

In First Order Logic:
 $E2(x) \supset E1(x)$

Properties: **[P4](#) has time-span (is time-span of): [E52 Time-Span](#)**

[P114](#) is equal in time to: [E2 Temporal Entity](#)
[P115](#) finishes (is finished by): [E2 Temporal Entity](#)
[P116](#) starts (is started by): [E2 Temporal Entity](#)
[P117](#) occurs during (includes): [E2 Temporal Entity](#)
[P118](#) overlaps in time with (is overlapped in time by): [E2 Temporal Entity](#)
[P119](#) meets in time with (is met in time by): [E2 Temporal Entity](#)
[P120](#) occurs before (occurs after): [E2 Temporal Entity](#)

E4 Period

Subclass of: [E2 Temporal Entity](#)
[E92 Spacetime Volume](#)

Superclass of: [E5 Event](#)

Scope note: This class comprises sets of coherent phenomena or cultural manifestations bounded in time and space.

It is the social or physical coherence of these phenomena that identify an [E4 Period](#) and not the associated spatiotemporal extent. This extent is only the “ground” or space in an abstract physical sense that the actual process of growth, spread and retreat has covered. Consequently, different periods can overlap and coexist in time and space, such as when a nomadic culture exists in the same area and time as a sedentary culture. This also means that overlapping land use rights, common among first nations, amounts to overlapping periods.

Often, this class is used to describe prehistoric or historic periods such as the “Neolithic Period”, the “Ming Dynasty” or the “McCarthy Era”, but also geopolitical units and activities of settlements are regarded as special cases of [E4 Period](#). However, there are no assumptions about the scale of the associated phenomena. In particular all events are seen as synthetic processes consisting of coherent phenomena. Therefore [E4 Period](#) is a superclass of [E5 Event](#). For example, a modern clinical [E67 Birth](#) can be seen as both an atomic [E5 Event](#) and as an [E4 Period](#) that consists of multiple activities performed by multiple instances of [E39 Actor](#).

As the actual extent of an [E4 Period](#) in spacetime we regard the trajectories of the participating physical things during their participation in an instance of [E4 Period](#). This includes the open

spaces via which these things have interacted and the spaces by which they had the potential to interact during that period or event in the way defined by the type of the respective period or event. Examples include the air in a meeting room transferring the voices of the participants. Since these phenomena are fuzzy, we assume the spatiotemporal extent to be contiguous, except for cases of phenomena spreading out over islands or other separated areas, including geopolitical units distributed over disconnected areas such as islands or colonies.

Whether the trajectories necessary for participants to travel between these areas are regarded as part of the spatiotemporal extent or not has to be decided in each case based on a concrete analysis, taking use of the sea for other purposes than travel, such as fishing, into consideration. One may also argue that the activities to govern disconnected areas imply travelling through spaces connecting them and that these areas hence are spatially connected in a way, but it appears counterintuitive to consider for instance travel routes in international waters as extensions of geopolitical units.

Consequently, an instance of E4 Period may occupy a number of disjoint spacetime volumes, however there must not be a discontinuity in the timespan covered by these spacetime volumes. This means that an instance of E4 Period must be contiguous in time. If it has ended in all areas, it has ended as a whole. However it may end in one area before another, such as in the Polynesian migration, and it continues as long as it is ongoing in at least one area.

We model E4 Period as a subclass of E2 Temporal Entity and of E92 Spacetime volume. The latter is intended as a phenomenal spacetime volume as defined in CRMgeo (Doerr and Hiebel 2013). By virtue of this multiple inheritance we can discuss the physical extent of an E4 Period without representing each instance of it together with an instance of its associated spacetime volume. This model combines two quite different kinds of substance: an instance of E4 Period is a phenomena while a spacetime volume is an aggregation of points in spacetime. However, the real spatiotemporal extent of an instance of E4 Period is regarded to be unique to it due to all its details and fuzziness; its identity and existence depends uniquely on the identity of the instance of E4 Period. Therefore this multiple inheritance is unambiguous and effective and furthermore corresponds to the intuitions of natural language.

There are two different conceptualisations of ‘artistic style’, defined either by physical features or by historical context. For example, “Impressionism” can be viewed as a period lasting from approximately 1870 to 1905 during which paintings with particular characteristics were produced by a group of artists that included (among others) Monet, Renoir, Pissarro, Sisley and Degas. Alternatively, it can be regarded as a style applicable to all paintings sharing the characteristics of the works produced by the Impressionist painters, regardless of historical context. The first interpretation is an instance of E4 Period, and the second defines morphological object types that fall under E55 Type.

Another specific case of an E4 Period is the set of activities and phenomena associated with a settlement, such as the populated period of Nineveh.

Examples: Jurassic
European Bronze Age
Italian Renaissance
Thirty Years War
Sturm und Drang
Cubism

In First Order Logic:
 $E4(x) \supset E2(x)$
 $E4(x) \supset E92(x)$

Properties: P7 took place at (witnessed): E53 Place
P8 took place on or within (witnessed): E18 Physical Thing
P9 consists of (forms part of): E4 Period

E5 Event

Subclass of: [E4 Period](#)

Superclass of: [E7 Activity](#)
[E63 Beginning of Existence](#)
[E64 End of Existence](#)

Scope note: This class comprises changes of states in cultural, social or physical systems, regardless of scale, brought about by a series or group of coherent physical, cultural, technological or legal phenomena. Such changes of state will affect instances of [E77 Persistent Item](#) or its subclasses.

The distinction between an [E5 Event](#) and an [E4 Period](#) is partly a question of the scale of observation. Viewed at a coarse level of detail, an [E5 Event](#) is an ‘instantaneous’ change of state. At a fine level, the [E5 Event](#) can be analysed into its component phenomena within a space and time frame, and as such can be seen as an [E4 Period](#). The reverse is not necessarily the case: not all instances of [E4 Period](#) give rise to a noteworthy change of state.

Examples: the birth of Cleopatra ([E67](#))
the destruction of Herculaneum by volcanic eruption in 79 AD ([E6](#))
World War II ([E7](#))
the Battle of Stalingrad ([E7](#))
the Yalta Conference ([E7](#))
my birthday celebration 28-6-1995 ([E7](#))
the falling of a tile from my roof last Sunday
the CIDOC Conference 2003 ([E7](#))

In First Order Logic:

$E5(x) \supset E4(x)$

Properties: [P11 had participant \(participated in\): E39 Actor](#)
[P12 occurred in the presence of \(was present at\): E77 Persistent Item](#)

E7 Activity

Subclass of: [E5 Event](#)

Superclass of: [E8 Acquisition](#)
[E9 Move](#)
[E10 Transfer of Custody](#)
[E11 Modification](#)
[E13 Attribute Assignment](#)
[E65 Creation](#)
[E66 Formation](#)
[E85 Joining](#)
[E86 Leaving](#)
[E87 Curation Activity](#)
[Z2 Absorption](#)
[Z5 Issuing Rule Change](#)
[Z8 Metadata Management](#)

Scope note: This class comprises actions intentionally carried out by instances of [E39 Actor](#) that result in changes of state in the cultural, social, or physical systems documented.

This notion includes complex, composite and long-lasting actions such as the building of a settlement or a war, as well as simple, short-lived actions such as the opening of a door.

Examples: the Battle of Stalingrad
the Yalta Conference
my birthday celebration 28-6-1995
the writing of “Faust” by Goethe ([E65](#))
the formation of the Bauhaus 1919 ([E66](#))
calling the place identified by TGN ‘7017998’ ‘Qyunjig’ by the people of Iraq

Kira Weber working in glass art from 1984 to 1993

Kira Weber working in oil and pastel painting from 1993

In First Order Logic:

$E7(x) \supset E5(x)$

Properties: **P14** carried out by (performed): **E39** Actor
(P14.1 in the role of: **E55** Type)
P15 was influenced by (influenced): **E1** CRM Entity
P16 used specific object (was used for): **E70** Thing
(P16.1 mode of use: **E55** Type)
P17 was motivated by (motivated): **E1** CRM Entity
P19 was intended use of (was made for): E71 Man-Made Thing
(P19.1 mode of use: E55 Type)
P20 had specific purpose (was purpose of): E5 Event
P21 had general purpose (was purpose of): E55 Type
P32 used general technique (was technique of): E55 Type
P33 used specific technique (was used by): E29 Design or Procedure
P125 used object of type (was type of object used in): E55 Type
P134 continued (was continued by): **E7** Activity

E11 Modification

Subclass of: **E7** Activity

Superclass of: **E12** Production

E79 Part Addition

E80 Part Removal

Scope note: This class comprises all instances of E7 Activity that create, alter or change E24 Physical Man-Made Thing.

This class includes the production of an item from raw materials, and other so far undocumented objects, and the preventive treatment or restoration of an object for conservation.

Since the distinction between modification and production is not always clear, modification is regarded as the more generally applicable concept. This implies that some items may be consumed or destroyed in a Modification, and that others may be produced as a result of it. An event should also be documented using E81 Transformation if it results in the destruction of one or more objects and the simultaneous production of others using parts or material from the originals. In this case, the new items have separate identities.

If the instance of the E29 Design or Procedure utilized for the modification prescribes the use of specific materials, they should be documented using property *P68 foresees use of (use foreseen by)*: E57 Material of E29 Design or Procedure, rather than via *P126 employed (was employed in)*: E57 Material.

Examples: the construction of the SS Great Britain (E12)

the impregnation of the Vasa warship in Stockholm for preservation after 1956

the transformation of the Enola Gay into a museum exhibit by the National Air and Space Museum in Washington DC between 1993 and 1995 (E12, E81)

the last renewal of the gold coating of the Toshogu shrine in Nikko, Japan

Properties: **P31** has modified (was modified by): **E24** Physical Man-Made Thing
P126 employed (was employed in): E57 Material

E12 Production

Subclass of: [E11](#) Modification
[E63](#) Beginning of Existence

Superclass of: [E28](#) *Expression Creation*

[E32](#) *Carrier Production Event*

Scope note: This class comprises activities that are designed to, and succeed in, creating one or more new items.

