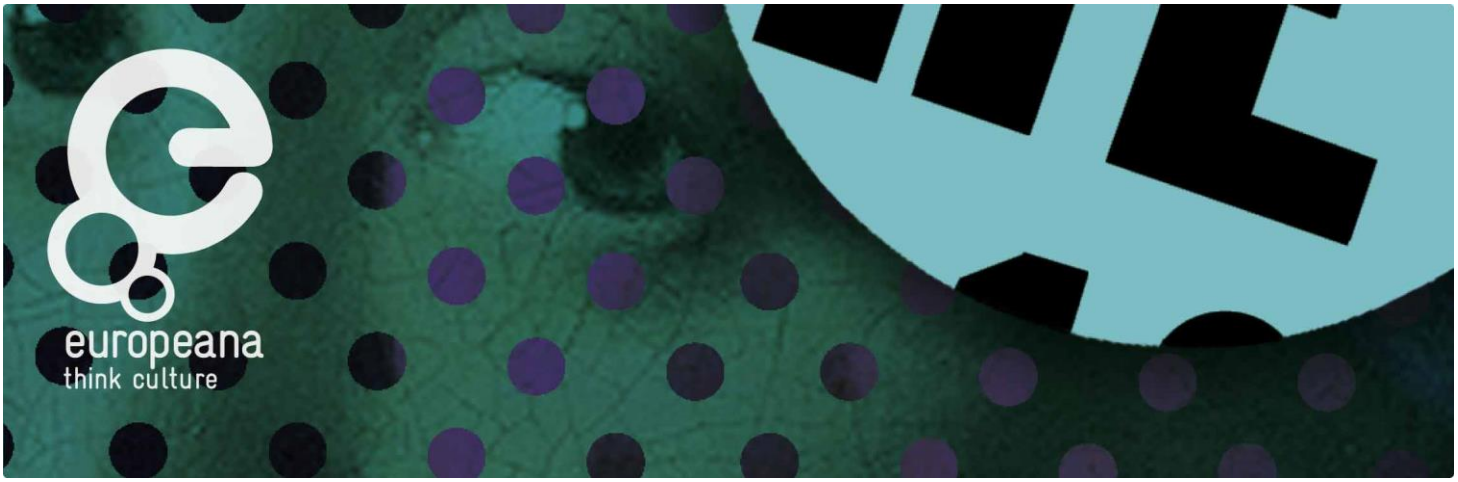

Final Report on EDM – FRBRoo Application Profile Task Force

Contributors

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1. Scope and methodology of the taskforce and structure of this document

The EDM – FRBRoo Application Profile Task Force (EFAP-TF) was launched in response to the recommendations from the deliverable Final Technical & Logical Architecture and future work recommendations (D3.4) from Europeana V1.0, WP3. This deliverable asked for an application profile that would allow a better representation of the FRBR group 1 entities: work, expression, manifestation and item. Additionally, it was to be conceived as an application profile of FRBRoo where each intellectual contribution (e.g., in the publication process) and the related activity are treated as entities in their own right and, as opposed to FRBRer, does not depend too much on the notion of a bibliographic record. As a starting point they suggested the mapping of FRBRoo and EDM offered by the CIDOC CRM working group. The aim of the EFAP-TF is to extend, correct or restrict this suggested mapping and provide examples for the use of the combined EDM and FRBRoo namespace clusters.

Two important motivations were added to the original Task Force mission and are important for a better understanding of some of the report's elements:

- The application profile is not a prescriptive framework for producing new object representation metadata within Europeana, it is not a set of cataloguing rules – instead it is strictly limited to the mapping of existing source data to a specialized EDM framework.
- Our intention is to create buy-in from two communities: first of all, of course, the Europeana community – but then we also should have the support of the FRBRoo community in order to make the connection of the two worlds as seamless as possible. This latter motivation had some influence on the composition of the Task Force in that we made a conscious effort to include people from the FRBRoo context.

The methodology of the Task Force was to start from real, existing datasets and to then provide first, tentative mappings of these to the EDM. This enabled us to identify a delta of attributes that require specializations of the EDM in order to prevent information loss in the migration from the source formats to Europeana. We then asked the sub-working groups formed around the three example datasets to come up with research questions they assumed should be answered based on the datasets before and after their mapping to an extended version of the EDM specialized using attributes and relations from FRBRoo. Whenever the specializations could safely be omitted without putting at risk the answer of the research question this particular specialization element was dropped from the profile. This way we continuously 'stripped' the graphs. The table reproduced in section 5 of this report is the result of this and is the essence of the application profile.

This report delivers combined models in terms of properties and classes of EDM and FRBRoo illustrated by sample data. Smaller groups have worked on three different examples that are described in section 3. The report also provides principles for modeling and mapping rules based on the experiments of the working groups.

2. Participating members

Initiating Chairs: Martin Doerr, ICS FORTH and Stefan Gradmann, KU Leuven
Invited Members:

- Trond Aalberg, NTNU, Norway
- Vladimir Alexiev, Data and Ontology Management group, Ontotext Corp
- Kerstin Arnold, Bundesarchiv, Germany
- Rodolphe Bailly, Cité de la musique, France
- Detlev Balzer, Freelance developer and IT consultant
- Robina Clayphan, Europeana
- Gordon Dunsire, Independent consultant; Member of the FRBR Review Group, Member of the International Working Group on FRBR/CIDOC CRM Harmonisation
- Kai Eckert, University of Mannheim, Germany
- Michael Fingerhut, Bibliomus, Paris
- Steffen Hennicke, Humboldt-Universität zu Berlin
- Antoine Isaac, Europeana
- Patrick LeBoeuf, BNF
- Marlies Olensky, Humboldt-Universität zu Berlin
- Justyna Walkowska, Poznan Supercomputing and Networking Center
- Maja Zumer, University of Ljublijana

3. Example data

For the more popular CHOs, Europeana will eventually achieve a very dense representation of derivatives and related material. Flat “core” metadata, i.e., in formats describing tangible resources without additional intermediate nodes representing contextual entities, the respective rich relationships can either not be represented, or must be represented in a highly redundant and often inconsistent manner. The FRBR family of models, and its ontological representation in a Semantic Web compatible format “FRBRoo”, ultimately aim at representing adequately the context of richly interrelated cultural resources.

The rationale for all the chosen examples consequently was to demonstrate that such networks of highly interrelated data already exist implicitly or explicitly in current metadata, and that they can be represented coherently in FRBRoo, overcoming the fragmented representation of the current formats. The interest was not in the number of examples, but in the coverage of the diversity of the kinds of semantic relationships (derivation, incorporation and aboutness) found in library catalogues and Europeana itself. Further, these examples were created to the degree of detail present in the sources and to the degree necessary to answer the kinds of relevant research questions asked by end users that the participants were aware of.

As expected, only a subset of the FRBRoo properties were necessary to represent the example materials under the above restrictions, because FRBR also comprises notions aiming at better, future documentation practices and notions relevant to library-internal functions. Even though this approach doesn’t yield statistically valid results it is sufficient to identify the elements that will definitely be required in specializing the EDM: we thus have

identified a necessary, yet not sufficient set of properties. We may have missed a few additional properties, but the people involved in the task force make us confident that we should have close to complete coverage in this respect.

Three example data samples were provided by the taskforce and are briefly described in the following subsections. Three smaller working groups modeled the data according to FRBRoo and EDM with the goal to identify mapping rules and a set of FRBRoo classes and properties that the EDM might have to be extended with.

The Don Quixote examples can be found at http://november.idi.ntnu.no/frbrized/rest/db/edm/index.html[1].

The Hamlet and the Musical Work examples can be found in the appendix.

3.1. Don Quixote

Selected to illustrate the following:

- Works that have parts
  - What we now refer to as the work Don Quixote was originally two different works published separate in time
- Different expressions of the same work
  - translations or other "minor" derivatives
  - where the original author is considered to be the main responsible of the resource, not considered as new works in cataloguing
- Other derivations
  - main entry person is different from the original author, considered to be new works
- Publications with augmentations/supplements
  - In addition to the main text there are illustrations, forewords and other additions that are of interest to find

The records in the example are mainly from National Library of Spain and Bodleian Library (UK) and can be found in Europeana. All records are in MARC and retrieved from the original institutions using Z39.50. Most records include a 856-field with a link to a digital resource with the exception of a few (which are alternative MARC records for comparable resources in Europeana).

3.2. Hamlet

We know nothing about Shakespeare's 'original' text. The very notion of 'Shakespeare's original text' is an anachronism. As Gary Taylor puts it, 'we mislead ourselves if we imagine a play moving *from* text *to* stage […]. For Shakespeare, a play began life in the theatre. […] Playwrighting […] was an intrinsically social process. […] The earliest texts of his plays […] were not printed from manuscripts prepared for the convenience of that consortium of readers called "the general public"; instead, they were written to be read by a particular group of actors […]. The written text of any such manuscript thus depended upon an unwritten paratext […], an invisible life-support system of stage directions, which Shakespeare could

[1] Or directly on the Wiki Task Force page: http://pro.europeana.eu/web/network/europeana-tech/-/wiki/Main/Task+Force+EDM+FRBRoo

either expect his first readers to supply, or which those first readers would expect Shakespeare himself to supply orally.'[2]

The play seems to have been performed for the first time around 1600-1. There were seven editions of *Hamlet* prior to the 1642 theatre closures. The earliest edition (1603) is labelled 'First Quarto' or 'Q1'; it is thought to have been 'printed from a manuscript believed to be of a memorial reconstruction of the play by actors';[3] for that reason, it is also nicknamed 'Bad Quarto.' The most striking differences between that edition and *Hamlet* 'as we know it' are that Polonius is not named Polonius but Corambis, and that Hamlet does not say 'To be or not to be, that is the question,' but: 'To be or not to be, aye there's the point.'

The next edition (1604-5) is labelled 'Second Quarto' or 'Q2'; it is thought to have been 'printed from a manuscript believed to be Shakespeare's foul papers'[4] and is therefore regarded as the best source (the 'Good Quarto') for a correct text. The 'Third Quarto' or 'Q3' (1611) was printed from Q2, the 'Fourth Quarto' or 'Q4' (1622) from Q3, and the 'Fifth Quarto' or 'Q5' (1637) from Q4.

Hamlet was also included in the two folio editions ('F1' and 'F2', respectively 1623 and 1632) of Shakespeare's (almost) complete works. F2 was printed from F1, which in turn was 'printed from a manuscript thought to be a transcript of a fair copy prepared from Shakespeare's foul papers […; it also] draws on the second "good" quarto. It omits lines found in the "good" quarto, but adds others.'[5] As is usual with hand-press books[6], not all copies of F1 contain exactly the same text: typos and flagrant mistakes were corrected in the course of printing.[7]

As a result, specialists tend to individualize three major 'Expressions' of *Hamlet:* the text conveyed by Q1 (the 'Bad Quarto'), the text conveyed by Q2 (the 'Good Quarto'), and the text conveyed by F1. There is an edition of all three Expressions side by side.[8]

Even the Folger Shakespeare Library in Washington collocates all editions of *Hamlet* in its catalogue under the same uniform title: 'Shakespeare, William, 1564-1616. Hamlet.' That same library's subject index, however, differentiates between 'Shakespeare, William, 1564-1616. Hamlet. 1602' (a mistake for 1603), 'Shakespeare, William, 1564-1616. Hamlet. 1603', and 'Shakespeare, William, 1564-1616. Hamlet. 1605', i.e., between Q1 and Q2.

The Hamlet examples are based on implicit information, that are present in the texts.

For the sake of experimentation within the context of this Task Force, we used here both a generic uniform title for the Work: 'Shakespeare, William, 1564-1616. Hamlet', and specific uniform titles, loosely based on RDA instructions, for the identification of various Expressions of that Work:

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[2] Gary Taylor, 'Shakespeare Plays on Renaissance Stages,' Stanley Wells and Sarah Stanton, ed., *The Cambridge Companion to Shakespeare on Stage* (Cambridge, UK: Cambridge University Press, 2002): 1-20 (pp. 1 and 3-4).

[3] British Library, *Treasures in Full: Shakespeare in Quarto,* <http://www.bl.uk/treasures/shakespeare/playhamlet.html>.

[4] British Library, *Treasures in Full…*

[5] British Library, *Treasures in Full…*

[6] See Gunilla Jonsson, 'Cataloguing of Hand Press Materials and the Concept of Expression in FRBR,' *Cataloging & Classification Quarterly* 39(3-4) (2005): 77–86.

[7] 'Some pages of the First Folio – 134 out of the total of 900 – were proofread and corrected while the job of printing the book was ongoing. As a result, the Folio differs from modern books in that individual copies vary considerably in their typographical errors. There were about 500 corrections made to the Folio in this way.' 'First Folio', *Wikipedia* (accessed on January 2nd, 2013).

[8] Paul Bertram and Bernice W. Kliman, ed., *The Three-Text Hamlet: Parallel Texts of the First and Second Quartos and First Folio* (New York: AMS Press, 1991).

