CIDOC CRM+FRBRoo:
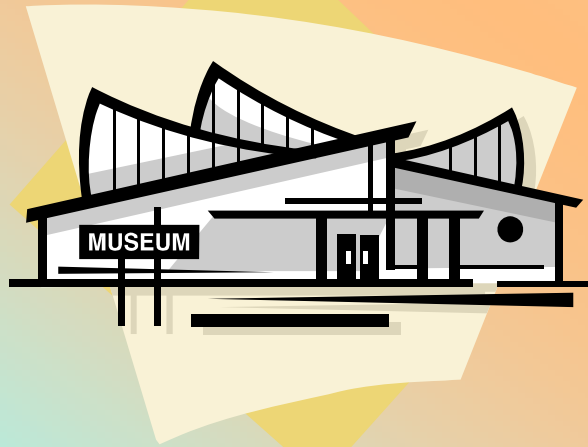## An Integrated View
of Museum and Library Information

Patrick Le Bœuf

National Library of France (BnF)

11 November 2013

Conference organized by Associação portuguesa
de bibliotecários, arquivistas e documentalistas

Museums and libraries

akin but different...

mostly unique objects   mostly copies of publications
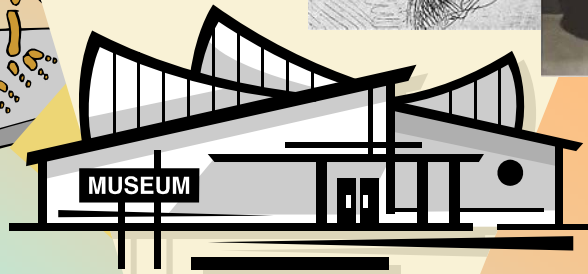
➔ How could they cooperate
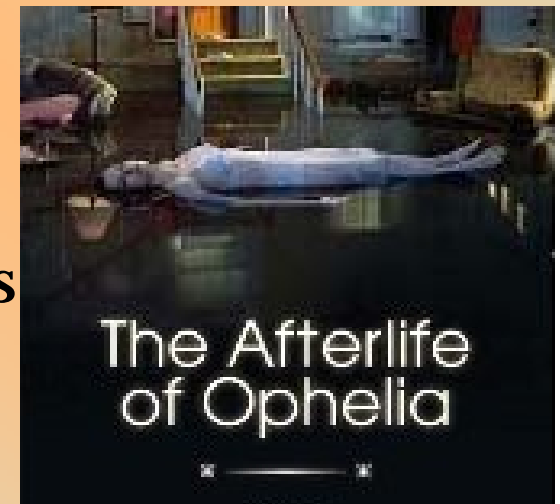(at least as far as cataloguing is concerned)?