It specializes the notion of modification into production. The decision as to whether or not an object is regarded as new is context sensitive. Normally, items are considered “new” if there is no obvious overall similarity between them and the consumed items and material used in their production. In other cases, an item is considered “new” because it becomes relevant to documentation by a modification. For example, the scribbling of a name on a potsherd may make it a voting token. The original potsherd may not be worth documenting, in contrast to the inscribed one.

This entity can be collective: the printing of a thousand books, for example, would normally be considered a single event.

An event should also be documented using E81 Transformation if it results in the destruction of one or more objects and the simultaneous production of others using parts or material from the originals. In this case, the new items have separate identities and matter is preserved, but identity is not.

Examples: the construction of the SS Great Britain

the first casting of the Little Mermaid from the harbour of Copenhagen

Rembrandt’s creating of the seventh state of his etching “Woman sitting half dressed beside a stove”, 1658, identified by Bartsch Number 197 (E12,E65,E81)

In First Order Logic:

$E12(x) \supset E11(x)$

$E12(x) \supset E63(x)$

Properties: **[P108](#) has produced (was produced by): [E24](#) Physical Man-Made Thing**

E18 Physical Thing

Subclass of: [E72](#) Legal Object
E92 Spacetime Volume

Superclass of: E19 Physical Object
[E24](#) Physical Man-Made Thing
E26 Physical Feature

Scope Note: This class comprises all persistent physical items with a relatively stable form, man-made or natural.

Depending on the existence of natural boundaries of such things, the CRM distinguishes the instances of E19 Physical Object from instances of E26 Physical Feature, such as holes, rivers, pieces of land etc. Most instances of E19 Physical Object can be moved (if not too heavy), whereas features are integral to the surrounding matter.

An instance of E18 Physical Thing occupies not only a particular geometric space, but in the course of its existence it also forms a trajectory through spacetime, which occupies a real, that is phenomenal, volume in spacetime. We include in the occupied space the space filled by the

matter of the physical thing and all its inner spaces, such as the interior of a box. Physical things consisting of aggregations of physically unconnected objects, such as a set of chessmen, occupy a number of individually contiguous spacetime volumes equal to the number of unconnected objects that constitute the set.

We model E18 Physical Thing to be a subclass of E72 Legal Object and of E92 Spacetime volume. The latter is intended as a phenomenal spacetime volume as defined in CRMgeo (Doerr and Hiebel 2013). By virtue of this multiple inheritance we can discuss the physical extent of an E18 Physical Thing without representing each instance of it together with an instance of its associated spacetime volume. This model combines two quite different kinds of substance: an instance of E18 Physical Thing is matter while a spacetime volume is an aggregation of points in spacetime. However, the real spatiotemporal extent of an instance of E18 Physical Thing is regarded to be unique to it, due to all its details and fuzziness; its identity and existence depends uniquely on the identity of the instance of E18 Physical Thing. Therefore this multiple inheritance is unambiguous and effective and furthermore corresponds to the intuitions of natural language.

The CIDOC CRM is generally not concerned with amounts of matter in fluid or gaseous states.

In First Order Logic:

$E18(x) \supset E72(x)$

$E18(x) \supset E92(x)$

Examples:

Cullinan Diamond (E19)

the

the cave “Ideon Andron” in Crete (E26)

the Mona Lisa (E22)

Properties:

P44 has condition (is condition of): E3 Condition State

P45 consists of (is incorporated in): E57 Material

P46 is composed of (forms part of): E18 Physical Thing

P49 has former or current keeper (is former or current keeper of): E39 Actor

P50 has current keeper (is current keeper of): E39 Actor

P51 has former or current owner (is former or current owner of): E39 Actor

P52 has current owner (is current owner of): E39 Actor

P53 has former or current location (is former or current location of): E53 Place

P58 has section definition (defines section): E46 Section Definition

P59 has section (is located on or within): E53 Place

P128 carries (is carried by): E90 Symbolic Object

P156 occupies (is occupied by): E53 Place

E24 Physical Man-Made Thing

Subclass of: [E18 Physical Thing](#)

[E71 Man-Made Thing](#)

Superclass of: E22 Man-Made Object

E25 Man-Made Feature

E78 Collection

[E4 Manifestation Singleton](#)

Scope Note: This class comprises all persistent physical items that are purposely created by human activity.

This class comprises man-made objects, such as a swords, and man-made features, such as rock art. No assumptions are made as to the extent of modification required to justify regarding an object as man-made. For example, a “cup and ring” carving on bedrock is regarded as instance of E24 Physical Man-Made Thing.

Examples: the Forth Railway Bridge (E22)

the Channel Tunnel (E25)

the Historical Collection of the Museum Benaki in Athens (E78)

In First Order Logic:

$E24(x) \supset E18(x)$

$E24(x) \supset E71(x)$

Properties: P62 depicts (is depicted by): E1 CRM Entity
(P62.1 mode of depiction: E55 Type)
P65 shows visual item (is shown by): E36 Visual Item

E28 Conceptual Object

Subclass of: [E71](#) Man-Made Thing

Superclass of: [E55](#) Type
[E89](#) Propositional Object
[E90](#) Symbolic Object

Scope note: This class comprises non-material products of our minds and other human produced data that have become objects of a discourse about their identity, circumstances of creation or historical implication. The production of such information may have been supported by the use of technical devices such as cameras or computers.

Characteristically, instances of this class are created, invented or thought by someone, and then may be documented or communicated between persons. Instances of E28 Conceptual Object have the ability to exist on more than one particular carrier at the same time, such as paper, electronic signals, marks, audio media, paintings, photos, human memories, etc.

They cannot be destroyed. They exist as long as they can be found on at least one carrier or in at least one human memory. Their existence ends when the last carrier and the last memory are lost.

Examples: Beethoven's "Ode an die Freude" (Ode to Joy) (E73)
the definition of "ontology" in the Oxford English Dictionary
the knowledge about the victory at Marathon carried by the famous runner
'Maxwell equations' [preferred subject access point from LCSH, <http://lccn.loc.gov/sh85082387>, as of 19 November 2012]
'Equations, Maxwell' [variant subject access point, from the same source]

Properties: [P149](#) is identified by (identifies): [E75](#) Conceptual Object Appellation

E29 Design or Procedure

Subclass of: [E73](#) Information Object

Superclass of: [E34](#) KOS

[E35](#) Nomen Use Statement

[Z12](#) Issuing Rule

Scope note: This class comprises documented plans for the execution of actions in order to achieve a result of a specific quality, form or contents. In particular it comprises plans for deliberate human activities that may result in the modification or production of instances of E24 Physical Thing.

Instances of E29 Design or Procedure can be structured in parts and sequences or depend on others. This is modelled using *P69* has association with (is associated with).

Designs or procedures can be seen as one of the following:

1. A schema for the activities it describes
2. A schema of the products that result from their application.

3. An independent intellectual product that may have never been applied, such as Leonardo da Vinci's famous plans for flying machines.

Because designs or procedures may never be applied or only partially executed, the CRM models a loose relationship between the plan and the respective product.

Examples: the ISO standardisation procedure
the musical notation for Beethoven's "Ode to Joy"
the architectural drawings for the Kölner Dom in Cologne, Germany
The drawing on the folio 860 of the Codex Atlanticus from Leonardo da Vinci, 1486-1490, kept in the Biblioteca Ambrosiana in Milan

In First Order Logic:

$E29(x) \supset E73(x)$

Properties: P68 foresees use of (use foreseen by): E57 Material
P69 has association with (is associated with): E29 Design or Procedure
(P69.1 has type: E55 Type)

E30 Right

Subclass of: [E89](#) Propositional Object

Scope Note: This class comprises legal privileges concerning material and immaterial things or their derivatives.
These include reproduction and property rights.

Examples: copyright held by ISO on ISO/CD 21127
ownership of the "Mona Lisa" by the Louvre

In First Order Logic:

$E30(x) \supset E89(x)$

E31 Document

Subclass of: [E73](#) Information Object

Superclass of: [E32](#) Authority Document

Scope note: This class comprises identifiable immaterial items that make propositions about reality.
These propositions may be expressed in text, graphics, images, audiograms, videograms or by other similar means. Documentation databases are regarded as a special case of E31 Document.
This class should not be confused with the term "document" in Information Technology, which is compatible with E73 Information Object.

Examples: the Encyclopaedia Britannica (E32)
the photo of the Allied Leaders at Yalta published by UPI, 1945 (E38)
the Doomsday Book

In First Order Logic:

$E31(x) \supset E73(x)$

Properties: P70 documents (is documented in): E1 CRM Entity

E32 Authority Document

Subclass of: [E31](#) Document

Superclass of: [E34](#) KOS

Scope note: This class comprises encyclopaedia, thesauri, authority lists and other documents that define terminology or conceptual systems for consistent use.

Examples: Webster's Dictionary
Getty Art and Architecture Thesaurus
the CIDOC Conceptual Reference Model

In First Order Logic:

$E32(x) \supset E31(x)$

Properties: [P71](#) lists (is listed in): [E1](#) CRM Entity

E33 Linguistic Object

Subclass of: [E73](#) Information Object

Superclass of: E34 Inscription

[E35](#) Title

Scope note: This class comprises identifiable expressions in natural language or languages.

Instances of E33 Linguistic Object can be expressed in many ways: e.g. as written texts, recorded speech or sign language. However, the CRM treats instances of E33 Linguistic Object independently from the medium or method by which they are expressed. Expressions in formal languages, such as computer code or mathematical formulae, are not treated as instances of E33 Linguistic Object by the CRM. These should be modelled as instances of E73 Information Object.

The text of an instance of E33 Linguistic Object can be documented in a note by P3 has note: E62 String

Examples: the text of the Ellesmere Chaucer manuscript
the lyrics of the song "Blue Suede Shoes"
the text of the Jabberwocky by Lewis Carroll
the text of "Doktoro Jekyll kaj Sinjoro Hyde" (an Esperanto translation of Dr Jekyll and Mr Hyde)

In First Order Logic:

$E33(x) \supset E73(x)$

Properties: P72 has language (is language of): E56 Language
P73 has translation (is translation of): E33 Linguistic Object

E35 Title

Subclass of: [E33](#) Linguistic Object

[E41](#) Appellation

Scope note: This class comprises the names assigned to works, such as texts, artworks or pieces of music.