- Shakespeare, William, 1564-1616. Hamlet. English (Singer edition).
- Shakespeare, William, 1564-1616. Hamlet. German (Schlegel).
- Shakespeare, William, 1564-1616. Hamlet (First Quarto version). English.
- Shakespeare, William, 1564-1616. Hamlet (First Quarto version). French (Hugo).
- Shakespeare, William, 1564-1616. Hamlet (Second Quarto version). English.
- Shakespeare, William, 1564-1616. Hamlet (Second Quarto version). French (Hugo).

This is intended solely for the purpose of clarity, and does not prejudge of any future cataloguing rule. Theoretically, it should be possible to dispense with such specific uniform titles, and to identify all distinct Expressions through unique URIs. However, uniform titles were deemed more easily readable by a human eye.

The following list indicates the kinds of examples are covered by the Hamlet example:

- Example N: Consolidation of the English text and publication by Samuel Weller (Singer Edition)
- Example O: Facsimile-Edition of the first edition 1603.
- Example M: Translation into German
- Example L: A study of a German translation, published in 1970
- Example P: Second Quarto version in French published in 1865
- Example C: Image of a Hamlet theatre scene
- Example B: A psychological study about Shakespeare's Hamlet
- Example F: A poster advertizing a French performance of Hamlet from 1899
- Example H (G): A photograph of a Hamlet theatre performance
- Example E: Drawing (costume design) from the elaboration process of a
- performance of Hamlet as opera
- Example J: A stage model from the elaboration process of a performance
- of Hamlet as opera
- Example K: A painting of a singer performing Ophelia in Hamlet as opera
- Example I: A recording of an excerpt of Hamlet as opera performed in Italian

3.3. Musical work

3.3.1. 1st Symphony by Johannes Brahms

This example focuses on the organization by the "Cité de la Musique" in Paris of a concert containing the 1st Symphony by J.Brahms.
This performance was recorded, and a program note was published. The program note is a document containing information about the concert such as biographies of the composers and performers and description of the musical works. Both the recording and the program notes are available currently on Europeana.
It has been chosen to illustrate the following requests a user may have when searching for information about (or recordings of) particular musical works, such as:

Q1: I'm looking for all audio or video recordings of a particular musical work performed by a particular orchestra or soloist.
Q2: I'm looking for all digitized texts having a particular musical work as subject
Q3 (usually following Q1): I'm looking for all of the digital resources (images, program notes, audio and/or video recordings, performers interviews) about a particular performance.

The resources used on this example can be found on Europeana:

- Audio recording of a concert, containing 1st Symphony by Brahms: http://www.europeana.eu/portal/record/03707/FF31A27C8A4A4B272AE19300D13A001B52F36625.html
- Program Note of the 9th of May 2000, Cité de la musique performance: http://www.europeana.eu/portal/record/03710/A299D2B8F08FF9B716B1CC56571D9AE02EEFC535.html

Note: Europeana contains a lot more interesting resources related to the 1st Symphony by Brahms, such as:

- CD Audio : Monteverdi Productions Ltd, 2008: http://www.europeana.eu/portal/record/2022106/079C25BCF35C7D15871972D3D7531CCF74386975.html
- Performance record : Coliseu de Porto, Porto, Portugal 17.5.1999: http://www.europeana.eu/portal/record/2022106/079C25BCF35C7D15871972D3D7531CCF74386975.html
- Program Note of the 20th of september 2009, Salle Pleyel Performance: http://www.europeana.eu/portal/record/03710/60FF3430E185843EB323E4E17343FBA258032806.html

3.3.2. The Rite of Spring by Igor Stravinsky

This example illustrates the specific issue of the description of a notated music manuscript. The resource can be found here: http://www.europeana.eu/portal/record/9200103/08BAFAA636D9E26F77AC0A4E3BF89BE9ED0FDC68.html

4. Results of the analysis of the example data

In this section, we describe how the FRBRoo representations of the examples were simplified as well as how they could be mapped to EDM. This analysis was driven by research questions the small working groups formulated for each sample and which needed to be sufficiently accurately answered after the mapping process. Therefore, the research questions were used to identify the core set of FRBRoo classes and properties that cannot be further abstracted or generalized to fit into EDM.

The following is an example of how entities relating to the 'work' notion are modeled in FRBRoo: The existence of a Work starts with its conception, be it explicitly known or not. From this time on, the initial set of ideas may take more and more shape or are modified, until a first Expression is fixed (or "externalized") on a physical carrier – a Manifestation Singleton – traditionally a manuscript or nowadays typically the first saved version on a computer storage device. The latter process of "writing" (Expression Creation) is when the ideas take their first tangible form. In the following, any number of expressions may be created from the same Work, be it improvements or derivatives by the same authors or others that have comprehended the Work through its expressions. The Expression Creation is not limited to writing in the narrower sense, but may include other media, such as photography, video, audio recording or drawing.

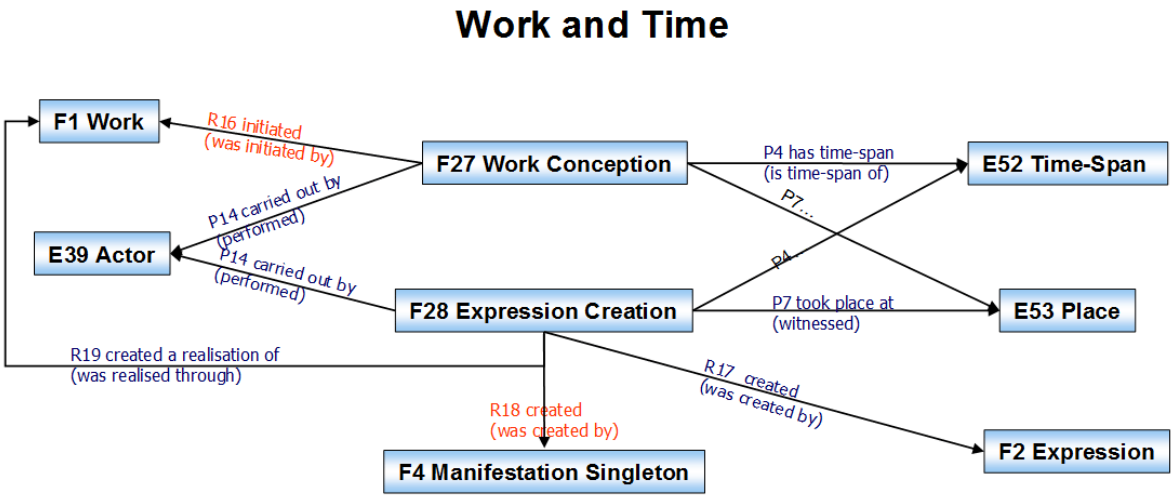


Figure 1: Work and Time in FRBRoo

In contrast to FRBR, FRBRoo distinguishes between an Expression in general and a "Publication Expression", i.e. the representation of the exact content of a publication in symbolic form: text, graphics, layout, notes etc., but without the material characteristics of a Manifestation, such as paper, binding etc. The Publication Expression "incorporates" the content which is traditionally attributed to the "author" of a book or analogous kind of item. The Publication Expression is made available to the public via a "Publication Event", be it on electronic media to download, actual printing, print on demand or equivalent processes. The Publication Event, and not the printing, is causal to the "publication date" in the traditional sense and to the identity of the (intended) published content.

The analysis of this Task Force revealed that the most relevant properties for a Europeana end-user associated with a publication is not the hardware format, often registered in detail by libraries, but actually the level of the publication expression, which represents best the aesthetic values of a publication and frequently a particular composition of content and commentaries. Therefore the Task Force decided to instantiate "Publication Expression" in Europeana rather than Manifestations in their proper FRBR sense.

Therefore, the following example is to illustrate the way we have been able to translate the Work-Expression-Manifestation-Item (WEMI) hierarchy from FRBR group 1 to the EDM without having to introduce new specializations.

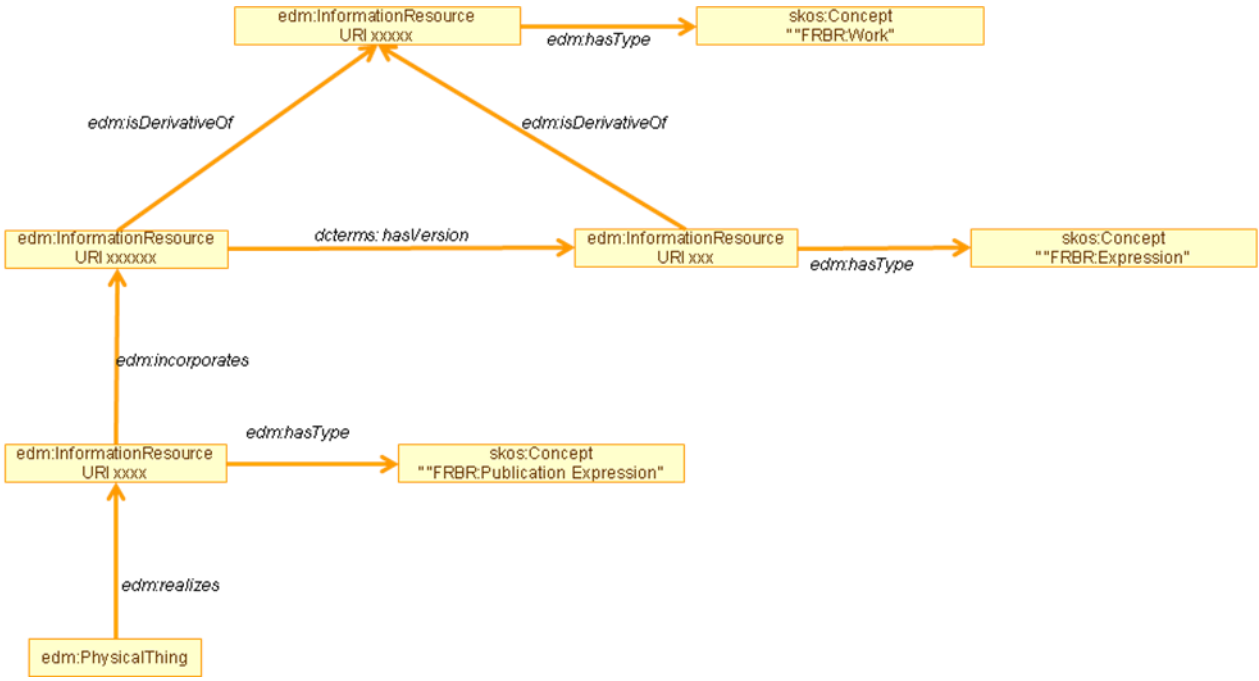


Figure 2: WEMI translated to EDM

In order to find an adequate FRBR application profile for Europeana, the examples were first modeled in full FRBRoo. Then, the following principles were applied in simplifying the FRBRoo model, such that the meaning necessary to answer the relevant research questions was preserved:

- Work is only employed where it is really needed. As long as there is only one Expression, no Work is needed.
- R21 created (was created through)(F29 Recording Event:F26 Recording) is replaced by R17 created (was created by)(F28 Expression Creation:F2 Expression)
- Performance Plan is identified by performed expression; R25 performed (was performed in)(F31 Performance:F25 Performance Plan) can point to more objects of type F25 (Performance Plan)
- In F33 Reproduction Event the link produced is replaced by P108 has produced (was produced by)(E12 Production:E24 Physical Man-Made Thing)
- R6 to be replaced by P128
- E56 language is the unique range of P72 has language. The latter maps dc:language which has literal as range. Therefore E56 Language maps implicitly to the range values of dc:language.
- F6 concept is replaced by E55 Type since the examples do not exhibit other cases of use of F6 Concept.

This created the set of relevant properties and classes to be used for such examples in terms of explicitly used FRBRoo and CIDOC CRM concepts (which form part of FRBRoo). It does not contain the implicitly used superclasses and superproperties of both models. This forms the first part of the recommendation of the Task Force, i.e., the Application Profile in FRBRoo terms, a kind of necessary elements of a “FRBRoo Core” model.

Then, all these concepts were mapped to EDM. The mapping is and is intended to be consistent with the existing mapping of the CIDOC CRM concepts to EDM, which are in turn superclasses or superproperties of FRBRoo concepts. We could clearly distinguish between two cases:

1. The mappings to EDM which preserve sufficient semantics to answer the relevant research questions.
2. The mappings which lose information, because they represent relevant specializations of EDM Concepts.

The final recommended application profile consists consequently of two sets: the subset of EDM classes and properties that are needed to represent the examples, and the additional subset of CRM/FRBRoo concepts that one should specialize EDM classes and properties with.. Since all elements of this profile are either elements of EDM or subsumed by EDM, any data expressed in this profile can be queried and will return relevant results without loss of recall using EDM concepts only, albeit with reduced precision (it has the “query containment” property).