Museums and libraries

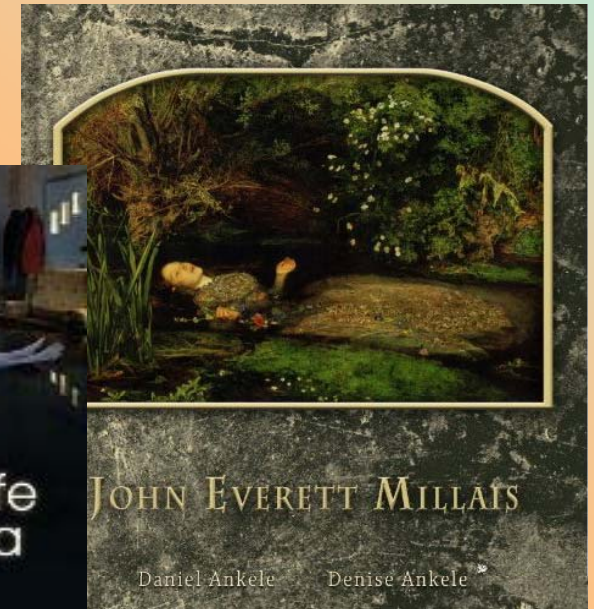different but akin…

also non-unique objects
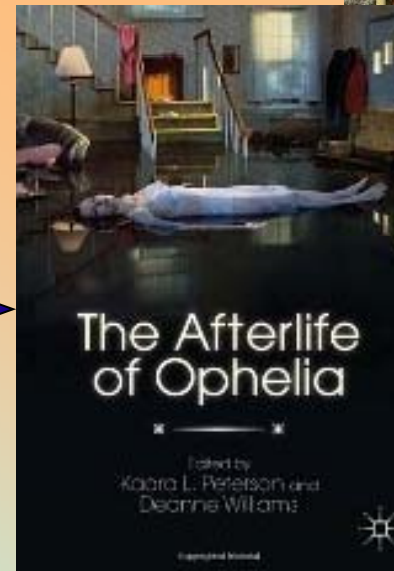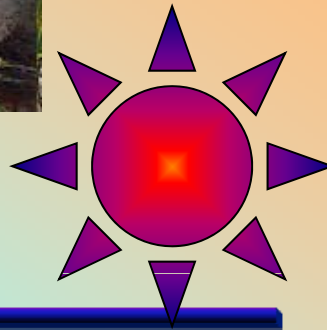
also unique objects

… and interrelated objects

The Afterlife of Ophelia

Museums and libraries

- ➔ It does make sense to strive to make museums' and libraries' databases interoperable through a common conceptual model
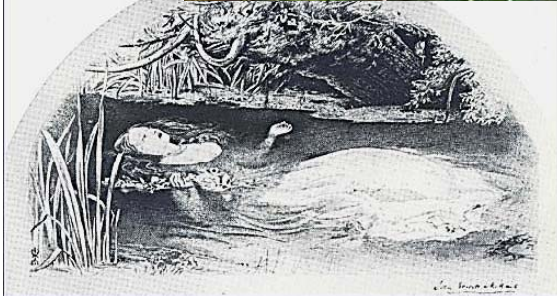
A striking coincidence
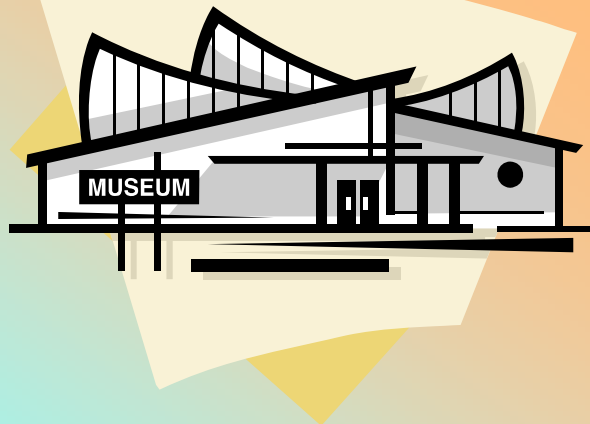
- 1998: release of a preliminary version of CIDOC CRM by ICOM CIDOC

- 1997: FRBR model approved by IFLA

FRBR: A Family of Models

- 1998: Functional Requirements for **Bibliographic** Records, FRBR
- 2009: Functional Requirements for **Authority** Data, FRAD
- 2011: Functional Requirements for **Subject** Authority Data, FRSAD
- 2014: on the agenda: a single model merging FRBR, FRAD, FRSAD
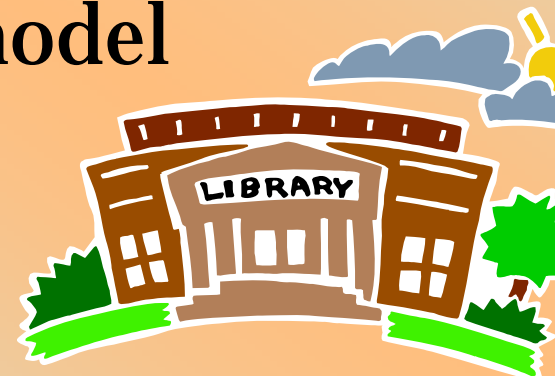
CIDOC CRM

- In the meantime, in museums…

  - 1995→: development of ICOM's CIDOC CRM
    ICOM: International Council of Museums
    CIDOC : International Committee for Documentation
    CRM: Conceptual Reference Model

  - 2000: formation of CIDOC CRM SIG (Special Interest Group)

  - 2006: CIDOC CRM published as ISO 21127

  - Today: refinements still being made in the CIDOC CRM + extensions for specific domains (CRMdig, CRMarchaeo…)

MUSEUM

FRBR/CIDOC CRM Harmonisation Group

- Formed 2003
- Representatives from
  - IFLA FRBR Review Group
  - CIDOC CRM SIG
- Objective: develop a unified model for descriptions of both unique and non-unique objects