Titles are proper noun phrases or verbal phrases, and should not be confused with generic object names such as "chair", "painting" or "book" (the latter are common nouns that stand for instances of E55 Type). Titles may be assigned by the creator of the work itself, or by a social group.

This class also comprises the translations of titles that are used as surrogates for the original titles in different social contexts.

Examples: "The Merchant of Venice"
"Mona Lisa"
"La Pie or The Magpie"
"Lucy in the Sky with Diamonds"

In First Order Logic:

$E35(x) \supset E33(x)$

$E35(x) \supset E41(x)$

E39 Actor

Subclass of: [E77](#) Persistent Item

Superclass of: E21 Person

[E74](#) Group

Scope note: This class comprises people, either individually or in groups, who have the potential to perform intentional actions for which they can be held responsible.

The CRM does not attempt to model the inadvertent actions of such actors. Individual people should be documented as instances of E21 Person, whereas groups should be documented as instances of either E74 Group or its subclass E40 Legal Body.

Examples: London and Continental Railways (E40)
the Governor of the Bank of England in 1975 (E21)
Sir Ian McKellan (E21)

In First Order Logic:

$E39(x) \supset E77(x)$

Properties: [P74](#) has current or former residence (is current or former residence of): [E53](#) Place

[P75](#) possesses (is possessed by): [E30](#) Right

P76 has contact point (provides access to): E51 Contact Point

[P131](#) is identified by (identifies): [E82](#) Actor Appellation

E40 Legal Body

Subclass of: [E74](#) Group

[E11](#) Corporate Body

Scope Note: This class comprises institutions or groups of people that have obtained a legal recognition as a group and can act collectively as agents.

This means that they can perform actions, own property, create or destroy things and can be held collectively responsible for their actions like individual people. The term 'personne morale' is often used for this in French.

Examples: Greenpeace
Paveprime Ltd
the National Museum of Denmark

In First Order Logic:

$E40(x) \supset E74(x)$

E41 Appellation

Subclass of: [E90](#) Symbolic Object

Superclass of: [E35](#) Title

[E42](#) Identifier

E44 Place Appellation

[E49](#) Time Appellation

[E51](#) Contact Point

[E75](#) Conceptual Object Appellation
[E82](#) Actor Appellation
[E12](#) *Nomen*

Scope note: This class comprises signs, either meaningful or not, or arrangements of signs following a specific syntax, that are used or can be used to refer to and identify a specific instance of some class or category within a certain context.

Instances of E41 Appellation do not identify things by their meaning, even if they happen to have one, but instead by convention, tradition, or agreement. Instances of E41 Appellation are cultural constructs; as such, they have a context, a history, and a use in time and space by some group of users. A given instance of E41 Appellation can have alternative forms, i.e., other instances of E41 Appellation that are always regarded as equivalent independent from the thing it denotes.

Specific subclasses of E41 Appellation should be used when instances of E41 Appellation of a characteristic form are used for particular objects. Instances of E49 Time Appellation, for example, which take the form of instances of E50 Date, can be easily recognised.

E41 Appellation should not be confused with the act of naming something. Cf. E15 Identifier Assignment

Examples: "Martin"
"the Forth Bridge"
"the Merchant of Venice" (E35)
"*Spigelia marilandica* (L.) L." [not the species, just the *name*]
"information science" [not the science itself, but the name through which we refer to it in an English-speaking context]
“安” [Chinese “an”, meaning “peace”]

In First Order Logic:

$E41(x) \supset E90(x)$

Properties: P139 has alternative form: E41 Appellation
(P139.1 has type: E55 Type)

E42 Identifier

Subclass of: [E41](#) Appellation

Equal to: [E13](#) Identifier

Scope note: This class comprises strings or codes assigned to instances of E1 CRM Entity in order to identify them uniquely and permanently within the context of one or more organisations. Such codes are often known as inventory numbers, registration codes, etc. and are typically composed of alphanumeric sequences. The class E42 Identifier is not normally used for machine-generated identifiers used for automated processing unless these are also used by human agents.

Examples: “MM.GE.195”
“13.45.1976”
“OXCMS: 1997.4.1”
ISSN “0041-5278”
ISRC “FIFIN8900116”
Shelf mark “Res 8 P 10”
“Guillaume de Machaut (1300?-1377)” [a controlled personal name heading that follows the French rules]

In First Order Logic:

$E42(x) \supset E41(x)$

E49 Time Appellation

Subclass of: [E41](#) Appellation

Superclass of: [E50](#) Date

Scope Note: This class comprises all forms of names or codes, such as historical periods, and dates, which are characteristically used to refer to a specific E52 Time-Span.

The instances of E49 Time Appellation may vary in their degree of precision, and they may be relative to other time frames, “Before Christ” for example. Instances of E52 Time-Span are often defined by reference to a cultural period or an event e.g. ‘the duration of the Ming Dynasty’.

Examples: “Meiji” [Japanese term for a specific time-span]

“1st half of the XX century”

“Quaternary”

“1215 Hegira” [a date in the Islamic calendar]

“Last century”

In First Order Logic:

$E49(x) \supset E41(x)$

E50 Date

Subclass of: [E49](#) Time Appellation

Scope Note: This class comprises specific forms of E49 Time Appellation.

Dates may vary in their degree of precision.

Examples: “1900”

“4-4-1959”

“19-MAR-1922”

“19640604”

In First Order Logic:

$E50(x) \supset E49(x)$

E51 Contact Point

Subclass of: [E41](#) Appellation

Superclass of: E45 Address

[Z11](#) URL

Scope Note: This class comprises identifiers employed, or understood, by communication services to direct communications to an instance of E39 Actor. These include E-mail addresses, telephone numbers, post office boxes, Fax numbers, URLs etc. Most postal addresses can be considered both as instances of E44 Place Appellation and E51 Contact Point. In such cases the subclass E45 Address should be used.

URLs are addresses used by machines to access another machine through an http request. Since the accessed machine acts on behalf of the E39 Actor providing the machine, URLs are considered as instances of E51 Contact Point to that E39 Actor.

Examples: “+41 22 418 5571”

“weasel@paveprime.com”

In First Order Logic:

$E51(x) \supset E41(x)$

E52 Time-Span

Subclass of: [E1 CRM Entity](#)

Scope note: This class comprises abstract temporal extents, in the sense of Galilean physics, having a beginning, an end and a duration.

Time Span has no other semantic connotations. Time-Spans are used to define the temporal extent of instances of E4 Period, E5 Event and any other phenomena valid for a certain time. An E52 Time-Span may be identified by one or more instances of E49 Time Appellation.

Since our knowledge of history is imperfect, instances of E52 Time-Span can best be considered as approximations of the actual Time-Spans of temporal entities. The properties of E52 Time-Span are intended to allow these approximations to be expressed precisely. An extreme case of approximation, might, for example, define an E52 Time-Span having unknown beginning, end and duration. Used as a common E52 Time-Span for two events, it would nevertheless define them as being simultaneous, even if nothing else was known.

Automatic processing and querying of instances of E52 Time-Span is facilitated if data can be parsed into an E61 Time Primitive.

Examples: 1961
From 12-17-1993 to 12-8-1996
14h30 – 16h22 4th July 1945
9.30 am 1.1.1999 to 2.00 pm 1.1.1999
duration of the Ming Dynasty

In First Order Logic:

$E52(x) \supset E1(x)$

Properties: **[P78 is identified by \(identifies\): E49 Time Appellation](#)**

P79 beginning is qualified by: E62 String

P80 end is qualified by: E62 String

P81 ongoing throughout: E61 Time Primitive

[P82 at some time within: E61 Time Primitive](#)

P83 had at least duration (was minimum duration of): E54 Dimension

P84 had at most duration (was maximum duration of): E54 Dimension

P86 falls within (contains): E52 Time-Span

E53 Place

Subclass of: [E1 CRM Entity](#)

Scope note: This class comprises extents in space, in particular on the surface of the earth, in the pure sense of physics: independent from temporal phenomena and matter.

The instances of E53 Place are usually determined by reference to the position of “immobile” objects such as buildings, cities, mountains, rivers, or dedicated geodetic marks. A Place can be determined by combining a frame of reference and a location with respect to this frame. It may be identified by one or more instances of E44 Place Appellation.

It is sometimes argued that instances of E53 Place are best identified by global coordinates or absolute reference systems. However, relative references are often more relevant in the context of cultural documentation and tend to be more precise. In particular, we are often interested in position in relation to large, mobile objects, such as ships. For example, the Place at which Nelson died is known with reference to a large mobile object – H.M.S Victory. A resolution of this Place in terms of absolute coordinates would require knowledge of the movements of the vessel and the

precise time of death, either of which may be revised, and the result would lack historical and cultural relevance.

Any object can serve as a frame of reference for E53 Place determination. The model foresees the notion of a "section" of an E19 Physical Object as a valid E53 Place determination.

Examples: the extent of the UK in the year 2003
the position of the hallmark on the inside of my wedding ring
the place referred to in the phrase: "Fish collected at three miles north of the confluence of the Arve and the Rhone"
here -> <-

In First Order Logic:

$E53(x) \supset E1(x)$

Properties: P87 is identified by (identifies): E44 Place Appellation
P89 falls within (contains): E53 Place
P121 overlaps with: E53 Place
P122 borders with: E53 Place

E54 Dimension

Subclass of: [E1 CRM Entity](#)

Scope note: This class comprises quantifiable properties that can be measured by some calibrated means and can be approximated by values, i.e. points or regions in a mathematical or conceptual space, such as natural or real numbers, RGB values etc.

An instance of E54 Dimension represents the true quantity, independent from its numerical approximation, e.g. in inches or in cm. The properties of the class E54 Dimension allow for expressing the numerical approximation of the values of an instance of E54 Dimension. If the true values belong to a non-discrete space, such as spatial distances, it is recommended to record them as approximations by intervals or regions of indeterminacy enclosing the assumed true values. For instance, a length of 5 cm may be recorded as 4.5-5.5 cm, according to the precision of the respective observation. Note, that interoperability of values described in different units depends critically on the representation as value regions.