5. FRBRoo-EDM Application Profile

The following tables are in a way the essence of our mapping work and are the only element of this report that is to be regarded as a reference element:

The following table contains the set of classes and properties from EDM that are judged necessary by this Task Force so as to represent the examples:

FRBRoo-EDM Application Profile Part 1: EDM subset	
Underlying Source Concepts from FRBRoo:	Recommended EDM classes and properties:
P9 consists of (forms part of) (E4 Period:E4 Period)	dcterms:hasPart
P148 has component (is component of) (E89 Propositional Object:E89 Propositional Object)	dcterms:hasPart
R15 has fragment (is fragment of) (F2 Expression:F23 Expression Fragment)	dcterms:hasPart
P128 carries (is carried by) (E24 Physical Man-Made Thing:E90 Symbolic Object)	edm:realizes
P62 depicts	dc:subject
P102 has title (E71 Man-Made Thing: E35 Title)	dc:title
P129 is about (is subject of) (E89 Propositional Object:E1 CRM Entity)	dc:subject
P138 represents (has representation) (E36 Visual Item:E1 CRM Entity)	edm:isRepresentationOf
P72 has language (is language of) (E73:Information Object:E56 Language)	dc:language
E38 Image	edm:InformationResource.edm:hasType [“DCT1:Image“]
E52 Time-Span	edm:TimeSpan
P4 has time-span (is time-span of) (E2 Temporal Entity:E52 Time-Span)	edm:occurredAt
E53 Place	edm:Place
P55 has current location (currently holds) (E19 Physical Object:E53 Place)	edm:currentLocation
E62 String	rdf:literal
P3 has note: E62 String	dc:description
E39 Actor	edm:Agent
E55 Type	skos:Concept
P2 has type (is type of) (E1 CRM Entity:E55 Type)	edm:hasType
F6 Concept	skos:Concept
F5 Item	edm:PhysicalThing
R2 is derivative of (has derivative) (F1 Work:F1 Work)	edm:isDerivativeOf
R14 incorporates (is incorporated in) (F22 Self-Contained Expression:F2 Expression)	edm:incorporates
F4 Manifestation Singleton	edm:PhysicalThing

The following table contains the classes and properties that should be introduced as specializations in EDM for representing the examples. Note that the specialization links can already be derived from the existing mappings between FRBRoo and CIDOC CRM and the existing mappings from CIDOC CRM to EDM given in the EDM Specification[9]:

[9] http://pro.europeana.eu/edm-documentation

FRBRoo-EDM Application Profile Part 2: FRBRoo subset	
Recommended FRBRoo Concepts:	Implied EDM Superconcepts:
P14 carried out by (performed) (E7 Activity:E39 Actor)	inverse of edm:wasPresentAt[10]
P16 used specific object (was used for) (E7 Activity:E70 Thing)	inverse of edm:wasPresentAt
P73 has translation (is translation of) (E73:Information Object)	inverse of edm:isDerivativeOf
F1 Work	**edm:InformationResource**
F18 Serial Work	**edm:InformationResource**
F27 Work Conception	**edm:Event**
R16 initiated (was initiated by) (F27 Work Conception:F1 Work)	inverse of edm:wasPresentAt
F28 Expression Creation	**edm:Event**
R17 created (was created by) (F28 Expression Creation:F2 Expression)	inverse of edm:wasPresentAt
R19 created a realisation of (was realised through) (F28 Expression Creation:F1 Work)	inverse of edm:wasPresentAt
F30 Publication Event	**edm:Event**
R24 created (was created through) (F30 Publication Event:F24 Publication Expression)	inverse of edm:wasPresentAt
F24 Publication Expression	**edm:InformationResource**
F32 Carrier Production Event	**edm:Event**
R27 used as source material (was used by) (F32 Carrier Production Event:F24 Publication Expression)	inverse of edm:wasPresentAt
F31 Performance	**edm:Event**
R25 performed (was performed in) (F31 Performance:F25 Performance Plan)	inverse of edm:wasPresentAt
F29 Recording Event	**edm:Event**
R20 recorded (was recorded through) (F29 Recording Event:E5 Event)	inverse of edm:wasPresentAt
F22 Self-Contained Expression	**edm:InformationResource**
F23 Expression Fragment	**edm:InformationResource**
R3 is realised in (realises) (F1 Work:F22 Self-Contained Expression)	inverse of edm:isDerivativeOf
E12 Production	**edm:Event**
P108 has produced (was produced by) (E12 Production:E24 Physical Man-Made Thing)	inverse of edm:wasPresentAt
F33 Reproduction Event	**edm:Event**
R29 reproduced (was reproduced by) (F33 Reproduction Event:E84 Information Carrier)	inverse of edm:wasPresentAt
E32 Authority Document	**edm:InformationResource**
P71 lists (E32 Authority Document:E1 CRM Entity)	dc:subject

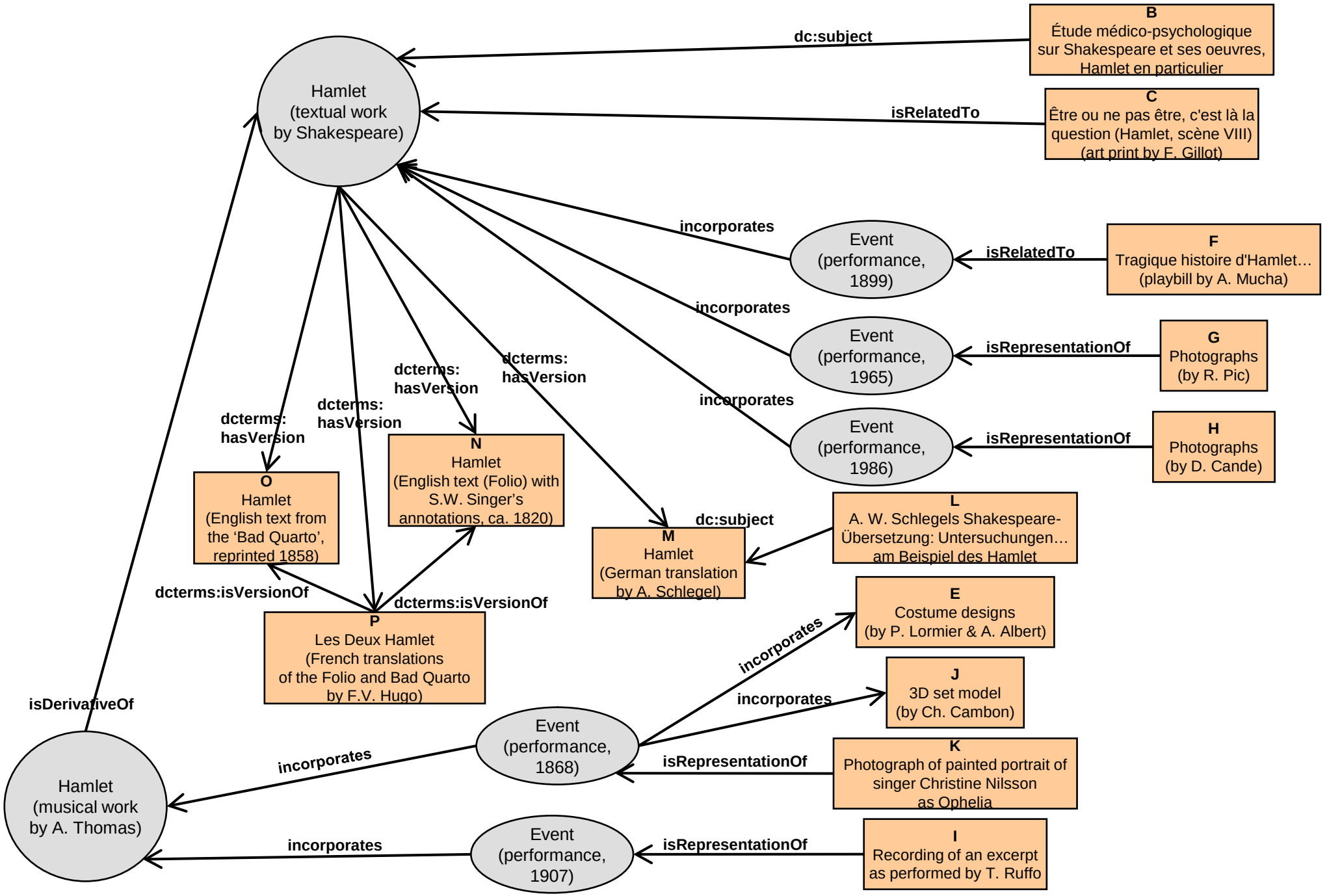
[10] dc:creator could only be used if the creation process has only one unique product which is directly related to the agent and has no place association. Counterexamples: Manuscript writing produces a paper copy and a content object. An edition of Hamlet is not produced by Shakespeare. El Greco painting in Venice.

6. References

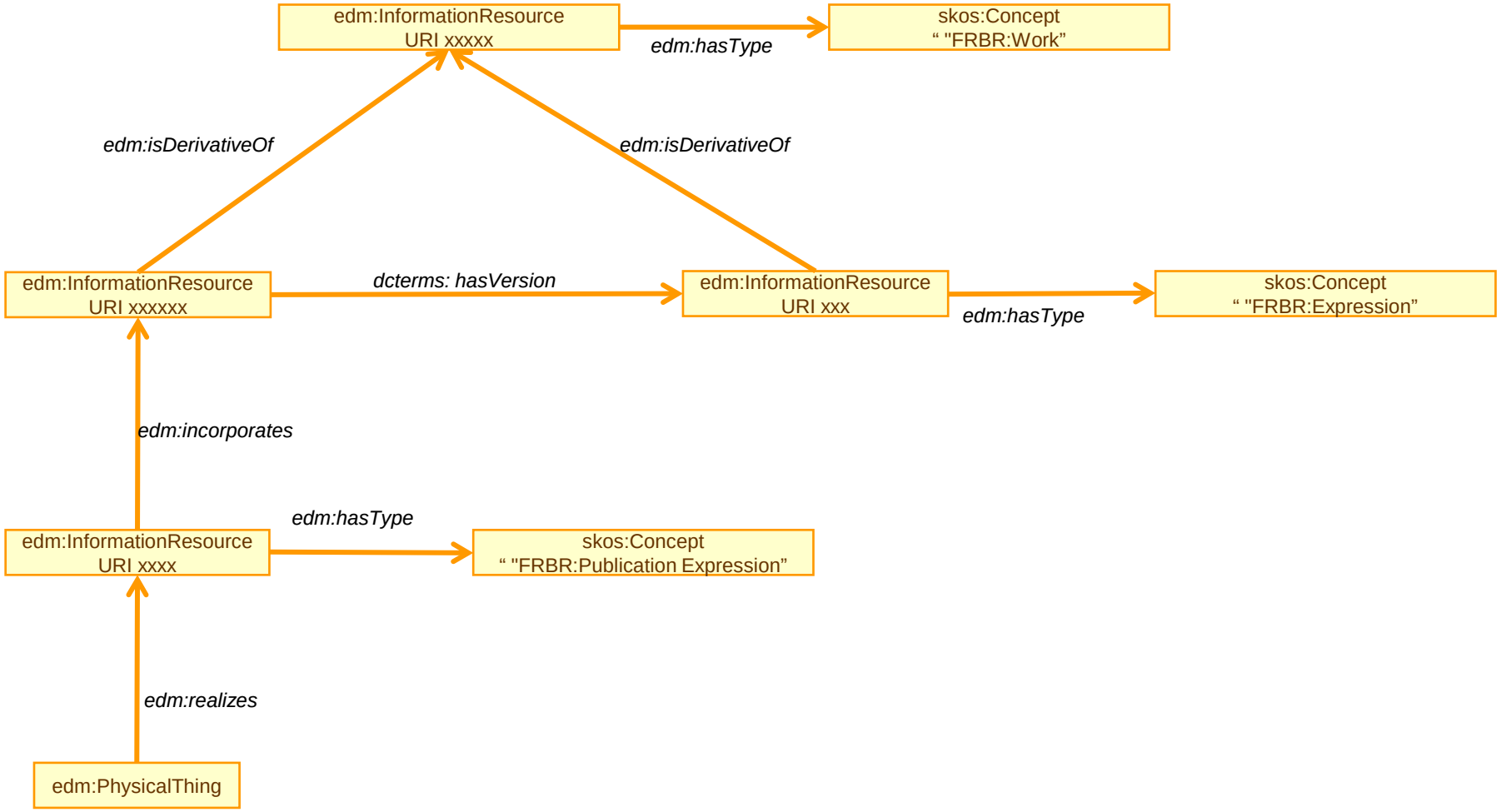
Dekkers, M., Gradmann, S., Molendijk, J. (2011). Europeana v1.0: D3.4 Final Technical & Logical Architecture and future recommendations. Retrieved May 30, 2013 from http://pro.europeana.eu/documents/10602/370691/D3.4+final.pdf.