How?

rly decision: CIDOC CRM as reference point

ranslate' FRBR into the CIDOC CRM formalism

amine each attribute and relationship defined in
?BR

nd equivalents in CIDOC CRM

here no equivalent, declare new subclasses and
bproperties

fine FRBR notions deemed too vague

ld some new classes and properties to CIDOC CRM

FRBR + CIDOC CRM = FRBR$_{OO}$

2003: International Working Group on
FRBR and CIDOC CRM Harmonization

2009: FRBR$_{OO}$ version 1.0

    (bibliographic data only)

2014: FRBR$_{OO}$ version 2.0

    (bibliographic + authority data)

What does FRBR$_{oo}$ cope with?

As an extension of CIDOC CRM, any type of item that is likely to be found in a museum:

- paintings
- drawings
- art prints...

... plus most types of items found in libraries:

- physical copies of a publication (books, CDs, DVDs, maps...)
- publications
- abstract content of publication
- performances...

... plus the content of authority files:

- information about persons,
- corporate bodies,

How to use FRBR$_{OO}$?

FRBR$_{OO}$ is an ***extension*** of CIDOC CRM

- CIDOC CRM is a standalone model
- FRBR$_{OO}$ can***not*** be used without CIDOC CRM

FRBR$_{OO}$ is a ***reformulation*** of FRBR, FRAD, FRSAD

- Although this is not a requirement, it is recommended to be familiar with the original FRBR, FRAD, FRSAD

How to use FRBR$_{OO}$?

Labels are ***but*** labels

- The codes are the genuine identifiers of classes and properties

- Labels may be misleading

- All the intended meaning of classes and properties is conveyed by scope notes

- Reading (and understanding) the scope notes ***is*** a requirement

An Example

Stage
model
for:

tle: *Ai amor sem pés nem cabeça*
rformance of: Anonymous texts from 18th century
age director: Luis Miguel Cintra
age designer: Cristina Reis
stume designer: Cristina Reis
rformers: Teatro da Cornucópia

How FRBR$_{OO}$ models a stage model

Performance Work

[concepts of the show titled *Ai amor sem pés nem cabeça*]

[Teatro do Bairro Alto (Lisbon)]

E53 Place

[From 30 May 2013 to 30 June 2013]

E52 Time-Span

*realised in
alises)*

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

*P7 took place at
(witnessed)*

[run of performances]

[set of instructions followed by the performers]

F31 Performance

F25 Performance Plan

*R25 performed
(was performed in)*

associated with

P69.1 has type

P20 had specific purpose (was purpose of)

E55 Type

{scenery}

E12 Production

*P33 used specific
technique (was used by)*

[construction of scenery]

WHO USES $FRBR_{OO}$?

Erlangen CRM / OWL

Erlangen Functional Requirements for Bibliographic Records object-oriented (EFRBRoo)

- *Latest Version*

  http://erlangen-crm.org/efrbroo/
  based on FRBRoo 1.0.2, EFRBR 121016 & the latest ECRM

  [Protege 3.4.8 Project-File | Direct Download | Documentation]

- *Version 121016*

  http://erlangen-crm.org/efrbroo/121016/
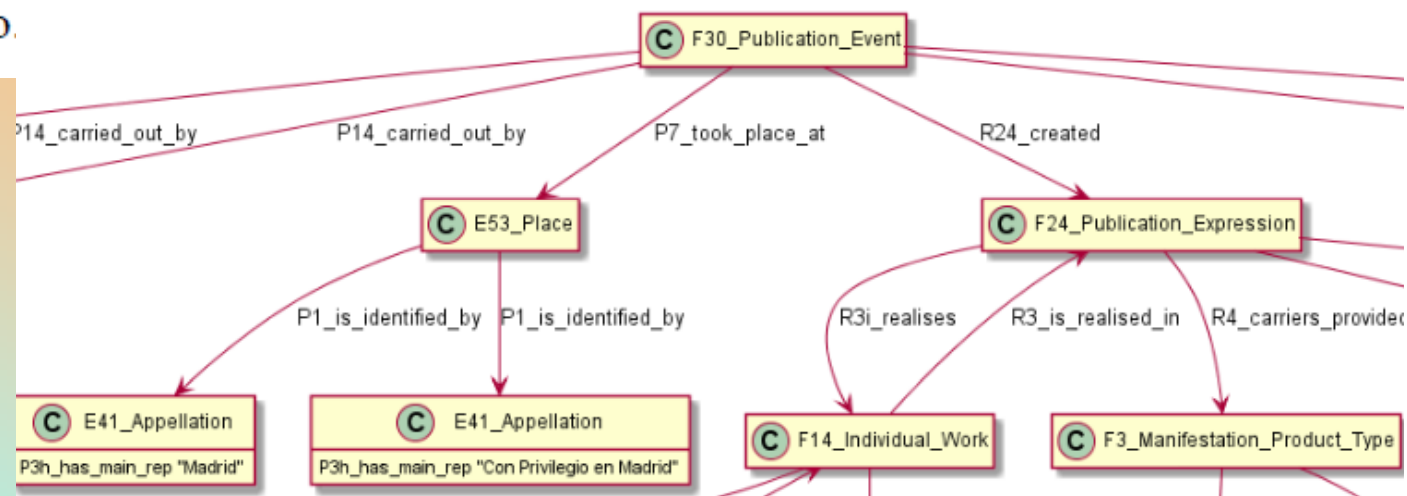 based on FRBRoo 1.0.2 & ECRM 120111