Numerical approximations in archaic instances of E58 Measurement Unit used in historical records should be preserved. Equivalents corresponding to current knowledge should be recorded as additional instances of E54 Dimension as appropriate.

Examples: currency: £26.00
length: 3.9-4.1 cm
diameter 26 mm
weight 150 lbs
density: 0.85 gm/cc
luminescence: 56 ISO lumens
tin content: 0.46 %
taille au garot: 5 hands
calibrated C14 date: 2460-2720 years, etc.

In First Order Logic:

$E54(x) \supset E1(x)$

Properties: P90 has value: E60 Number
P91 has unit (is unit of): E58 Measurement Unit

E55 Type

Subclass of: [E28](#) Conceptual Object

Superclass of: [E56](#) Language
E57 Material
E58 Measurement Unit
[Z10](#) Sequencing Pattern

Scope note: This class comprises concepts denoted by terms from thesauri and controlled vocabularies used to characterize and classify instances of CRM classes. Instances of E55 Type represent concepts in contrast to instances of E41 Appellation which are used to name instances of CRM classes.

E55 Type is the CRM's interface to domain specific ontologies and thesauri. These can be represented in the CRM as subclasses of E55 Type, forming hierarchies of terms, i.e. instances of E55 Type linked via P127 has broader term (has narrower term). Such hierarchies may be extended with additional properties.

Examples: weight, length, depth [types of E54]
portrait, sketch, animation [types of E38]
French, English, German [E56]
excellent, good, poor [types of E3]
Ford Model T, chop stick [types of E22]
cave, doline, scratch [types of E26]
poem, short story [types of E33]
wedding, earthquake, skirmish [types of E5]

In First Order Logic:

$E55(x) \supset E28(x)$

Properties: P127 has broader term (has narrower term): E55 Type
P150 defines typical parts of(define typical wholes for): E55 Type

E56 Language

Subclass of: [E55](#) Type

Scope note: This class is a specialization of E55 Type and comprises the natural languages in the sense of concepts.

This type is used categorically in the model without reference to instances of it, i.e. the Model does not foresee the description of instances of instances of E56 Language, e.g.: “instances of Mandarin Chinese”.

It is recommended that internationally or nationally agreed codes and terminology are used to denote instances of E56 Language, such as those defined in ISO 639:1988.

Examples: el [Greek]
en [English]
eo [Esperanto]
es [Spanish]
fr [French]

In First Order Logic:

$E56(x) \supset E55(x)$

E59 Primitive Value

Superclass of: E60 Number
[E61](#) Time Primitive
[E62](#) String

Scope Note: This class comprises primitive values used as documentation elements, which are not further elaborated upon within the model.

They are not considered as elements of the universe of discourse this model aims at defining and analysing. Rather, they play the role of a symbolic interface between the scope of this model and the world of mathematical and computational manipulations and the symbolic objects they define and handle.

In particular they comprise lexical forms encoded as "strings" or series of characters and symbols based on encoding schemes (characterised by being a limited subset of the respective mathematical abstractions) such as UNICODE and values of datatypes that can be encoded in a lexical form, including quantitative specifications of time-spans and geometry. They have in common that instances of E59 Primitive Value define themselves by virtue of their encoded value, regardless the nature of their mathematical abstractions.

Therefore they must not be represented in an implementation by a universal identifier associated with a content model of different identity. In a concrete application, it is recommended that the primitive value system from a chosen implementation platform and/or data definition language be used to substitute for this class and its subclasses.

Examples: ABCDEFG (E62)
 3.14 (E60)
 0
 1921-01-01 (E61)

In First Order Logic:
 $E59(x)$

E61 Time Primitive

Subclass of: [E59 Primitive Value](#)

Scope Note: This class comprises instances of E59 Primitive Value for time that should be implemented with appropriate validation, precision and interval logic to express date ranges relevant to cultural documentation.

E61 Time Primitive is not further elaborated upon within the model.

Examples: 1994 – 1997
 13 May 1768
 2000/01/01 00:00:59.7
 85th century BC

In First Order Logic:
 $E61(x) \supset E59(x)$

E62 String

Subclass of: [E59 Primitive Value](#)

Scope Note: This class comprises the instances of E59 Primitive Values used for documentation such as free text strings, bitmaps, vector graphics, etc.

E62 String is not further elaborated upon within the model.

Examples: the Quick Brown Fox Jumps Over the Lazy Dog
 6F 6E 54 79 70 31 0D 9E

In First Order Logic:

$$E62(x) \supset E59(x)$$

E63 Beginning of Existence

Subclass of: [E5](#) Event
Superclass of: [E12](#) Production
[E65](#) Creation
E66 Formation
E67 Birth
E81 Transformation

Scope Note: This class comprises events that bring into existence any [E77](#) Persistent Item.
It may be used for temporal reasoning about things (intellectual products, physical items, groups of people, living beings) beginning to exist; it serves as a hook for determination of a *terminus post quem* and *ante quem*.

Examples: the birth of my child
the birth of Snoopy, my dog
the calving of the iceberg that sank the Titanic
the construction of the Eiffel Tower

In First Order Logic:

$$E63(x) \supset E5(x)$$

Properties: [P92](#) brought into existence (was brought into existence by): [E77](#) Persistent Item

E64 End of Existence

Subclass of: [E5](#) Event
Superclass of: E6 Destruction
E68 Dissolution
E69 Death
E81 Transformation

Scope note: This class comprises events that end the existence of any [E77](#) Persistent Item.
It may be used for temporal reasoning about things (physical items, groups of people, living beings) ceasing to exist; it serves as a hook for determination of a *terminus post quem* and *ante quem*. In cases where substance from a Persistent Item continues to exist in a new form, the process would be documented by [E81](#) Transformation.

Examples: the death of Snoopy, my dog
the melting of the snowman
the burning of the Temple of Artemis in Ephesos by Herostratos in 356BC

In First Order Logic:

$$E64(x) \supset E5(x)$$

Properties: [P93](#) took out of existence (was taken out of existence by): [E77](#) Persistent Item

E65 Creation

Subclass of: [E7](#) Activity
[E63](#) Beginning of Existence
Superclass of: E83 Type Creation
[E27](#) *Work Conception*
[E28](#) *Expression Creation*

Scope Note: This class comprises events that result in the creation of conceptual items or immaterial products, such as legends, poems, texts, music, images, movies, laws, types etc.

Examples: the framing of the U.S. Constitution
the drafting of U.N. resolution 1441

In First Order Logic:

$E65(x) \supset E7(x)$

$E65(x) \supset E63(x)$

Properties: **P94 has created (was created by): E28 Conceptual Object**

E70 Thing

Subclass of: [E77 Persistent Item](#)

Superclass of: [E71 Man-Made Thing](#)

[E72 Legal Object](#)

Scope Note: This general class comprises discrete, identifiable, instances of E77 Persistent Item that are documented as single units, that either consist of matter or depend on being carried by matter and are characterized by relative stability.

They may be intellectual products or physical things. They may for instance have a solid physical form, an electronic encoding, or they may be a logical concept or structure.

Examples: my photograph collection (E78)
the bottle of milk in my refrigerator (E22)
the plan of the Strassburger Muenster (E29)
the thing on the top of Otto Hahn's desk (E19)
the form of the no-smoking sign (E36)
the cave of Dirou, Mani, Greece (E27)

In First Order Logic:

$E70(x) \supset E77(x)$

Properties: P43 has dimension (is dimension of): E54 Dimension
P101 had as general use (was use of): E55 Type
P130 shows features of (features are also found on): E70 Thing
(P130.1 kind of similarity: E55 Type)

E71 Man-Made Thing

Subclass of: [E70 Thing](#)

Superclass of: [E24 Physical Man-Made Thing](#)

[E28 Conceptual Object](#)

Scope Note: This class comprises discrete, identifiable man-made items that are documented as single units.

These items are either intellectual products or man-made physical things, and are characterized by relative stability. They may for instance have a solid physical form, an electronic encoding, or they may be logical concepts or structures.

Examples: Beethoven's 5th Symphony (E73)
Michelangelo's David
Einstein's Theory of General Relativity (E73)
the taxon '*Fringilla coelebs* Linnaeus,1758' (E55)

In First Order Logic:

$E71(x) \supset E70(x)$

Properties: P102 has title (is title of): E35 Title

(P102.1 has type: E55 Type)
P103 was intended for (was intention of): E55 Type

E72 Legal Object

Subclass of: [E70](#) Thing
Superclass of: [E18](#) Physical Thing
[E90](#) Symbolic Object

Scope Note: This class comprises those material or immaterial items to which instances of E30 Right, such as the right of ownership or use, can be applied.

This is true for all E18 Physical Thing. In the case of instances of E28 Conceptual Object, however, the identity of the E28 Conceptual Object or the method of its use may be too ambiguous to reliably establish instances of E30 Right, as in the case of taxa and inspirations. Ownership of corporations is currently regarded as out of scope of the CRM.

Examples: the Cullinan diamond (E19)
definition of the CIDOC Conceptual Reference Model Version 2.1 (E73)

In First Order Logic:

$E72(x) \supset E70(x)$

Properties: **P104 is subject to (applies to): E30 Right**
P105 right held by (has right on): E39 Actor

E73 Information Object

Subclass of: [E89](#) Propositional Object
[E90](#) Symbolic Object
Superclass of: [E29](#) Design or Procedure
[E31](#) Document
[E33](#) Linguistic Object
E36 Visual Item
[E2](#) *Expression*

Scope Note: This class comprises identifiable immaterial items, such as a poems, jokes, data sets, images, texts, multimedia objects, procedural prescriptions, computer program code, algorithm or mathematical formulae, that have an objectively recognizable structure and are documented as single units. The encoding structure known as a "named graph" also falls under this class, so that each "named graph" is an instance of an E73 Information Object.

An E73 Information Object does not depend on a specific physical carrier, which can include human memory, and it can exist on one or more carriers simultaneously.

Instances of E73 Information Object of a linguistic nature should be declared as instances of the E33 Linguistic Object subclass. Instances of E73 Information Object of a documentary nature should be declared as instances of the E31 Document subclass. Conceptual items such as types and classes are not instances of E73 Information Object, nor are ideas without a reproducible expression.