7. Appendix

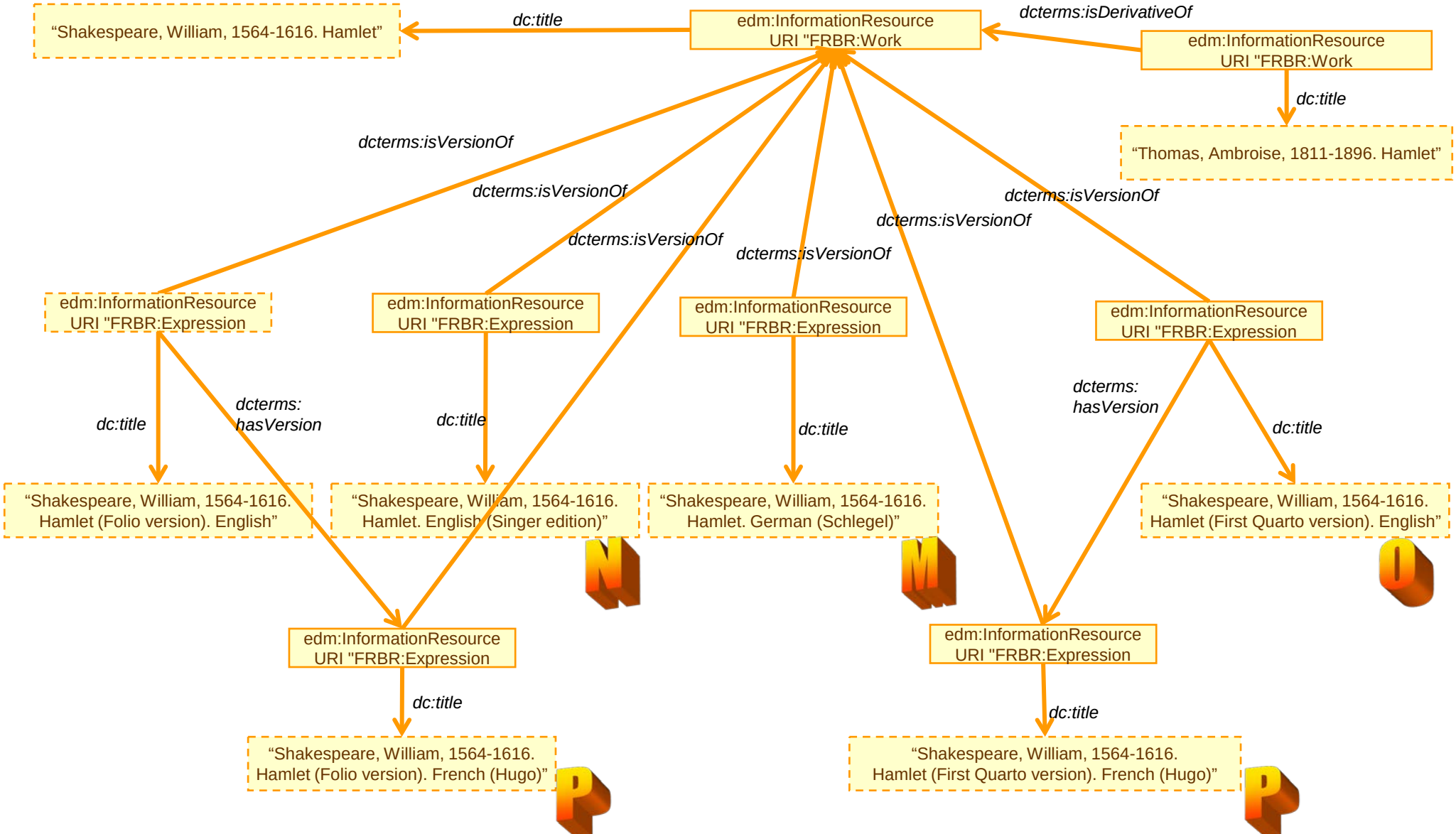
Hamlet examples, page 15-30
Musical Example, page 31-32


Hamlet
(textual work
by Shakespeare)
dc:subject
B
Étude médico-psychologique
sur Shakespeare et ses oeuvres,
Hamlet en particulier
isRelatedTo
C
Être ou ne pas être, c'est là la
question (Hamlet, scène VIII)
(art print by F. Gillot)
incorporates
Event
(performance,
1899)
isRelatedTo
F
Tragique histoire d'Hamlet…
(playbill by A. Mucha)
incorporates
Event
(performance,
1965)
isRepresentationOf
G
Photographs
(by R. Pic)
incorporates
Event
(performance,
1986)
isRepresentationOf
H
Photographs
(by D. Cande)
dcterms:
hasVersion
dcterms:
hasVersion
dcterms:
hasVersion
dcterms:
hasVersion
O
Hamlet
(English text from
the 'Bad Quarto',
reprinted 1858)
N
Hamlet
(English text (Folio) with
S.W. Singer's
annotations, ca. 1820)
M
Hamlet
(German translation
by A. Schlegel)
dc:subject
L
A. W. Schlegels Shakespeare-
Übersetzung: Untersuchungen…
am Beispiel des Hamlet
dcterms:isVersionOf
dcterms:isVersionOf
P
Les Deux Hamlet
(French translations
of the Folio and Bad Quarto
by F.V. Hugo)
E
Costume designs
(by P. Lormier & A. Albert)
incorporates
J
3D set model
(by Ch. Cambon)
incorporates
isDerivativeOf
Event
(performance,
1868)
incorporates
isRepresentationOf
K
Photograph of painted portrait of
singer Christine Nilsson
as Ophelia
Hamlet
(musical work
by A. Thomas)
incorporates
Event
(performance,
1907)
isRepresentationOf
I
Recording of an excerpt
as performed by T. Ruffo

Proposal for translating WEMI into EDM



Hamlets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edm:InformationResource URI "FRBR:Work
dcterms:isDerivativeOf
edm:InformationResource URI "FRBR:Work
dc:title
"Thomas, Ambroise, 1811-1896. Hamlet"
dcterms:isVersionOf
dcterms:isVersionOf
dcterms:isVersionOf
dcterms:isVersionOf
dcterms:isVersionOf
dcterms:isVersionOf
edm:InformationResource URI "FRBR:Expression
edm:InformationResource URI "FRBR:Expression
edm:InformationResource URI "FRBR:Expression
edm:InformationResource URI "FRBR:Expression
dc:title
dcterms: hasVersion
dc:title
dc:title
dcterms: hasVersion
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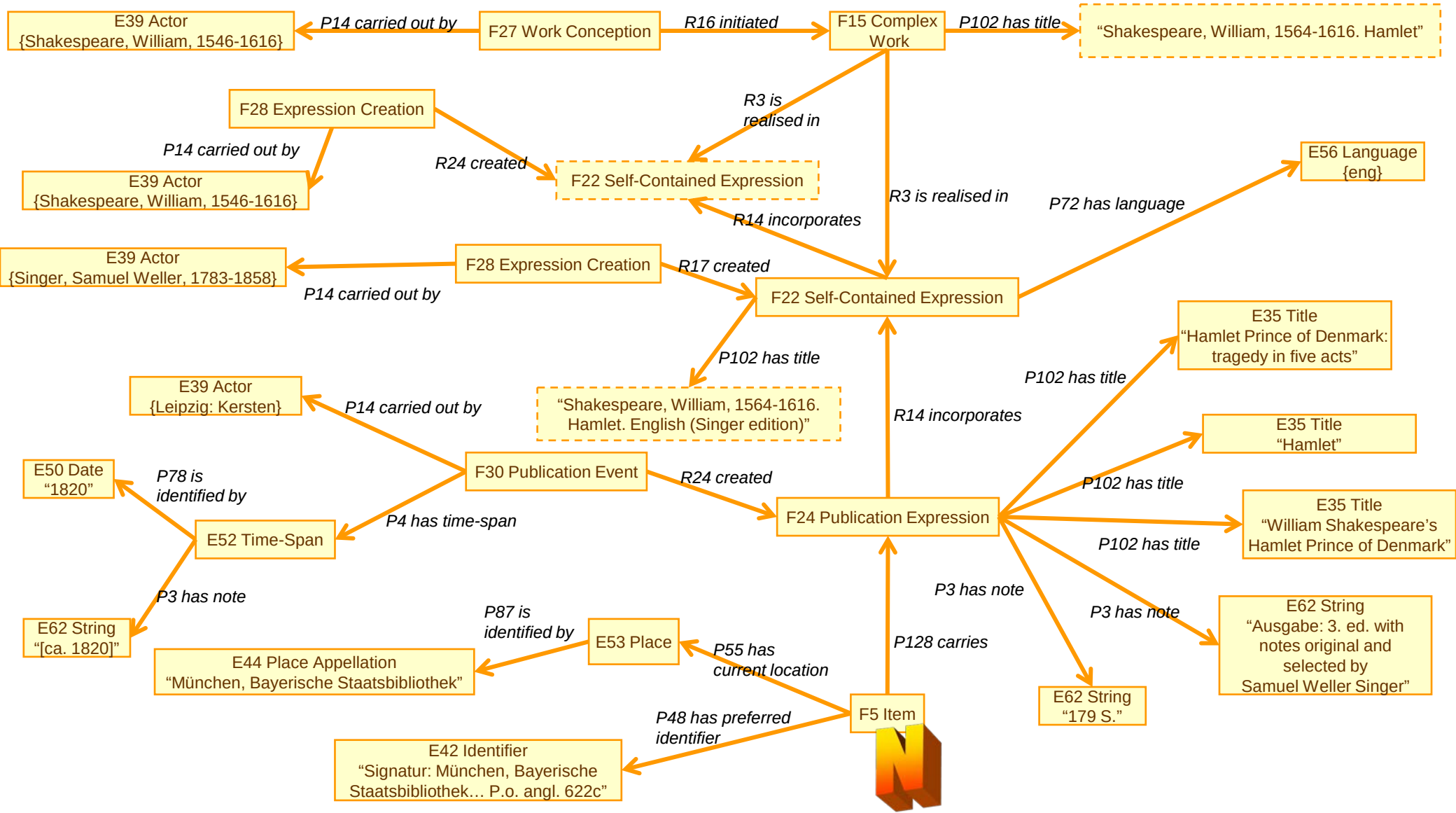
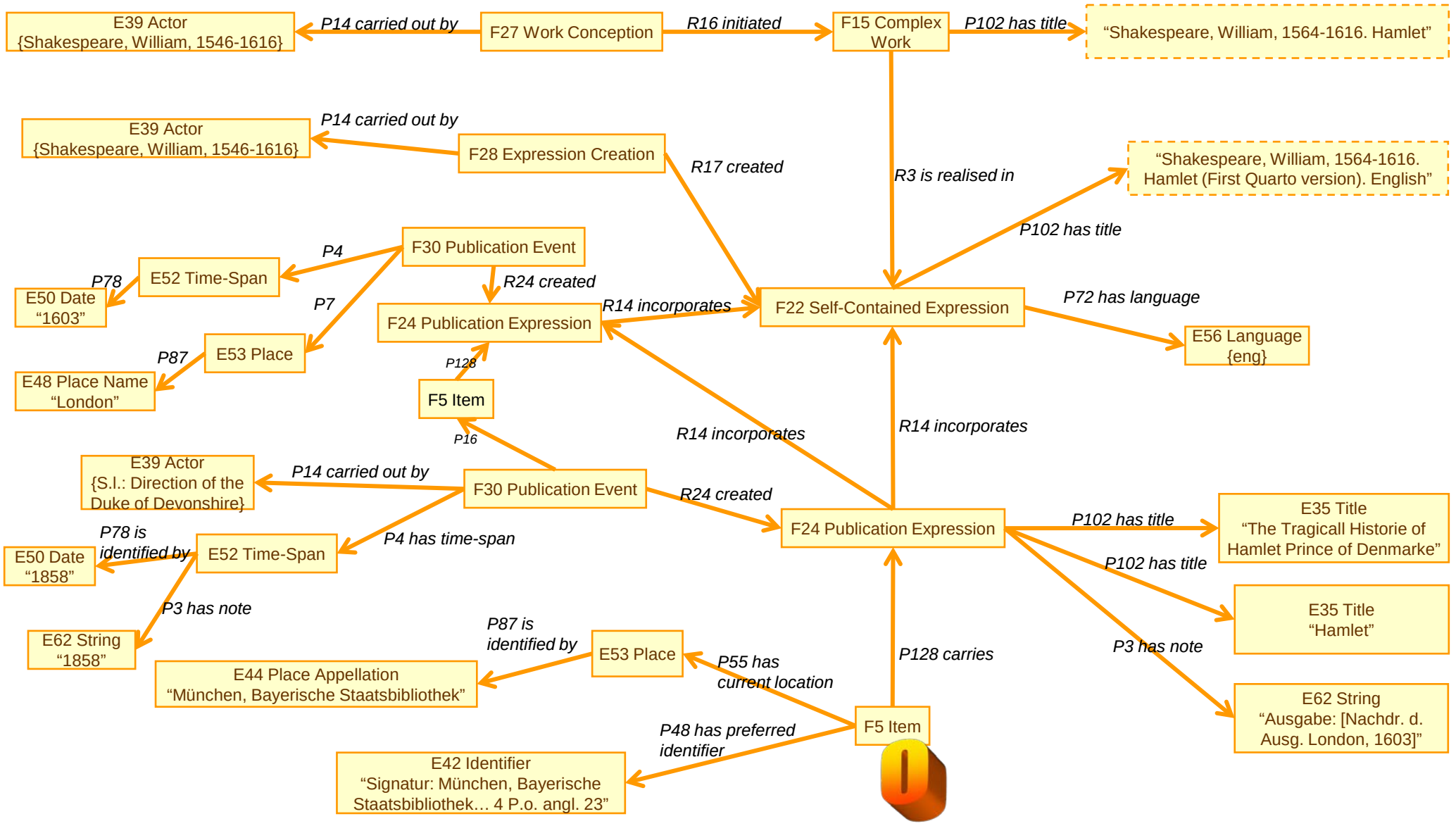
"Shakespeare, William, 1564-1616. Hamlet (Folio version). English"
"Shakespeare, William, 1564-1616. Hamlet. English (Singer edition)"
"Shakespeare, William, 1564-1616. Hamlet. German (Schlegel)"
"Shakespeare, William, 1564-1616. Hamlet (First Quarto version). English"
N
M
O
edm:InformationResource URI "FRBR:Expression
edm:InformationResource URI "FRBR:Expression
dc:title
dc:title
"Shakespeare, William, 1564-1616. Hamlet (Folio version). French (Hugo)"
"Shakespeare, William, 1564-1616. Hamlet (First Quarto version). French (Hugo)"
P
P