From MARC21 and Dublin Core, through CIDOC CRM: Tenuous Steps towards Representing Library Data in FRBRoo

y Mazurek, Krzysztof Sielski, Justyna Walkowska, Marcin Werla

Poznań Supercomputing and Networking Center

nally, we have created two mapping definitions: PLMET to FRBRoo and MARC 21 (as

oland) to FRBRoo.

://www.purl.com/net/hucit

ionInfo : 0.8

or : Matteo Romanello, Michele Pasin

iption : The description of the ontology.

oo:F2_Expression

cit:Expression

hucit:Citation

📁 hucit:CanonicalCitation

hucit:SelfContainedExpression

Thing

cit:ConceptualObject

hucit:CitationStyle

hucit:Expression

📁 hucit:Citation

📁 hucit:CanonicalCitation

hucit:SelfContainedExpression

haring Ancient Wisdoms

One of the aims of the SAWS project is to record and visualise the links within and between gnomologia; between these collections and source texts; and between collections and their recipient texts.

To provide the vocabulary we wish to use to express the links in the gnomologia, we have designed an ontology. The SAWS ontology contains:

- tems of interest in the gnomologia (anything we might want to link to/from)
- Relations between those Items (any link we might want to express)

The SAWS ontology is our vocabulary for describing the types of relationships present between or within our texts. The ontology relationships themselves can be used to annotate manuscripts with these links.
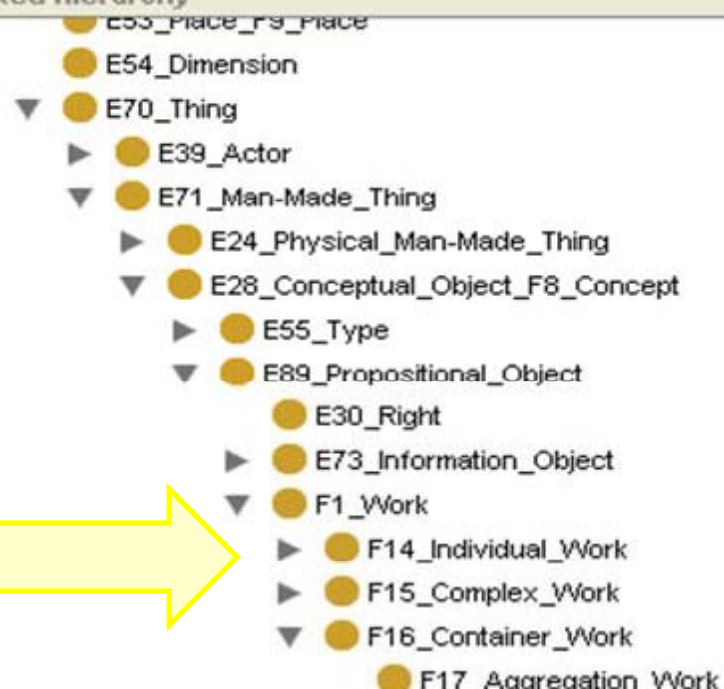
tudy of Manga Ontology based on Object-Oriented FRBR