Examples: image BM000038850.JPG from the Clayton Herbarium in London
E. A. Poe's "The Raven"
the movie "The Seven Samurai" by Akira Kurosawa
the Maxwell Equations
The Getty AAT as published as Linked Open Data, accessed 1/10/2014

In First Order Logic:

$E73(x) \supset E89(x)$

$E73(x) \supset E90(x)$

E74 Group

Subclass of: [E39 Actor](#)

Superclass of: [E40 Legal Body](#)
[E11 Corporate Body](#)

Scope note: This class comprises any gatherings or organizations of E39 Actors that act collectively or in a similar way due to any form of unifying relationship. In the wider sense this class also comprises official positions which used to be regarded in certain contexts as one actor, independent of the current holder of the office, such as the president of a country. In such cases, it may happen that the Group never had more than one member. A joint pseudonym (i.e., a name that seems indicative of an individual but that is actually used as a persona by two or more people) is a particular case of E74 Group.

A gathering of people becomes an E74 Group when it exhibits organizational characteristics usually typified by a set of ideas or beliefs held in common, or actions performed together. These might be communication, creating some common artefact, a common purpose such as study, worship, business, sports, etc. Nationality can be modelled as membership in an E74 Group (cf. HumanML markup). Married couples and other concepts of family are regarded as particular examples of E74 Group.

Examples: the impressionists
the Navajo
the Greeks
the peace protestors in New York City on February 15 2003
Exxon-Mobil
King Solomon and his wives
The President of the Swiss Confederation
Nicolas Bourbaki
Betty Crocker
Ellery Queen

In First Order Logic:

$E74(x) \supset E39(x)$

Properties: P107 has current or former member (is current or former member of): E39 Actor
(P107.1 kind of member: E55 Type)

E75 Conceptual Object Appellation

Subclass of: [E41 Appellation](#)

Scope note: This class comprises all appellations specific to intellectual products or standardized patterns.

Examples: “ISBN 3-7913-1418-1”
“ISO 2788-1986 (F)”

In First Order Logic:

$E75(x) \supset E41(x)$

E77 Persistent Item

Subclass of: [E1 CRM Entity](#)

Superclass of: [E39 Actor](#)
[E70 Thing](#)

Scope Note: This class comprises items that have a persistent identity, sometimes known as “endurants” in philosophy.

They can be repeatedly recognized within the duration of their existence by identity criteria rather than by continuity or observation. Persistent Items can be either physical entities, such as people,

animals or things, or conceptual entities such as ideas, concepts, products of the imagination or common names.

The criteria that determine the identity of an item are often difficult to establish -; the decision depends largely on the judgement of the observer. For example, a building is regarded as no longer existing if it is dismantled and the materials reused in a different configuration. On the other hand, human beings go through radical and profound changes during their life-span, affecting both material composition and form, yet preserve their identity by other criteria. Similarly, inanimate objects may be subject to exchange of parts and matter. The class E77 Persistent Item does not take any position about the nature of the applicable identity criteria and if actual knowledge about identity of an instance of this class exists. There may be cases, where the identity of an E77 Persistent Item is not decidable by a certain state of knowledge.

The main classes of objects that fall outside the scope the E77 Persistent Item class are temporal objects such as periods, events and acts, and descriptive properties.

Examples: Leonard da Vinci
Stonehenge
the hole in the ozone layer
the First Law of Thermodynamics
the Bermuda Triangle

In First Order Logic:

$$E77(x) \supset E1(x)$$

E82 Actor Appellation

Subclass of: [E41](#) Appellation

Scope note: This class comprises any sort of name, number, code or symbol characteristically used to identify an E39 Actor.

An E39 Actor will typically have more than one E82 Actor Appellation, and instances of E82 Actor Appellation in turn may have alternative representations. The distinction between corporate and personal names, which is particularly important in library applications, should be made by explicitly linking the E82 Actor Appellation to an instance of either E21 Person or E74 Group/E40 Legal Body. If this is not possible, the distinction can be made through the use of the *P2 has type* mechanism.

Examples: "John Doe"
"Doe, J"
"the U.S. Social Security Number 246-14-2304"
"the Artist Formerly Known as Prince"
"the Master of the Flemish Madonna"
"Raphael's Workshop"
"the Brontë Sisters"
"ICOM"
"International Council of Museums"

In First Order Logic:

$$E82(x) \supset E41(x)$$

E89 Propositional Object

Subclass of: [E28](#) Conceptual Object

Superclass of: [E73](#) Information Object

[E30](#) Right

[E1](#) *Work*

Scope Note: This class comprises immaterial items, including but not limited to stories, plots, procedural prescriptions, algorithms, laws of physics or images that are, or represent in some sense, sets of

propositions about real or imaginary things and that are documented as single units or serve as topic of discourse.

This class also comprises items that are “about” something in the sense of a subject. In the wider sense, this class includes expressions of psychological value such as non-figural art and musical themes. However, conceptual items such as types and classes are not instances of E89 Propositional Object. This should not be confused with the definition of a type, which is indeed an instance of E89 Propositional Object.

Examples: Maxwell’s Equations

The ideational contents of Aristotle’s book entitled ‘Metaphysics’ as rendered in the Greek texts translated in ... Oxford edition...

The underlying prototype of any “no-smoking” sign (E36)

The common ideas of the plots of the movie "The Seven Samurai" by Akira Kurosawa and the movie “The Magnificent Seven” by John Sturges

The image content of the photo of the Allied Leaders at Yalta 1945 (E38)

In First Order Logic:

$E89(x) \supset E28(x)$

Properties: **P148 has component (is component of): E89 Propositional Object**

P67 refers to (is referred to by): E1 CRM Entity

(P67.1 has type: E55 Type)

P129 is about (is subject of): E1 CRM Entity

E90 Symbolic Object

Subclass of: [E28](#) Conceptual Object

[E72](#) Legal Object

Superclass of: [E73](#) Information Object

[E41](#) Appellation

Scope note: This class comprises identifiable symbols and any aggregation of symbols, such as characters, identifiers, traffic signs, emblems, texts, data sets, images, musical scores, multimedia objects, computer program code or mathematical formulae that have an objectively recognizable structure and that are documented as single units.

It includes sets of signs of any nature, which may serve to designate something, or to communicate some propositional content.

An instance of E90 Symbolic Object does not depend on a specific physical carrier, which can include human memory, and it can exist on one or more carriers simultaneously. An instance of E90 Symbolic Object may or may not have a specific meaning, for example an arbitrary character string.

In some cases, the content of an instance of E90 Symbolic Object may completely be represented by a serialized digital content model, such as a sequence of ASCII-encoded characters, an XML or HTML document, or a TIFF image. The property *P3 has note* allows for the description of this content model. In order to disambiguate which symbolic level is the carrier of the meaning, the property *P3.1 has type* can be used to specify the encoding (e.g. "bit", "Latin character", RGB pixel).

Examples: ‘ecognizabl’

The “no-smoking” sign (E36)

“BM000038850.JPG” (E75)

image BM000038850.JPG from the Clayton Herbarium in London (E38)

The distribution of form, tone and colour found on Leonardo da Vinci’s painting named “Mona Lisa” in daylight (E38)

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) (E33)

In First Order Logic:

$$E90(x) \supset E28(x)$$

$$E90(x) \supset E72(x)$$

Properties: P106 is composed of (forms part of): E90 Symbolic Object

9.4 Referred to CIDOC CRM Properties

This section contains the complete definitions of the properties of the CIDOC CRM Conceptual Reference Model version 6.2 referred to by PRESS₀₀.

For the sake of clarity, the PRESS₀₀ and FRBR₀₀ properties of which these CIDOC CRM properties are superproperties are repeated here, in italics, although this information is absent from the original definition of the CIDOC CRM model.

P1 is identified by (identifies)

Domain: [E1](#) CRM Entity

Range: [E41](#) Appellation

Superproperty of: [E1](#) CRM Entity. [P48](#) has preferred identifier (is preferred identifier of): [E42](#) Identifier
[E52](#) Time-Span. [P78](#) is identified by (identifies): [E49](#) Time Appellation
[E53](#) Place. [P87](#) is identified by (identifies): [E44](#) Place Appellation
[E71](#) Man-Made Thing. [P102](#) has title (is title of): [E35](#) Title
[E39](#) Actor. [P131](#) is identified by (identifies): [E82](#) Actor Appellation
[E28](#) Conceptual Object. [P149](#) is identified by (identifies): [E75](#) Conceptual Object Appellation

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

Scope note: This property describes the naming or identification of any real world item by a name or any other identifier.

This property is intended for identifiers in general use, which form part of the world the model intends to describe, and not merely for internal database identifiers which are specific to a technical system, unless these latter also have a more general use outside the technical context. This property includes in particular identification by mathematical expressions such as coordinate systems used for the identification of instances of [E53](#) Place. The property does not reveal anything about when, where and by whom this identifier was used. A more detailed representation can be made using the fully developed (i.e. indirect) path through [E15](#) Identifier Assignment.

Examples: the capital of Italy ([E53](#)) *is identified by* “Rome” ([E48](#))
text 25014–32 ([E33](#)) *is identified by* “The Decline and Fall of the Roman Empire” ([E35](#))

In First Order Logic:

$$P1(x,y) \supset E1(x)$$
$$P1(x,y) \supset E41(y)$$

P2 has type (is type of)

Domain: [E1](#) CRM Entity

Range: [E55](#) Type

Superproperty of: [E1](#) CRM Entity. [P137](#) exemplifies (is exemplified by): [E55](#) Type
[E23](#) Expression Fragment. [Y43](#) is indicative of (is exemplified by): [Z10](#) Sequencing Pattern

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

Scope note: This property allows sub typing of CRM entities – a form of specialisation – through the use of a terminological hierarchy, or thesaurus.

The CRM is intended to focus on the high-level entities and relationships needed to describe data structures. Consequently, it does not specialise entities any further than is required for this immediate purpose. However, entities in the isA hierarchy of the CRM may be specialised into any number of sub entities, which can be defined in the [E55](#) Type hierarchy. [E51](#) Contact Point, for example, may be specialised into “e-mail address”, “telephone number”, “post office box”,

“URL” etc. none of which figures explicitly in the CRM hierarchy. Sub typing obviously requires consistency between the meaning of the terms assigned and the more general intent of the CRM entity in question.