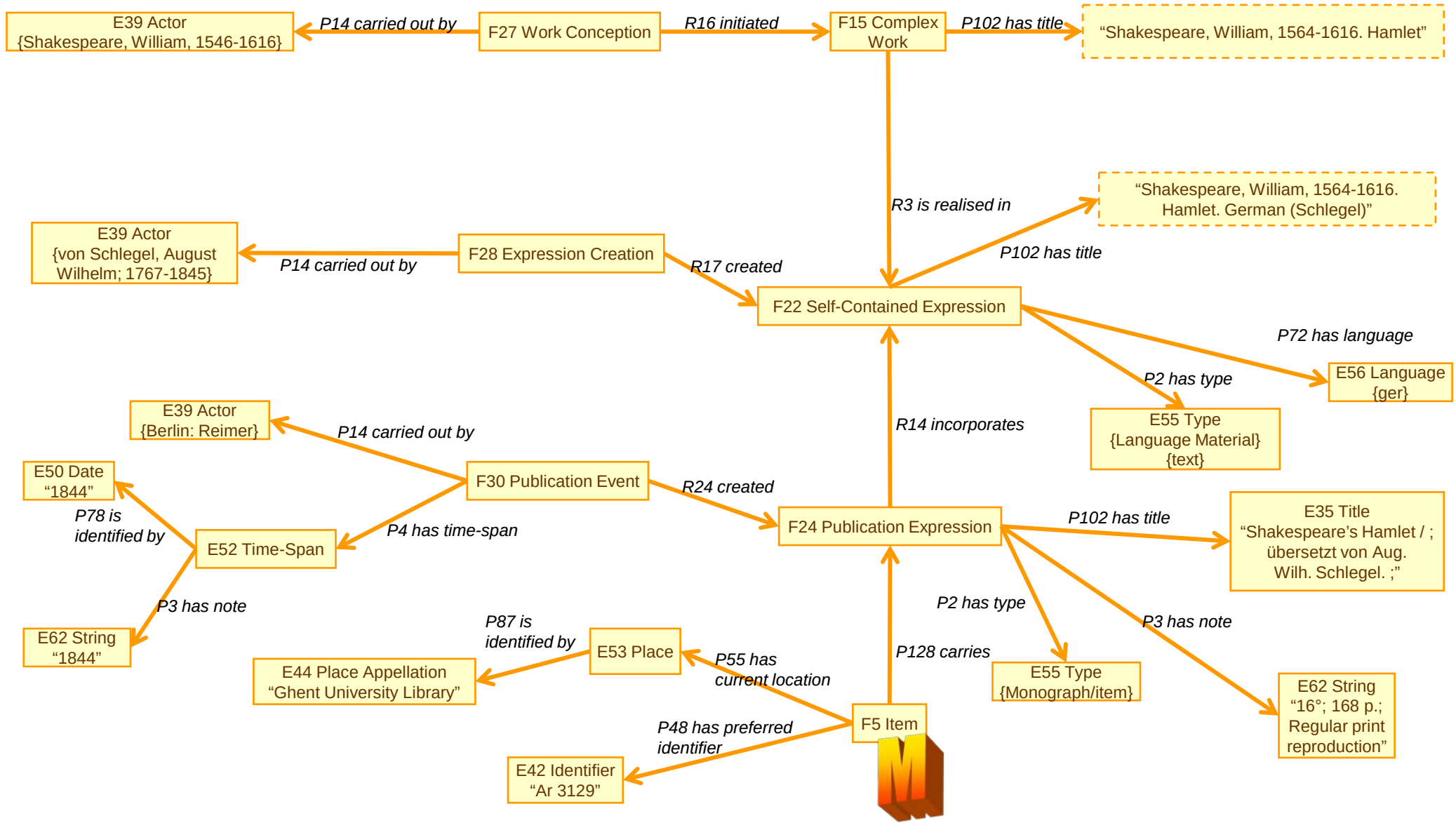
Example N according to "FRBR$_{OO}$ Core"



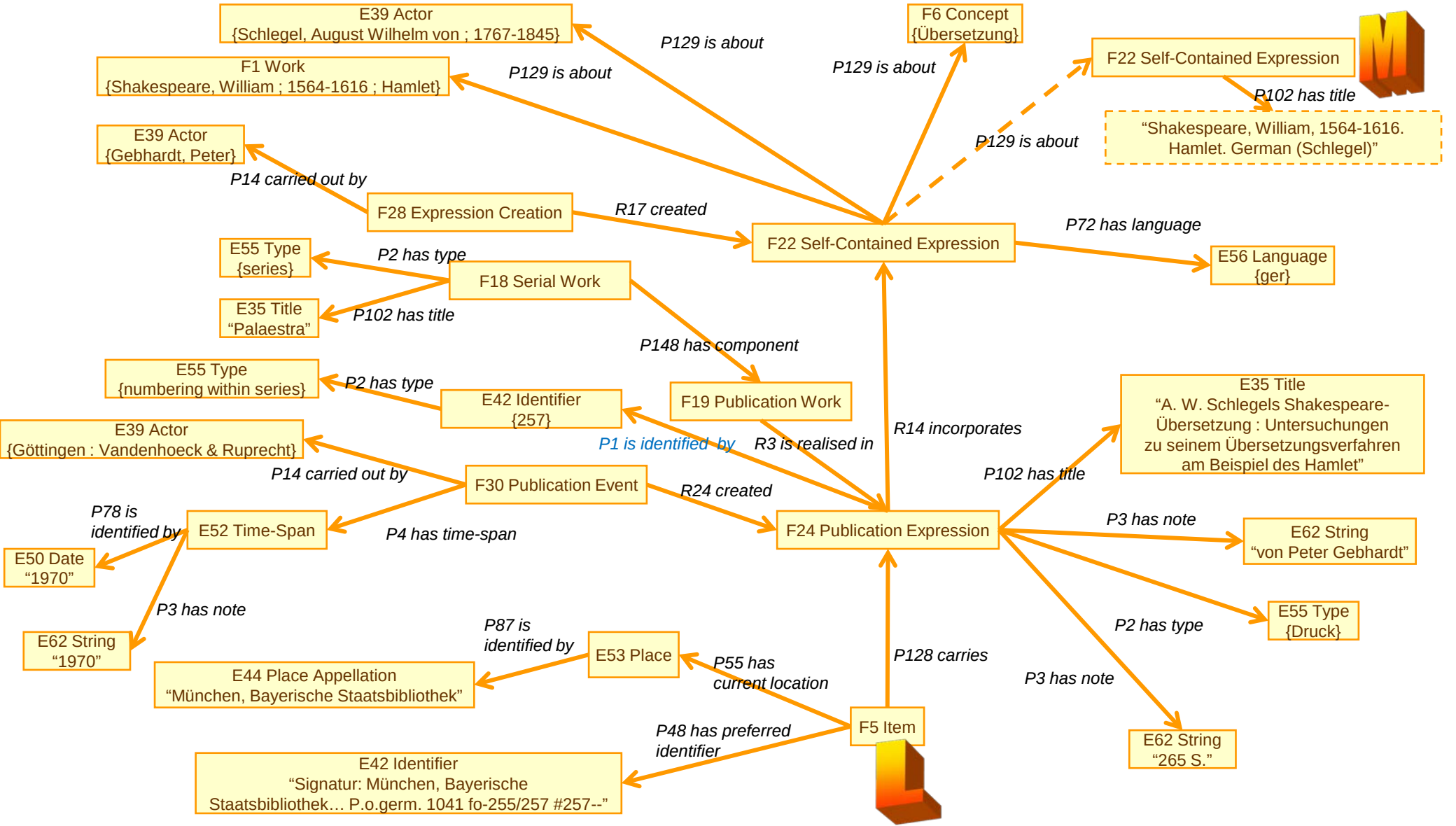
Example O according to "FRBR$_{OO}$ Core"



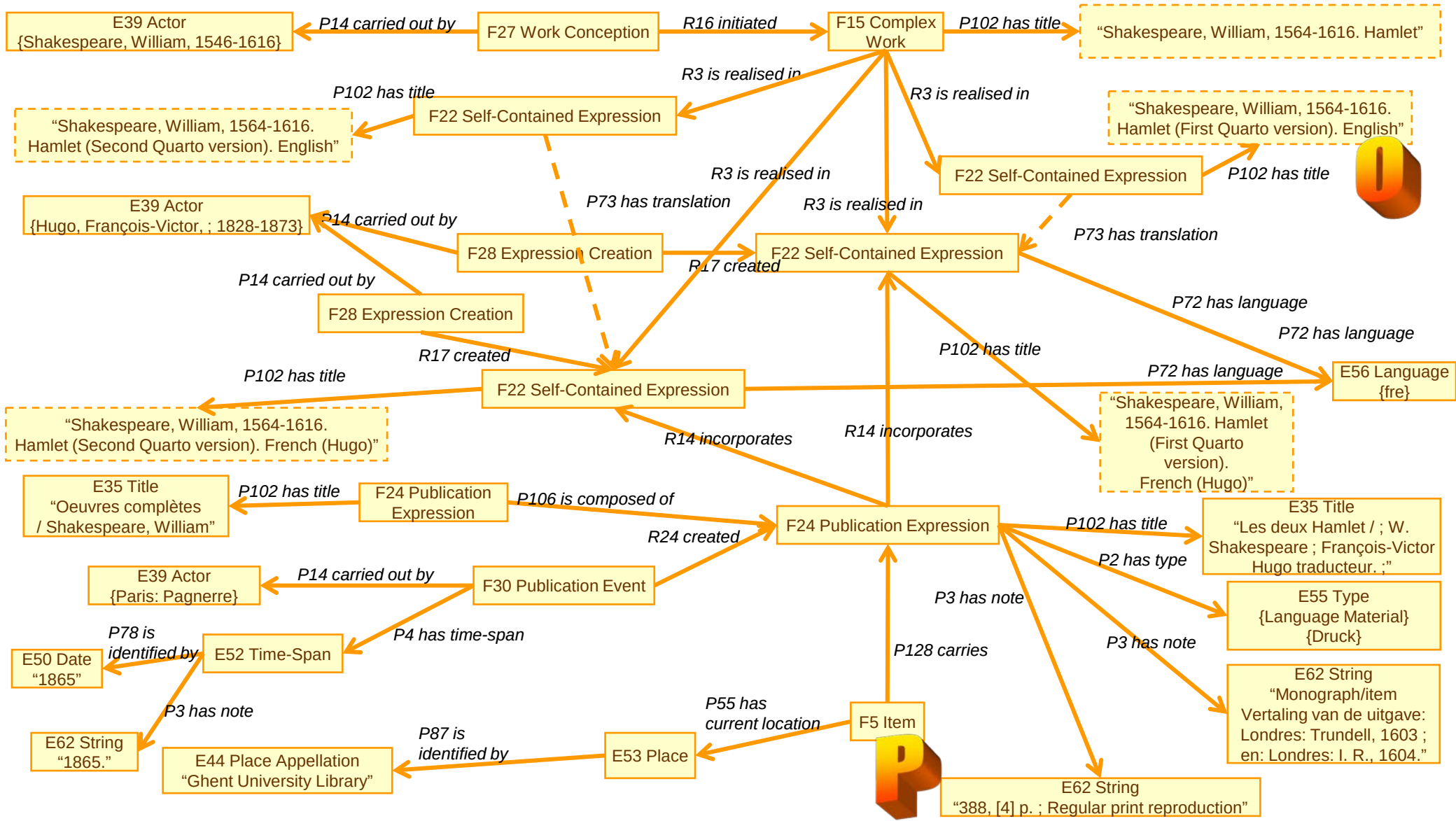
Example M according to "FRBR$_{OO}$ Core"