Waeyoung Son, Mitsuharu Nagamori, Shigeo Sugimoto

ate School of Library, Information and Media Studies, University of Tsukuba

or Project: ● MangaOntology

Asserted Hierarchy

- E53_Place_F9_Place
- E54_Dimension
- ▼ ● E70_Thing
  - ▶ ● E39_Actor
  - ▼ ● E71_Man-Made_Thing
    - ▶ ● E24_Physical_Man-Made_Thing
    - ▼ ● E28_Conceptual_Object_F8_Concept
      - ▶ ● E55_Type
      - ▼ ● E89_Propositional_Object
        - ● E30_Right
        - ▶ ● E73_Information_Object
        - ▼ ● F1_Work
          - ▶ ● F14_Individual_Work
          - ▶ ● F15_Complex_Work
          - ▼ ● F16_Container_Work
            - ● F17_Aggregation_Work
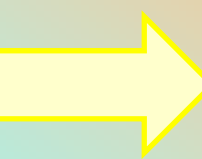
MIMESIS: A Semantic-based Approach for a Digital Library of Poetry in Music

Application to the Repertorio della Poesia Italiana in Musica 1500-1700 (RePIM) Repository

ia Bartolini [1], Cecilia Luzzi [2], Marco Patella [1], Angelo Pompilio [3] and Cesarino Ruini [4]

The Digital Library for Poetry in Music (1500-1700) project could benefit considerably from the use of FRBRoo. This object-oriented model could be used not only as a point of departure for the definition of specialized ontologies in the domains of poetry and music, but also for the exhaustive description of the

Journal of Documentation

ISSN: 0022-0418

Online from: 1945

Subject Area: Library and Information Studies

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EarlyCite Article
FRBRoo Based Approach to Heterogeneous Metadata Integration

Document Information:

Title: FRBRoo Based Approach to Heterogeneous Metadata Integration

Author(s): Ya-Ning Chen, (National Taiwan Normal University), Hao-Ren Ke, (National Taiwan Normal University)

Citation: Ya-Ning Chen, Hao-Ren Ke, (2013) "FRBRoo Based Approach to Heterogeneous Metadata Integration", Journal of Documentation, Vol. 69 Iss: 5

E-Learning and Digital Archives Program (TELDAP)

le of a query that can be answered through FRBR$_{oo}$:

Ontology-Based Framework for Real-Time Audiovisual Art

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Arnd Steinmetz
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arnd.steinmetz@h-da.de

Bernhard Thull
School of Media,University of Applied Sciences, Darmstadt,
Bernhard.thull@h-da.de

ady uses the CIDOC CRM
terested in the potential of FRBR$_{OO}$

In France

BES (Bibliographic Agency for Higher Education):
xperimentation with an RDF ontology based on $FRBR_{OO}$:

```
:F10.Person rdf:about="http://www.idref.fr/026667673/id">
<sudoc:P131F.1.est_identifie_par_forme_retenue>
 - <crm:E82.Actor_Appellation>
      <rdf:value rdf:datatype="http://www.w3.org/2001/XMLSchema#string">Pessoa, Fernando (1888-1935)</rdf:value>
   - <crm:P106F.is_composed_of>
      - <sudoc:E82.1.Element_Entree>
           <rdf:value rdf:datatype="http://www.w3.org/2001/XMLSchema#string">Pessoa</rdf:value>
        </sudoc:E82.1.Element_Entree>
      </crm:P106F.is_composed_of>
   - <crm:P106F.is_composed_of>
      - <sudoc:E82.2.Autre_Partie_Nom>
           <rdf:value rdf:datatype="http://www.w3.org/2001/XMLSchema#string">Fernando</rdf:value>
        </sudoc:E82.2.Autre_Partie_Nom>
      </crm:P106F.is_composed_of>
   </crm:E82.Actor_Appellation>
```

nF: a project (in its infancy) to develop an RDF ontology
ased on $FRBR_{OO}$

lans for collaboration between the two agencies

A few words to conclude

$FRBR_{OO}$ has a huge potential for the future
- Reuse of library info in museums and vice-versa
- Imagine applications making the best of these two worlds

But…
- Lack of critical mass so far
- Lack of really cross-domain experiments

$FRBR_{OO}$ and CIDOC CRM are often said to be 'too complex' to be practical…
- I loathe so-called 'simplifications.' They ***always*** result in huge complications on the long-term