Examples: “enquiries@cidoc-crm.org” (E51) *has type* e-mail address (E55)

In First Order Logic:

$P2(x,y) \supset E1(x)$

$P2(x,y) \supset E55(y)$

P3 has note

Domain: [E1](#) CRM Entity

Range: [E62](#) String

Superproperty of: E52 Time-Span. P79 beginning is qualified by: E62 String

E52 Time-Span. P80 end is qualified by: E62 String

[E12](#) Nomen. [R33](#) *has note*: [E62](#) String

Quantification: one to many (0,n;0,1)

Scope note: This property is a container for all informal descriptions about an object that have not been expressed in terms of CRM constructs.

In particular it captures the characterisation of the item itself, its internal structures, appearance etc.

Like property *P2 has type (is type of)*, this property is a consequence of the restricted focus of the CRM. The aim is not to capture, in a structured form, everything that can be said about an item; indeed, the CRM formalism is not regarded as sufficient to express everything that can be said. Good practice requires use of distinct note fields for different aspects of a characterisation. The *P3.1 has type* property of *P3 has note* allows differentiation of specific notes, e.g. “construction”, “decoration” etc.

An item may have many notes, but a note is attached to a specific item.

Examples: coffee mug – OXCMS:1983.1.1 (E19) *has note* “chipped at edge of handle” (E62) *has type* Condition (E55)

In First Order Logic:

$P3(x,y) \supset E1(x)$

$P3(x,y) \supset E62(y)$

$P3(x,y,z) \supset [P3(x,y) \wedge E55(z)]$

Properties: P3.1 has type: [E55](#) Type

P4 has time-span (is time-span of)

Domain: [E2](#) Temporal Entity

Range: [E52](#) Time-Span

Quantification: many to one, necessary, dependent (1,1;1,n)

Scope note: This property describes the temporal confinement of an instance of an E2 Temporal Entity.

The related E52 Time-Span is understood as the real Time-Span during which the phenomena were active, which make up the temporal entity instance. It does not convey any other meaning than a positioning on the “time-line” of chronology. The Time-Span in turn is approximated by a set of dates (E61 Time Primitive). A temporal entity can have in reality only one Time-Span, but there may exist alternative opinions about it, which we would express by assigning multiple Time-Spans. Related temporal entities may share a Time-Span. Time-Spans may have completely unknown dates but other descriptions by which we can infer knowledge.

Examples: the Yalta Conference (E7) *has time-span* Yalta Conference time-span (E52)

In First Order Logic:

$P4(x,y) \supset E2(x)$

$P4(x,y) \supset E52(y)$

P9 consists of (forms part of)

Domain: [E4](#) Period

Range: [E4](#) Period

Quantification: one to many, (0,n:0,1)

Scope note: This property associates an instance of E4 Period with another instance of E4 Period that is defined by a subset of the phenomena that define the former. Therefore the spacetime volume of the latter must fall within the spacetime volume of the former.

Examples: Cretan Bronze Age (E4) *consists of* Middle Minoan (E4)

In First Order Logic:

$P9(x,y) \supset E4(x)$

$P9(x,y) \supset E4(y)$

$P9(x,y) \supset P10(y,x)$

P11 had participant (participated in)

Domain: [E5](#) Event

Range: [E39](#) Actor

Subproperty of:

Event. [P12](#) occurred in the presence of (was present at): [E77](#) Persistent Item

[E5](#)

Superproperty of: [E7](#) Activity. [P14](#) carried out by (performed): [E39](#) Actor

E67 Birth. P96 by mother (gave birth): E21 Person

E68 Dissolution. P99 dissolved (was dissolved by): E74 Group

E85 Joining. P143 joined (was joined by): E39 Actor

E85 Joining. P144 joined with (gained member by): E74 Group

E86 Leaving. P145 separated (left by): E39 Actor

E86 Leaving. P146 separated from (lost member by): E74 Group

E66 Formation. P151 was formed from: E74 Group

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

Scope note: This property describes the active or passive participation of instances of E39 Actors in an E5 Event.

It connects the life-line of the related E39 Actor with the E53 Place and E50 Date of the event. The property implies that the Actor was involved in the event but does not imply any causal relationship. The subject of a portrait can be said to have participated in the creation of the portrait.

Examples:

Na

napoleon (E21) *participated in* The Battle of Waterloo (E7)

Maria (E21) *participated in* Photographing of Maria (E7)

In First Order Logic:

$P11(x,y) \supset E5(x)$

$P11(x,y) \supset E39(y)$

$P11(x,y) \supset P12(x,y)$

P12 occurred in the presence of (was present at)

Domain: [E5](#) Event

Range: [E77](#) Persistent Item

Superproperty of: [E5](#) Event. [P11](#) had participant (participated in): [E39](#) Actor
[E7](#) Activity. [P16](#) used specific object (was used for): [E70](#) Thing
E9 Move. P25 moved (moved by): E19 Physical Object
[E11](#) Modification. [P31](#) has modified (was modified by): [E24](#) Physical Man-Made Thing
[E63](#) Beginning of Existence. [P92](#) brought into existence (was brought into existence by): [E77](#) Persistent Item
[E64](#) End of Existence. [P93](#) took out of existence (was taken out of existence by): [E77](#) Persistent Item
E79 Part Addition. P111 added (was added by): E18 Physical Thing
E80 Part Removal. P113 removed (was removed by): E18 Physical Thing
[Z3](#) Separation. [Y12](#) separated from (was diminished through): [F18](#) Serial Work
[Z5](#) Issuing Rule Change. [Y15](#) replaced (was replaced through): [Z12](#) Issuing Rule

Quantification: many to many, necessary (1,n:0,n)

Scope note: This property describes the active or passive presence of an E77 Persistent Item in an E5 Event without implying any specific role.

It connects the history of a thing with the E53 Place and E50 Date of an event. For example, an object may be the desk, now in a museum on which a treaty was signed. The presence of an immaterial thing implies the presence of at least one of its carriers.

Examples: Deckchair 42 (E19) *was present at* The sinking of the Titanic (E5)

In First Order Logic:

$P12(x,y) \supset E5(x)$

$P12(x,y) \supset E77(y)$

P14 carried out by (performed)

Domain: [E7](#) Activity

Range: [E39](#) Actor

Subproperty of: [E5](#) Event. [P11](#) had participant (participated in): [E39](#) Actor

Superproperty of: E8 Acquisition. P22 transferred title to (acquired title through): E39 Actor
E8 Acquisition. P23 transferred title from (surrendered title through): E39 Actor
E10 Transfer of Custody. P28 custody surrendered by (surrendered custody through): E39 Actor
E10 Transfer of Custody. P29 custody received by (received custody through): E39 Actor

Quantification: many to many, necessary (1,n:0,n)

Scope note: This property describes the active participation of an E39 Actor in an E7 Activity.

It implies causal or legal responsibility. The *P14.1 in the role of* property of the property allows the nature of an Actor's participation to be specified.

Examples: the painting of the Sistine Chapel (E7) *carried out by* Michaelangelo Buonaroti (E21) *in the role of* master craftsman (E55)

In First Order Logic:

$P14(x,y) \supset E7(x)$

$P14(x,y) \supset E39(y)$

$P14(x,y) \supset P11(x,y)$

$P14(x,y,z) \supset [P14(x,y) \wedge E55(z)]$

Properties: P14.1 in the role of: [E55](#) Type

P15 was influenced by (influenced)

Domain: [E7](#) Activity

Range: [E1](#) CRM Entity

Superproperty of: [E7](#) Activity. [P16](#) used specific object (was used for): [E70](#) Thing
[E7](#) Activity. [P17](#) was motivated by (motivated): [E1](#) CRM Entity
[E7](#) Activity. [P134](#) continued (was continued by): [E7](#) Activity
E83 Type Creation. P136 was based on (supported type creation): E1 CRM Entity

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

Scope note: This is a high level property, which captures the relationship between an E7 Activity and anything that may have had some bearing upon it.

The property has more specific sub properties.

Examples: the designing of the Sydney Harbour Bridge (E7) *was influenced by* the Tyne bridge (E22)

In First Order Logic:

$P15(x,y) \supset E7(x)$

$P15(x,y) \supset E1(y)$

P16 used specific object (was used for)

Domain: [E7](#) Activity

Range: [E70](#) Thing

Subproperty of: [E5](#) Event. [P12](#) occurred in the presence of (was present at): [E77](#) Persistent Item
[E7](#) Activity. [P15](#) was influenced by (influenced): [E1](#) CRM Entity

Superproperty of: E7 Activity. P33 used specific technique (was used by): E29 Design or Procedure
E15 Identifier Assignment. P142 used constituent (was used in): E90 Symbolic Object
E79 Part Addition. P111 added (was added by): E18 Physical Thing
[F28](#) Expression Creation. [R19](#) created a realisation of (was realised through): [F1](#) Work
[F32](#) Carrier Production Event. [R27](#) used as source material (was used by): [F24](#) Publication Expression
[Z2](#) Absorption. [Y9](#) absorbed (was absorbed through): [F18](#) Serial Work
[Z2](#) Absorption. [Y10](#) enhanced (was enhanced through): [F18](#) Serial Work
[Z4](#) Temporary Substitution. [Y14](#) substituted with (became surrogate through): [F18](#) Serial Work
[Z5](#) Issuing Rule Change. [Y16](#) replaced with (was introduced through): [Z12](#) Issuing Rule
[Z14](#) Storage Unit Creation. [Y46](#) aggregated in a single storage unit (was aggregated in a single storage unit through): [E18](#) Physical Thing

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

Scope note: This property describes the use of material or immaterial things in a way essential to the performance or the outcome of an E7 Activity.

This property typically applies to tools, instruments, moulds, raw materials and items embedded in a product. It implies that the presence of the object in question was a necessary condition for the action. For example, the activity of writing this text required the use of a computer. An immaterial thing can be used if at least one of its carriers is present. For example, the software tools on a computer.