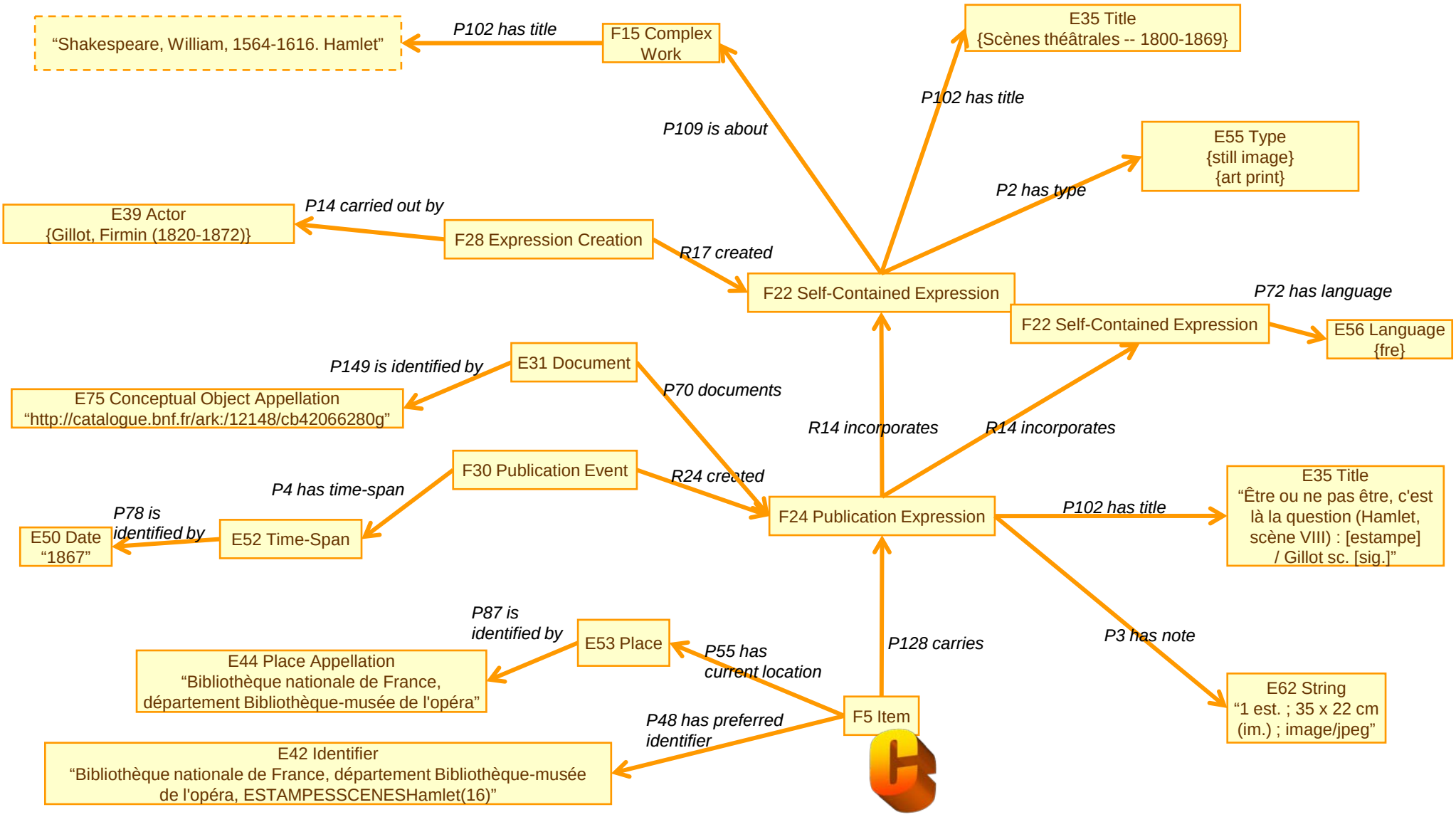
Example L according to "FRBR$_{OO}$ Core"



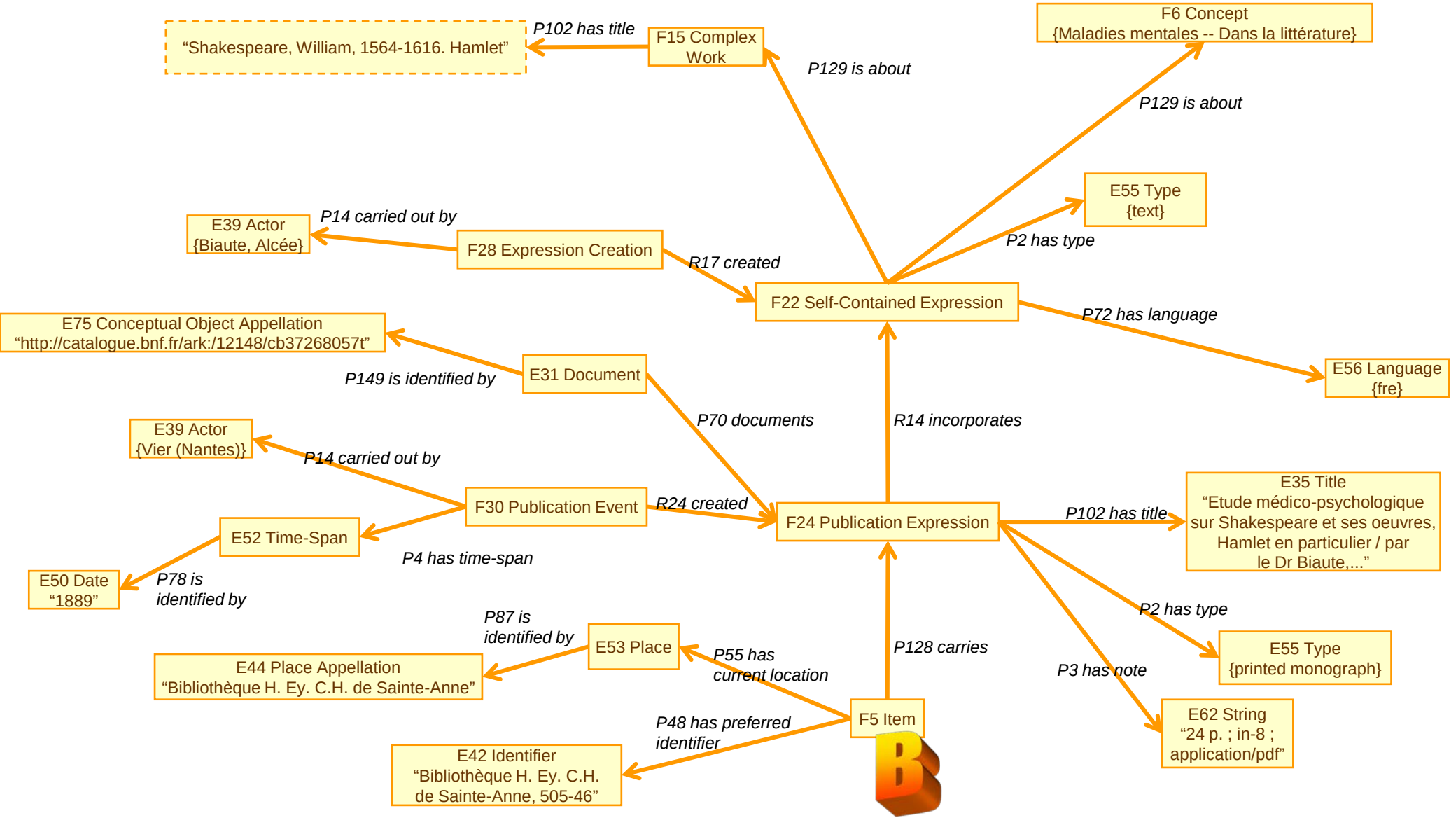
Example P according to "FRBR$_{OO}$ Core"



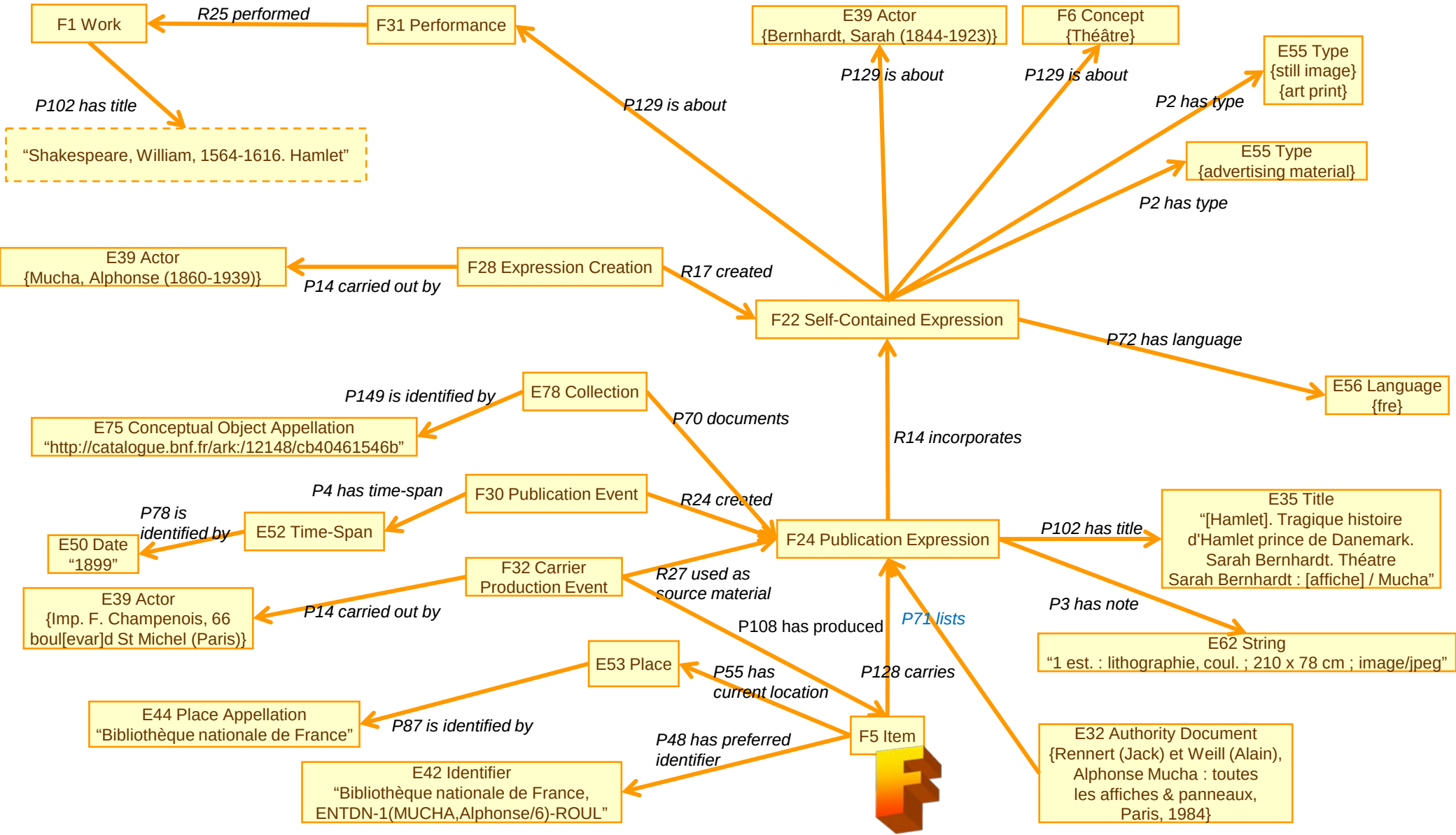
Example C according to "FRBR$_{OO}$ Core"



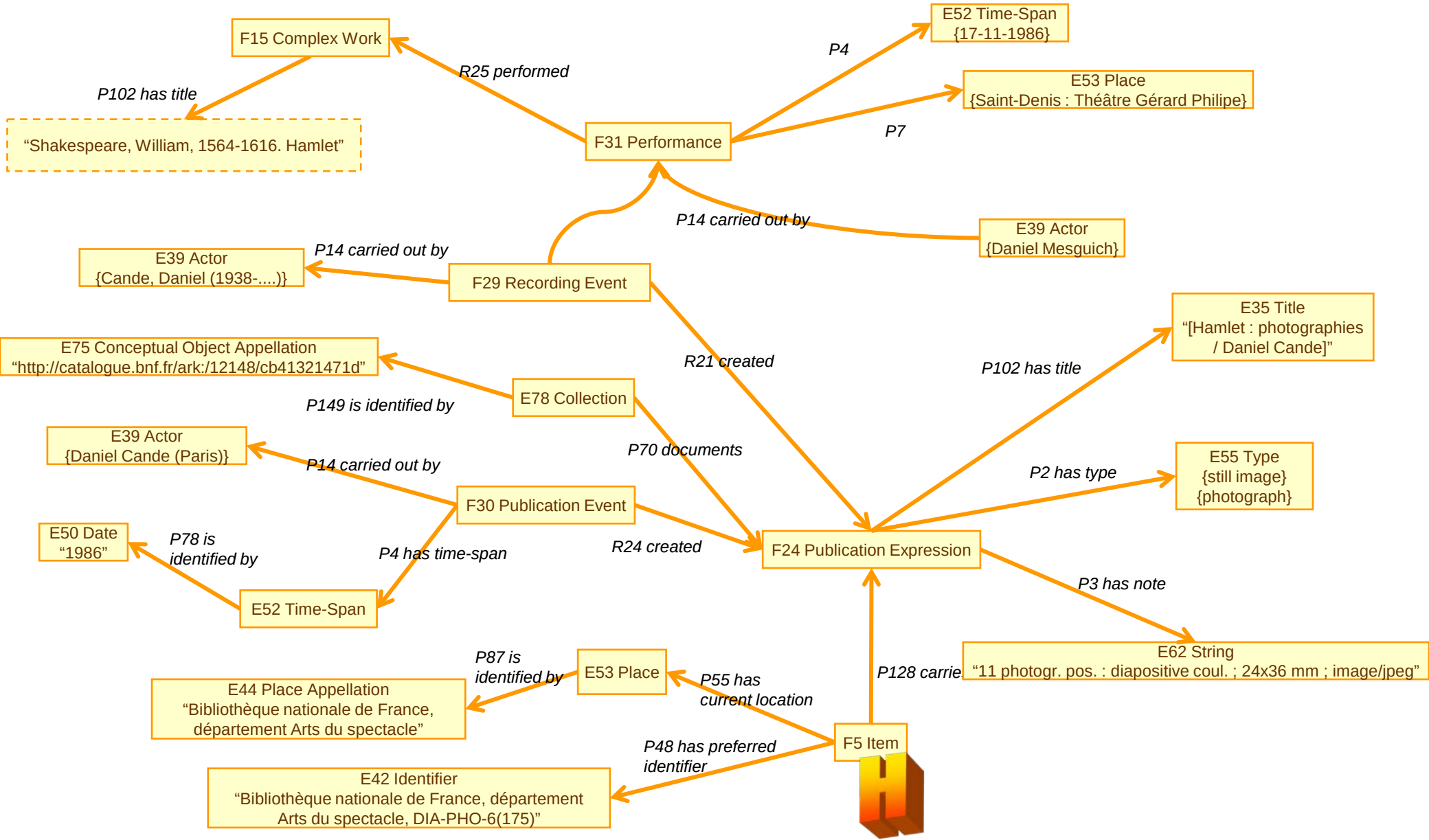
Example B according to "FRBR$_{OO}$ Core"