Another example is the use of a particular name by a particular group of people over some span to identify a thing, such as a settlement. In this case, the physical carriers of this name are at least the people understanding its use.

Examples: the writing of this scope note (E7) *used specific object* Nicholas Crofts' computer (E22) *mode of use* Typing Tool; Storage Medium (E55)
the people of Iraq calling the place identified by TGN '7017998' (E7) *used specific object* "Quyunjig" (E44) *mode of use* Current; Vernacular (E55)

In First Order Logic:

P16 (x,y) \supset E7(x)
P16 (x,y) \supset E70(y)
P16 (x,y) \supset P12(x,y)
P16 (x,y) \supset P15(x,y)
P16(x,y,z) \supset [P16(x,y) \wedge E55(z)]

Properties: P16.1 mode of use: [E55](#) Type

P17 was motivated by (motivated)

Domain: [E7](#) Activity

Range: [E1](#) CRM Entity

Subproperty of: [E7](#) Activity. [P15](#) was influenced by (influenced): [E1](#) CRM Entity

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

Scope note: This property describes an item or items that are regarded as a reason for carrying out the E7 Activity.

For example, the discovery of a large hoard of treasure may call for a celebration, an order from head quarters can start a military manoeuvre.

Examples: the resignation of the chief executive (E7) *was motivated by* the collapse of SwissAir (E68)
the coronation of Elizabeth II (E7) *was motivated by* the death of George VI (E69)

In First Order Logic:

P17(x,y) \supset E7(x)
P17(x,y) \supset E1(y)
P17 (x,y) \supset P15(x,y)

P31 has modified (was modified by)

Domain: [E11](#) Modification

Range: [E24](#) Physical Man-Made Thing

Subproperty of: [E5](#) Event. [P12](#) occurred in the presence of (was present at): [E77](#) Persistent Item

Superproperty of: [E12](#) Production. [P108](#) has produced (was produced by): [E24](#) Physical Man-Made Thing
E79 Part Addition. P110 augmented (was augmented by): E24 Physical Man-Made Thing
E80 Part Removal. P112 diminished (was diminished by): E24 Physical Man-Made Thing

Quantification: many to many, necessary (1,n:0,n)

Scope note: This property identifies the E24 Physical Man-Made Thing modified in an E11 Modification.

If a modification is applied to a non-man-made object, it is regarded as an E22 Man-Made Object from that time onwards.

Examples: rebuilding of the Reichstag (E11) *has modified* the Reichstag in Berlin (E24)

In First Order Logic:

P31(x,y) \supset E11(x)
P31(x,y) \supset E24(y)
P31(x,y) \supset P12(x,y)

P48 has preferred identifier (is preferred identifier of)

Domain: [E1](#) CRM Entity

Range: [E42](#) Identifier

Subproperty of: [E1](#) CRM Entity. [P1](#) is identified by (identifies): [E41](#) Appellation

Quantification: many to one (0,1:0,n)

Scope note: This property records the preferred E42 Identifier that was used to identify an instance of E1 CRM Entity at the time this property was recorded.

More than one preferred identifier may have been assigned to an item over time.

Use of this property requires an external mechanism for assigning temporal validity to the respective CRM instance.

P48 has preferred identifier (is preferred identifier of), is a shortcut for the path from E1 CRM Entity through *P140 assigned attribute to (was attributed by)*, E15 Identifier Assignment, *P37 assigned (was assigned by)* to E42 Identifier. The fact that an identifier is a preferred one for an organisation can be better expressed in a context independent form by assigning a suitable E55 Type to the respective instance of E15 Identifier Assignment using the *P2 has type* property.

Examples: the pair of Lederhosen donated by Dr Martin Doerr (E22) *has preferred identifier* “OXCMS:2001.1.32” (E42)

In First Order Logic:

$P48(x,y) \supset E1(x)$

$P48(x,y) \supset E42(y)$

$P48(x,y) \supset P1(x,y)$

P67 refers to (is referred to by)

Domain: [E89](#) Propositional Object

Range: [E1](#) CRM Entity

Superproperty of: E31 Document. P70 documents (is documented in): E1 CRM Entity
[E32](#) Authority Document. [P71](#) lists (is listed in): [E1](#) CRM Entity
E89 Propositional Object. P129 is about (is subject of): E1 CRM Entity
E36 Visual Item. P138 represents (has representation): E1 CRM Entity
E29 Design or Procedure. P68 foresees use of (use foreseen by): E57 Material
[F35](#) Nomen Use Statement. [R37](#) states as nomen (is stated as nomen in): [F12](#) Nomen
[Z12](#) Issuing Rule. [Y20](#) foresees type (is type foreseen in): [E55](#) Type
[Z12](#) Issuing Rule. [Y23](#) foresees dimension (is dimension foreseen in): [E54](#) Dimension
[Z12](#) Issuing Rule. [Y24](#) foresees use of title (is title foreseen in): [E35](#) Title
[Z12](#) Issuing Rule. [Y28](#) foresees URL (is URL foreseen in): [Z11](#) URL
[Z12](#) Issuing Rule. [Y44](#) foresees topic (is topic foreseen in): [E1](#) CRM Entity

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

Scope note: This property documents that an E89 Propositional Object makes a statement about an instance of E1 CRM Entity. *P67 refers to (is referred to by)* has the *P67.1 has type* link to an instance of E55 Type. This is intended to allow a more detailed description of the type of reference. This differs from *P129 is about (is subject of)*, which describes the primary subject or subjects of the E89 Propositional Object.

Examples: the eBay auction listing of 4 July 2002 (E73) *refers to* silver cup 232 (E22) *has type* item for sale (E55)

In First Order Logic:

$P67(x,y) \supset E89(x)$

$P67(x,y) \supset E1(y)$

$P67(x,y,z) \supset [P67(x,y) \wedge E55(z)]$

Properties: P67.1 has type: [E55](#) Type

P69 has association with (is associated with)

Domain: [E29](#) Design or Procedure

Range: [E29](#) Design or Procedure

Superproperty of: [Z12](#) Issuing Rule. [Y25](#) foresees association with (foresees to be associated with): [Z12](#) Issuing Rule

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

Scope note: This property generalises relationships like whole-part, sequence, prerequisite or inspired by between instances of E29 Design or Procedure. Any instance of E29 Design or Procedure may be associated with other designs or procedures. The property is considered to be symmetrical unless otherwise indicated by *P69.1 has type*.

The *P69.1 has type* property of *P69 has association with* allows the nature of the association to be specified reading from domain to range; examples of types of association between instances of E29 Design or Procedure include: has part, follows, requires, etc.

The property can typically be used to model the decomposition of the description of a complete workflow into a series of separate procedures.

Examples: Procedure for glass blowing (E29) *has association with* procedure for glass heating (E29)

The set of instructions for performing Macbeth in Max Reinhardt's production in 1916 in Berlin at Deutsches Theater (E29) has association with the scene design drawing by Ernst Stern reproduced at <http://www.glopad.org/pi/fr/record/digdoc/1003814> (E29) has type has part (E55)

Preparation of parchment (E29) *has association with* soaking and unhairing of skin (E29) *has type* 'has part' (E55). Preparation of parchment (E29) *has association with* stretching of skin (E29) *has type* 'has part' (E55). Stretching of skin (E29) *has association with* soaking and unhairing of skin (E29) *has type* 'follows' (E55)

The plan for reassembling the temples at Abu Simbel (E29) has association with the plan for storing and transporting the blocks (E29) has type 'follows' (E55)

In First Order Logic:

$P69(x,y) \supset E29(x)$
 $P69(x,y) \supset E29(y)$
 $P69(x,y,z) \supset [P69(x,y) \wedge E55(z)]$
 $P69(x,y) \supset P69(y,x)$

Properties: P69.1 has type: [E55](#) Type

P71 lists (is listed in)

Domain: [E32](#) Authority Document

Range: [E1](#) CRM Entity

Subproperty of: [E89](#) Propositional Object. [P67](#) refers to (is referred to by): [E1](#) CRM Entity

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

Scope note: This property documents a source E32 Authority Document for an instance of an E1 CRM Entity.

Examples: the Art & Architecture Thesaurus (E32) *lists* alcazars (E55)

In First Order Logic:

$P71(x,y) \supset E32(x)$
 $P71(x,y) \supset E1(y)$
 $P71(x,y) \supset P67(x,y)$

P74 has current or former residence (is current or former residence of)

Domain: [E39](#) Actor

Range: [E53](#) Place

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

Scope note: This property describes the current or former E53 Place of residence of an E39 Actor.

The residence may be either the Place where the Actor resides, or a legally registered address of any kind.

Examples: Queen Elizabeth II (E39) *has current or former residence* Buckingham Palace (E53)

In First Order Logic:

$P74(x,y) \supset E39(x)$

$P74(x,y) \supset E53(y)$

P75 possesses (is possessed by)

Domain: [E39](#) Actor

Range: [E30](#) Right

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

Scope note: This property identifies former or current instances of E30 Rights held by an E39 Actor.

Examples: Michael Jackson (E21) *possesses* Intellectual property rights on the Beatles' back catalogue (E30)

In First Order Logic:

$P75(x,y) \supset E39(x)$

$P75(x,y) \supset E30(y)$

P78 is identified by (identifies)

Domain: [E52](#) Time-Span

Range: [E49](#) Time Appellation

Subproperty of: [E1](#) CRM Entity. [P1](#) is identified by (identifies): [E41](#) Appellation

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

Scope note: This property identifies an E52 Time-Span using an E49 Time Appellation.

Examples: the time span 1926 to 1988 (E52) *is identified by* "Showa" (Japanese time appellation) (E49)

In First Order Logic:

$P78(x,y) \supset E52(x)$

$P78(x,y) \supset E49(y)$

$P78(x,y) \supset P1(x,y)$

P82 at some time within

Domain: [E52](#) Time-Span

Range: [E61](#) Time Primitive

Quantification: many to one, necessary (1,1:0,n)

Scope note: This property describes the maximum period of time within which an E52 Time-Span falls.