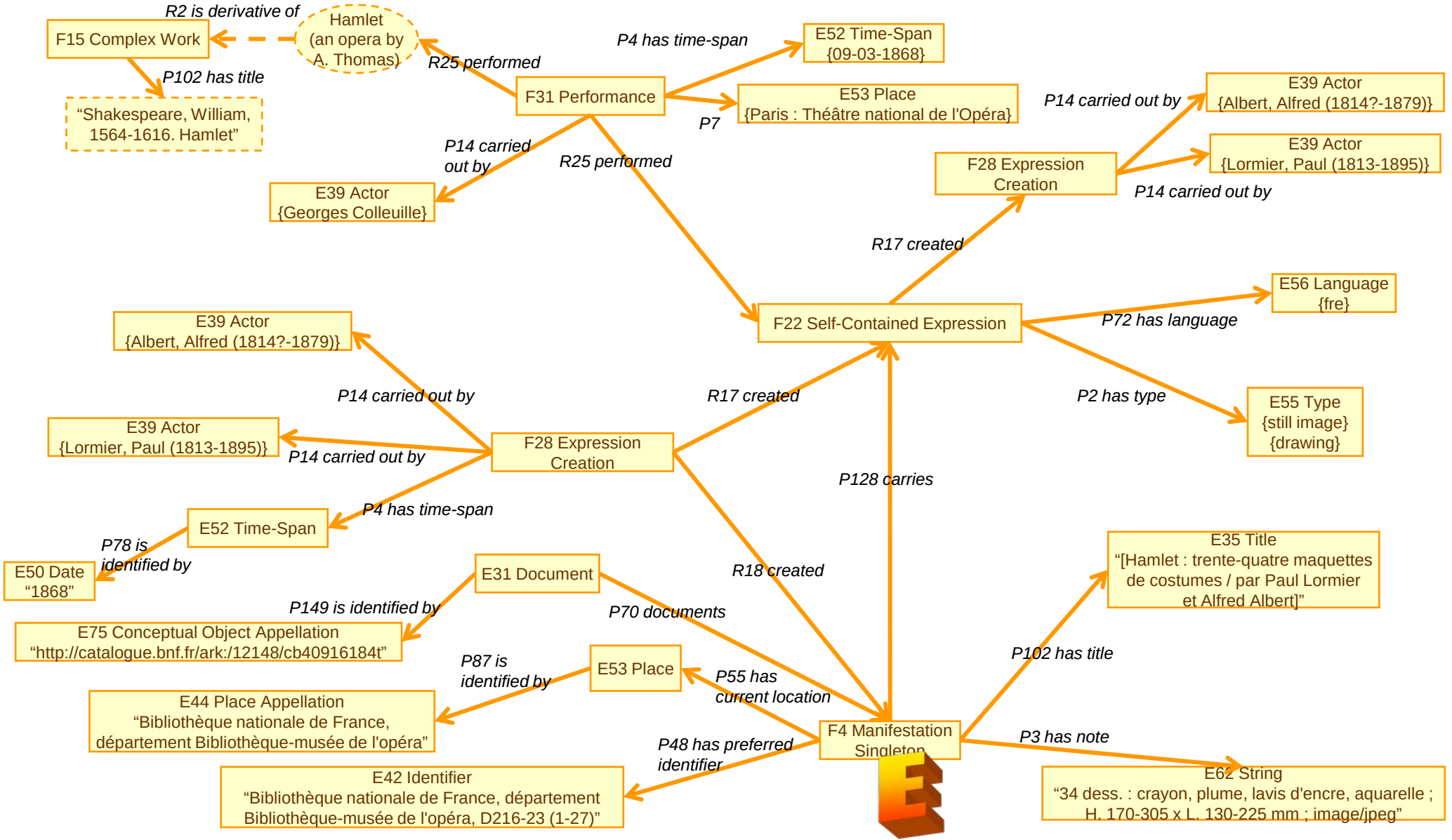
Example F according to "FRBR$_{OO}$ Core"



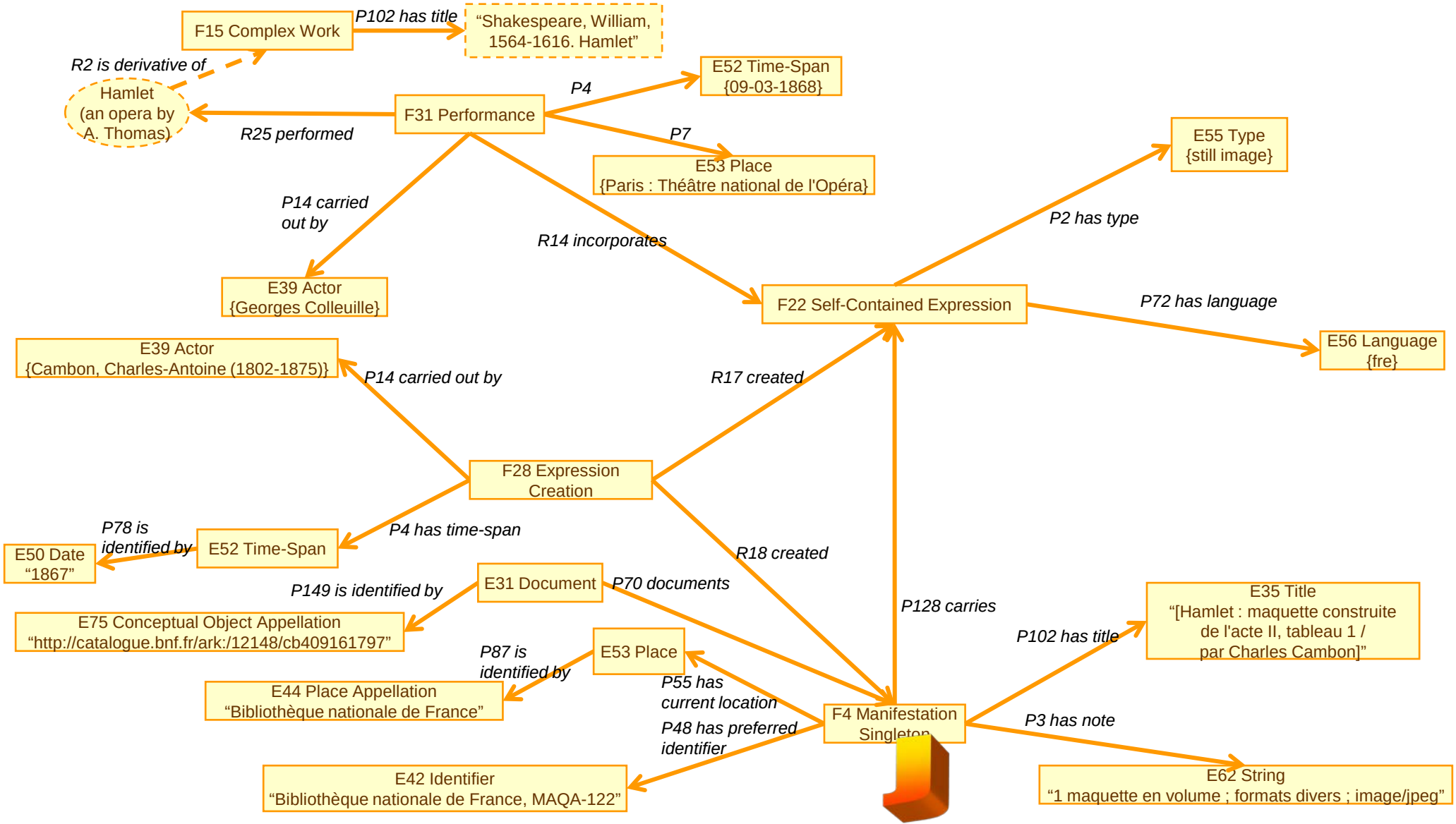
Example H(G) according to "FRBR$_{OO}$ Core"



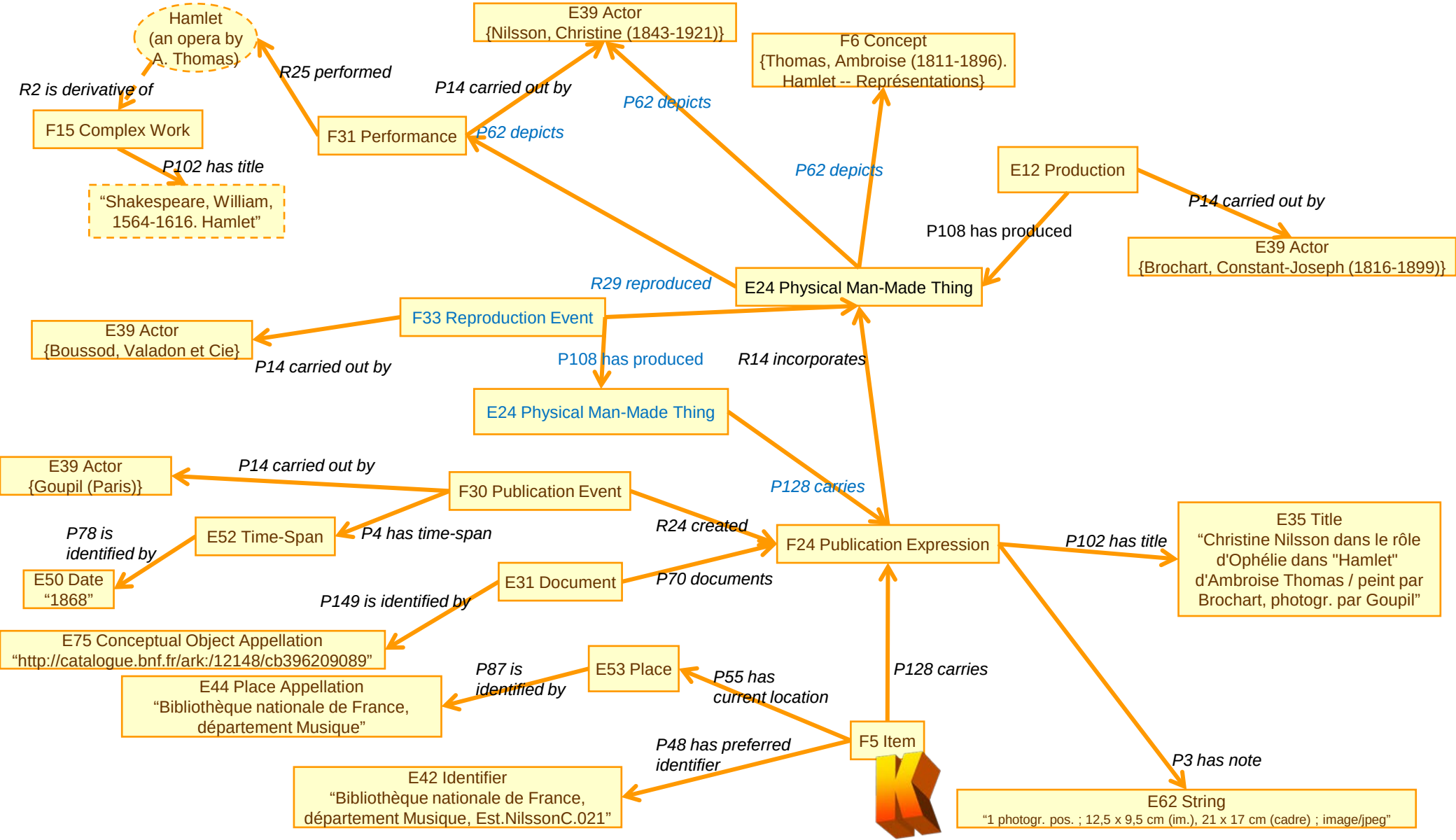
Example E according to "FRBR$_{OO}$ Core"