Since Time-Spans may not have precisely known temporal extents, the CRM supports statements about the minimum and maximum temporal extents of Time-Spans. This property allows a Time-Span's maximum temporal extent (i.e. its outer boundary) to be assigned an E61 Time Primitive value. Time Primitives are treated by the CRM as application or system specific date intervals, and are not further analysed.

Examples: the time-span of the development of the CIDOC CRM (E52) *at some time within* 1992-infinity (E61)

In First Order Logic:

$P82(x,y) \supset E52(x)$

$P82(x,y) \supset E61(y)$

P89 falls within (contains)

Domain: [E53](#) Place

Range: [E53](#) Place

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

Scope note: This property identifies the instances of E53 Places that fall within the area covered by another Place.

It addresses spatial containment only, and no 'whole-part' relationship between the two places is implied.

Examples: the area covered by the World Heritage Site of Stonehenge (E53) *falls within* the area of Salisbury Plain (E53)

In First Order Logic:

$P89(x,y) \supset E53(x)$

$P89(x,y) \supset E53(y)$

P92 brought into existence (was brought into existence by)

Domain: [E63](#) Beginning of Existence

Range: [E77](#) Persistent Item

Subproperty of: [E5](#) Event. [P12](#) occurred in the presence of (was present at): [E77](#) Persistent Item

Superproperty of: [E65](#) Creation. [P94](#) has created (was created by): [E28](#) Conceptual Object
E66 Formation. [P95](#) has formed (was formed by): [E74](#) Group
E67 Birth. [P98](#) brought into life (was born): [E21](#) Person
[E12](#) Production. [P108](#) has produced (was produced by): [E24](#) Physical Man-Made Thing
E81 Transformation. [P123](#) resulted in (resulted from): [E77](#) Persistent Item

Quantification: one to many, necessary, dependent (1,n:1,1)

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

It allows a "start" to be attached to any Persistent Item being documented i.e. E70 Thing, E72 Legal Object, E39 Actor, E41 Appellation, E51 Contact Point and E55 Type.

Examples: the birth of Mozart (E67) *brought into existence* Mozart (E21)

In First Order Logic:

$P92(x,y) \supset E63(x)$

$P92(x,y) \supset E77(y)$

$P92(x,y) \supset P12(x,y)$

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

Domain: [E64](#) End of Existence

Range: [E77](#) Persistent Item

Subproperty of: [E5](#) Event. [P12](#) occurred in the presence of (was present at): [E77](#) Persistent Item

Superproperty of: E6 Destruction. P13 destroyed (was destroyed by): E18 Physical Thing
E68 Dissolution. P99 dissolved (was dissolved by): E74 Group
E69 Death. P100 was death of (died in): E21 Person
E81 Transformation. P124 transformed (was transformed by): E77 Persistent Item

Quantification: one to many, necessary (1,n:0,1)

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

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

This allows an “end” to be attached to any Persistent Item being documented i.e. E70 Thing, E72 Legal Object, E39 Actor, E41 Appellation, E51 Contact Point and E55 Type. For many Persistent Items we know the maximum life-span and can infer, that they must have ended to exist. We assume in that case an End of Existence, which may be as unnoticeable as forgetting the secret knowledge by the last representative of some indigenous nation.

Examples: the death of Mozart (E69) *took out of existence* Mozart (E21)

In First Order Logic:

$$\begin{aligned} P93(x,y) &\supset E64(x) \\ P93(x,y) &\supset E77(y) \\ P93(x,y) &\supset P12(x,y) \end{aligned}$$

P94 has created (was created by)

Domain: [E65](#) Creation

Range: [E28](#) Conceptual Object

Subproperty of: [E63](#) Beginning of Existence. [P92](#) brought into existence (was brought into existence by): [E77](#) Persistent Item

Superproperty of: E83 Type Creation. P135 created type (was created by): E55 Type
[E27](#) Work Conception. [R16](#) initiated (was initiated by): [E1](#) Work

Quantification: one to many, necessary, dependent (1,n:1,1)

Scope note: This property allows a conceptual E65 Creation to be linked to the E28 Conceptual Object created by it.

It represents the act of conceiving the intellectual content of the E28 Conceptual Object. It does not represent the act of creating the first physical carrier of the E28 Conceptual Object. As an example, this is the composition of a poem, not its commitment to paper.

Examples: the composition of “The Four Friends” by A. A. Milne (E65) *has created* “The Four Friends” by A. A. Milne (E28)

In First Order Logic:

$$\begin{aligned} P94(x,y) &\supset E65(x) \\ P94(x,y) &\supset E28(y) \\ P94(x,y) &\supset P92(x,y) \end{aligned}$$

P104 is subject to (applies to)

Domain: [E72](#) Legal Object

Range: [E30](#) Right

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

Scope note: This property links a particular E72 Legal Object to the instances of E30 Right to which it is subject.

The Right is held by an E39 Actor as described by *P75 possesses (is possessed by)*.

Examples: Beatles back catalogue (E72) *is subject to* reproduction right on Beatles back catalogue (E30)

In First Order Logic:

$P104(x,y) \supset E72(x)$

$P104(x,y) \supset E30(y)$

P108 has produced (was produced by)

Domain: [E12](#) Production

Range: [E24](#) Physical Man-Made Thing

Subproperty of: [E11](#) Modification. [P31](#) has modified (was modified by): [E24](#) Physical Man-Made Thing
[E63](#) Beginning of Existence. [P92](#) brought into existence (was brought into existence by): [E77](#) Persistent Item

Superproperty of: [E28](#) Expression Creation. [R18](#) created (was created by): [E4](#) Manifestation Singleton

Quantification: one to many, necessary, dependent (1,n:1,1)

Scope note: This property identifies the E24 Physical Man-Made Thing that came into existence as a result of an E12 Production.

The identity of an instance of E24 Physical Man-Made Thing is not defined by its matter, but by its existence as a subject of documentation. An E12 Production can result in the creation of multiple instances of E24 Physical Man-Made Thing.

Examples: The building of Rome (E12) *has produced* The Colosseum (E22)

In First Order Logic:

$P108(x,y) \supset E12(x)$

$P108(x,y) \supset E24(y)$

$P108(x,y) \supset P31(x,y)$

$P108(x,y) \supset P92(x,y)$

P115 finishes (is finished by)

Domain: [E2](#) Temporal Entity

Range: [E2](#) Temporal Entity

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

Scope note: This property allows the ending point for a E2 Temporal Entity to be situated by reference to the ending point of another temporal entity of longer duration.

This property is only necessary if the time span is unknown (otherwise the relationship can be calculated). This property is the same as the "finishes / finished-by" relationships of Allen's temporal logic (Allen, 1983, pp. 832-843).

Examples: Late Bronze Age (E4) *finishes* Bronze Age (E4)

In First Order Logic:

$P115(x,y) \supset E2(x)$
 $P115(x,y) \supset E2(y)$

P116 starts (is started by)

Domain: [E2](#) Temporal Entity

Range: [E2](#) Temporal Entity

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

Scope note: This property allows the starting point for a E2 Temporal Entity to be situated by reference to the starting point of another temporal entity of longer duration.

This property is only necessary if the time span is unknown (otherwise the relationship can be calculated). This property is the same as the "starts / started-by" relationships of Allen's temporal logic (Allen, 1983, pp. 832-843).

Examples: Early Bronze Age (E4) *starts* Bronze Age (E4)

In First Order Logic:

$P116(x,y) \supset E2(x)$
 $P116(x,y) \supset E2(y)$

P131 is identified by (identifies)

Domain: [E39](#) Actor

Range: [E82](#) Actor Appellation

Subproperty of: [E1](#) CRM Entity. [P1](#) is identified by (identifies): [E41](#) Appellation

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

Scope note: This property identifies a name used specifically to identify an E39 Actor.

This property is a specialisation of *P1 is identified by (identifies)* is identified by.

Examples: Tyler Withersopp IV (E39) *is identified by* "US social security number 619-17-4204" (E82)

In First Order Logic:

$P131(x,y) \supset E39(x)$
 $P131(x,y) \supset E82(y)$
 $P131(x,y) \supset P1(x,y)$

P134 continued (was continued by)

Domain: [E7](#) Activity

Range: [E7](#) Activity

Subproperty of: [E7](#) Activity. [P15](#) was influenced by (influenced): [E1](#) CRM Entity

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

Scope note: This property associates two instances of E7 Activity, where the domain is considered as an intentional continuation of the range. A continuation of an activity may happen when the continued activity is still ongoing or after the continued activity has completely ended. The continuing activity may have started already before it decided to continue the other one. Continuation implies a coherence of intentions and outcomes of the involved activities.

Examples: the construction of the Kölner Dom (Cologne Cathedral) (E7), abandoned in the 15th century, *was continued by* construction in the 19th century adapting the initial plans so as to preserve the intended appearance (E7)

In First Order Logic:

$P134(x,y) \supset E7(x)$
 $P134(x,y) \supset E7(y)$
 $P134(x,y) \supset P15(x,y)$

P148 has component (is component of)

Domain: [E89](#) Propositional Object

Range: [E89](#) Propositional Object

Superproperty of: [F15](#) Complex Work. [R10](#) has member (is member of): [F1](#) Work
[F35](#) Nomen Use Statement. [R35](#) is specified by (specifies): [F34](#) KOS

Quantification: (0,n;0,n)

Scope note: This property associates an instance of E89 Propositional Object with a structural part of it that is by itself an instance of E89 Propositional Object.

Examples: Dante's "Divine Comedy" (E89) *has component* Dante's "Hell" (E89)

In First Order Logic:

$P148(x,y) \supset E89(x)$
 $P148(x,y) \supset E89(y)$

P149 is identified by (identifies)

Domain: [E28](#) Conceptual Object

Range: [E75](#) Conceptual Object Appellation

Subproperty of: [E1](#) CRM Entity. [P1](#) is identified by (identifies): [E41](#) Appellation

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

Scope note: This property identifies an instance of E28 Conceptual Object using an instance of E75 Conceptual Object Appellation.

Examples: The German edition of the CIDOC CRM (E73) *is identified by* ISBN 978-3-00-030907-6 (E75)

In First Order Logic:

$P149(x,y) \supset E28(x)$
 $P149(x,y) \supset E75(y)$
 $P149(x,y) \supset P1(x,y)$