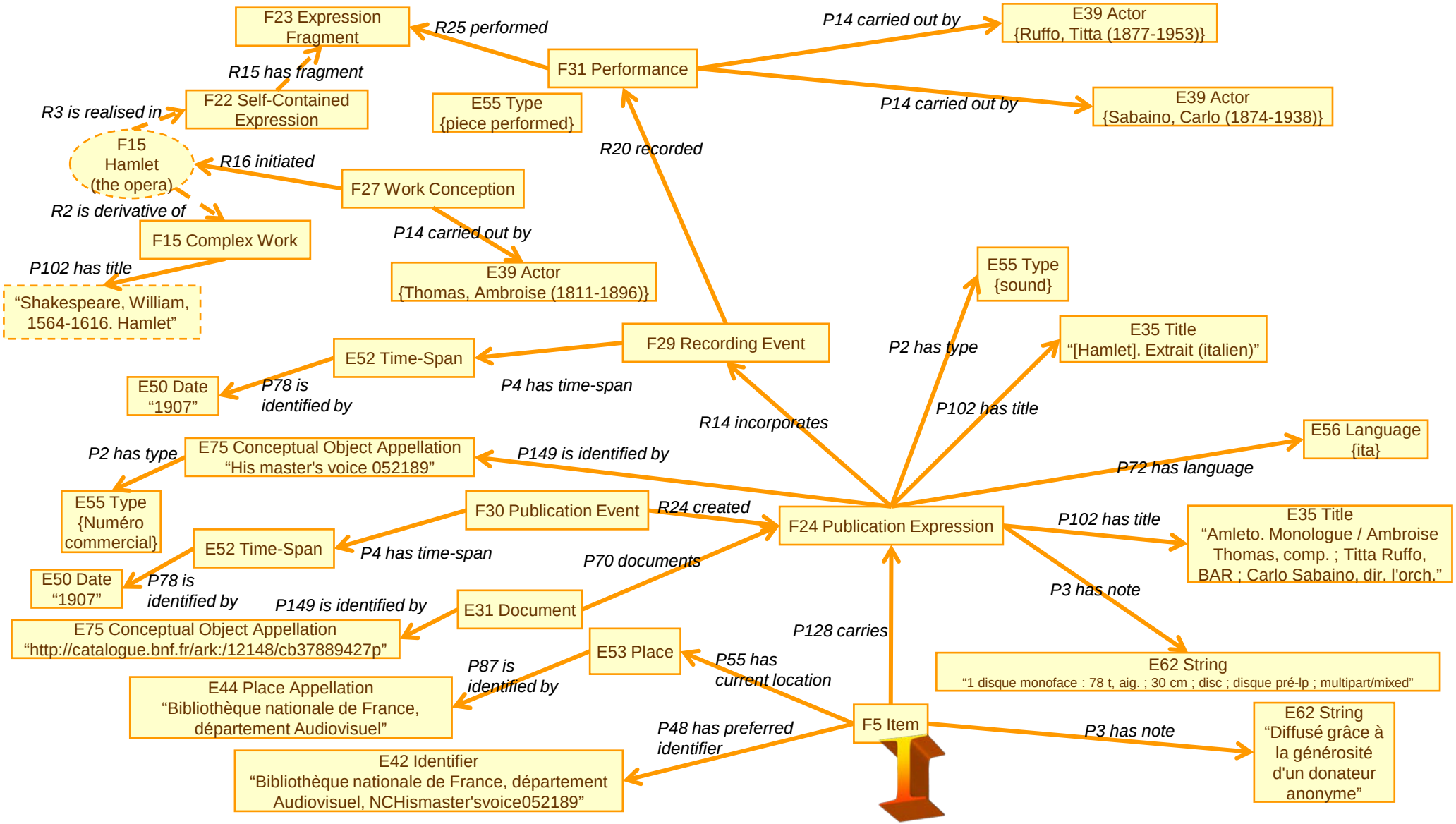
Example J according to "FRBR$_{OO}$ Core"

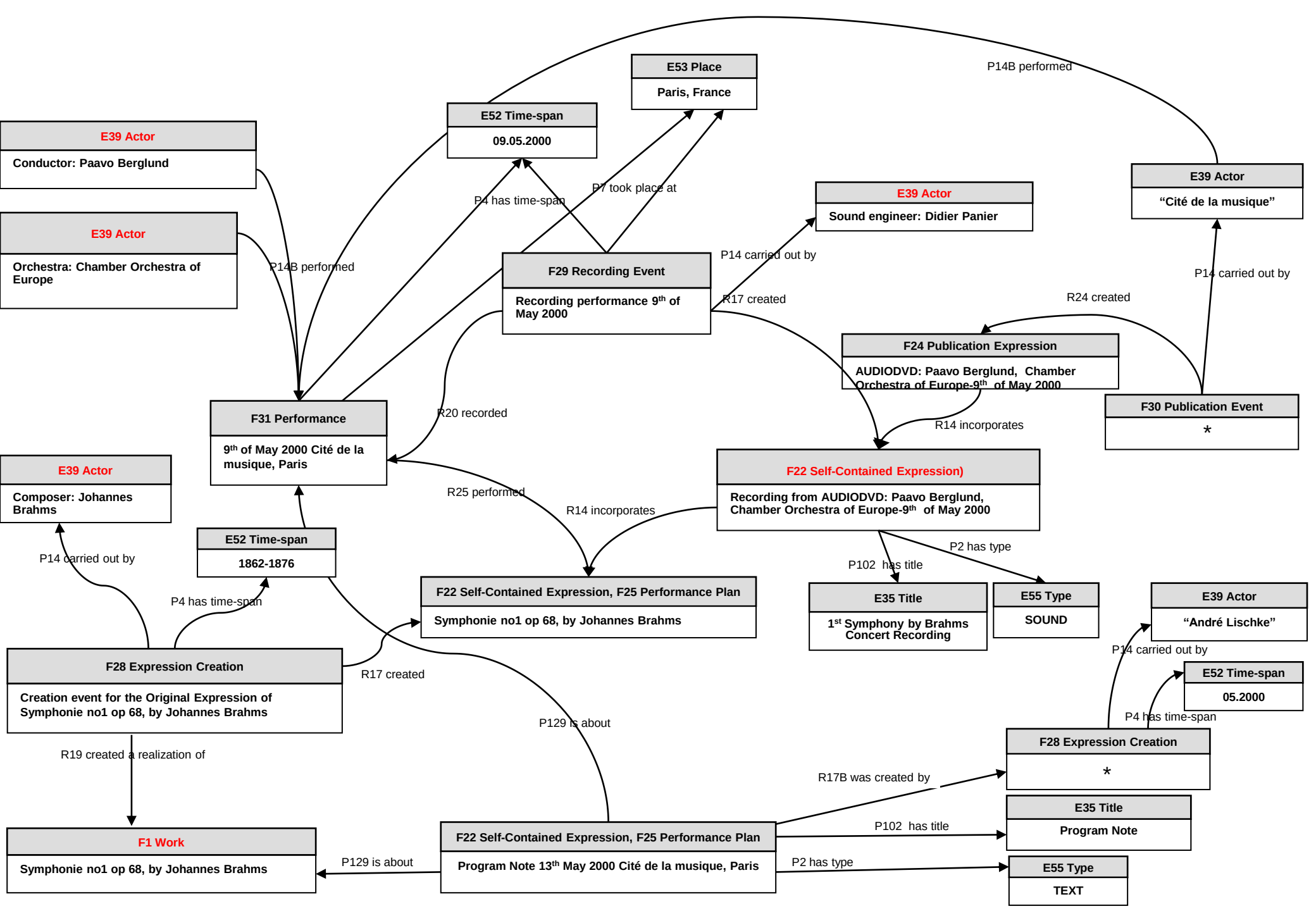


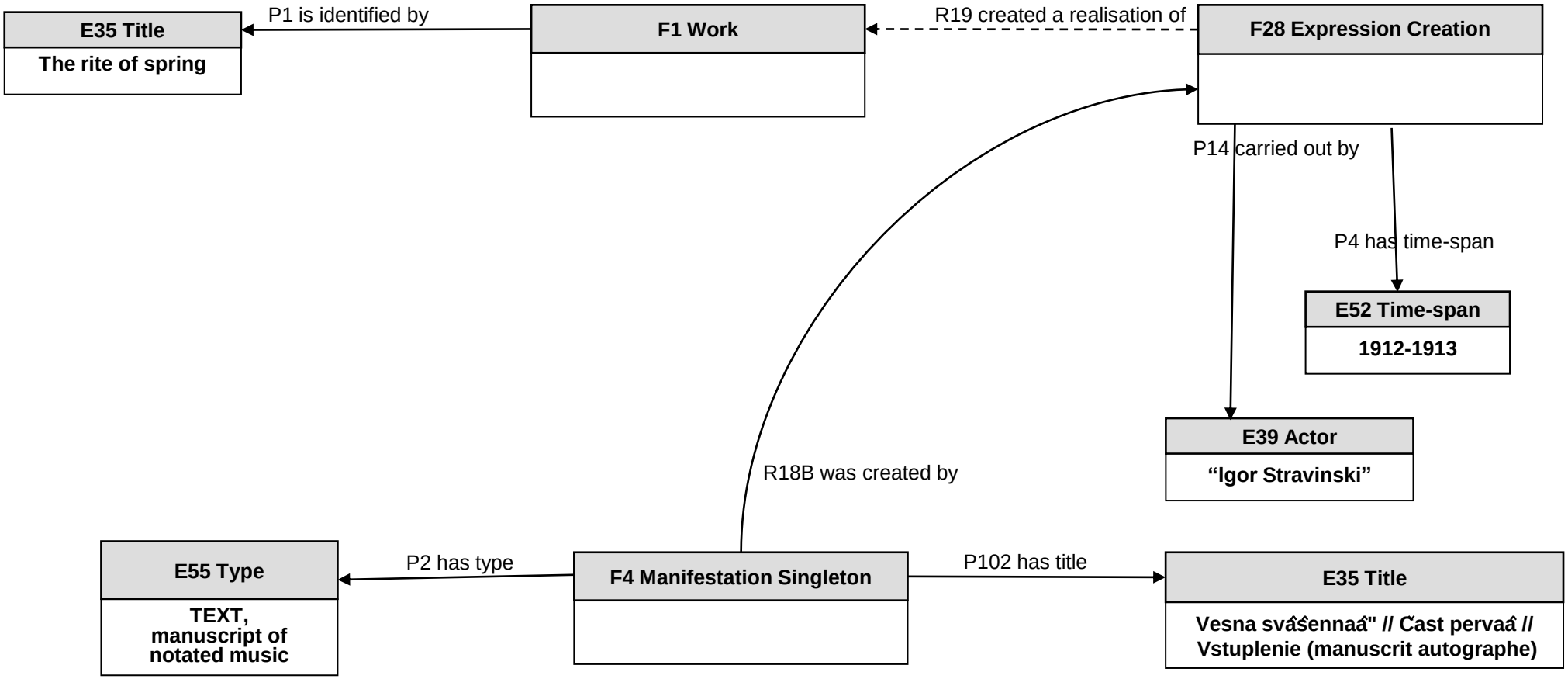
Example K according to "FRBR$_{OO}$ Core"



Example I according to "FRBR$_{OO}$ Core"




E53 Place
Paris, France
E52 Time-span
09.05.2000
P14B performed
E39 Actor
Conductor: Paavo Berglund
E39 Actor
Orchestra: Chamber Orchestra of Europe
P14B performed
P4 has time-span
P7 took place at
E39 Actor
Sound engineer: Didier Panier
E39 Actor
"Cité de la musique"
F29 Recording Event
Recording performance 9th of May 2000
P14 carried out by
R17 created
R24 created
P14 carried out by
F24 Publication Expression
AUDIODVD: Paavo Berglund, Chamber Orchestra of Europe-9th of May 2000
F30 Publication Event
*
R20 recorded
R14 incorporates
F31 Performance
9th of May 2000 Cité de la musique, Paris
E39 Actor
Composer: Johannes Brahms
R25 performed
R14 incorporates
F22 Self-Contained Expression)
Recording from AUDIODVD: Paavo Berglund, Chamber Orchestra of Europe-9th of May 2000
P14 carried out by
E52 Time-span
1862-1876
P2 has type
P102 has title
P4 has time-span
F22 Self-Contained Expression, F25 Performance Plan
Symphonie no1 op 68, by Johannes Brahms
E35 Title
1st Symphony by Brahms Concert Recording
E55 Type
SOUND
E39 Actor
"André Lischke"
P14 carried out by
E52 Time-span
05.2000
P4 has time-span
F28 Expression Creation
Creation event for the Original Expression of Symphonie no1 op 68, by Johannes Brahms
R17 created
P129 is about
R19 created a realization of
F28 Expression Creation
*
R17B was created by
E35 Title
Program Note
P102 has title
F1 Work
Symphonie no1 op 68, by Johannes Brahms
P129 is about
F22 Self-Contained Expression, F25 Performance Plan
Program Note 13th May 2000 Cité de la musique, Paris
P2 has type
E55 Type
TEXT


E35 Title
The rite of spring
P1 is identified by
F1 Work
R19 created a realisation of
F28 Expression Creation
P14 carried out by
P4 has time-span
E52 Time-span
1912-1913
E39 Actor
“Igor Stravinski”
R18B was created by
E55 Type
TEXT, manuscript of notated music
P2 has type
F4 Manifestation Singleton
P102 has title
E35 Title
Vesna svâšennaâ" // Čast pervaâ // Vstuplenie (manuscrit autographe)