

# Modelling bibliographic information: purposes, prospects, potential



UNIMARC & Friends:  
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# Introduction

- FRBR (Functional Requirements for Bibliographic Records):
  - the name has become “trendy”
  - “implementations” exist
  - about 163,000 hits on Google (including “noise”)
- => FRBR tends to belong to librarians’ familiar landscape
- => The library community gets “accustomed” to having a conceptual model

# Purposes

- ... But what is the use of having a conceptual model at all?
  - Initially, when FRBR development began:
    - To **explicate** what cataloguers **aim** to do while cataloguing
    - To provide a **scientific** basis for **minimal level** cataloguing
    - To have an overall view of problems posed by **all types of materials**
    - To address the issue of the emergence of **new user expectations and needs**

# Purposes

- ... Then, when FRBR reached a wide audience:
  - To design **innovative OPACs**
  - To better organise the **display** of bibliographic information
- Currently:
  - To serve as a conceptual framework for revising **International Cataloguing Principles**, & developing **RDA**
  - To lay the basis for an “**ontology**” to apply **Semantic Web technologies** to bibliographic information
- => There’s been a shift over time!

# Prospects & Potential

## ■ IFLA's initiatives:

- Maintain and update the FRBR model (**FRBR Review Group**, chaired by **Pat Riva** - see: <http://www.ifla.org/VII/s13/wgfrbr/wgfrbr.htm>)
- Extend the field covered by the modelling effort
  - to **authority** information: FRANAR or FRAR or FRAD or whatever (see Glenn Patton's talk)
  - to **subject** relationships: FRSAR
- Provide practical, operational guidelines about the model for bibliographic information:
  - Redefine the **Expression** entity
  - Investigate mereological relationships (how to deal with “**aggregates**”)

# Prospects & Potential

- Alignment with another model for cultural heritage information: **CIDOC CRM** (Conceptual Reference Model)
  - CIDOC CRM was developed from 1996 on, on behalf of the International Council of Museums (ICOM) / International Committee for Documentation (CIDOC)
  - Now an ISO standard (ISO 21127)
  - A semantic model for information about museum objects
- 2003: a WG was formed to “**harmonise FRBR and CIDOC CRM**” (includes IFLA representatives and members of CRM-SIG)

# Prospects & Potential

- Purposes:
  - to lay the basis for **mediation tools** between libraries and museums
  - to **prepare FRBR for Semantic Web applications** involving library and museum materials
- The idea is to use the resulting “ontology” in an **RDF** context:
  - to “navigate seamlessly” (if I may say so) from library to museum information and vice versa
  - to allow for “**inferences**” and **automated reasoning** based on the information stored in databases of both types

# Prospects & Potential

- **Outside IFLA:** 1. Library of Congress's initiative to examine **MARC21** from the perspective of FRBR: <http://www.loc.gov/marc/marc-functional-analysis/frbr.html>
  - resulted in the LoC's "FRBR Display Tool"
- No equivalent so far for UNIMARC
- However, **UNIMARC may have more potential for FRBRisation** than MARC21
  - Not that UNIMARC allows for "Expression records,"
  - But UNIMARC Authorities allows for **work-to-work direct links (field 540)**

# Prospects & Potential

- **Outside IFLA:** 2. Much interest in making FRBR and **RDF** work together
  - Stefan Gradmann advocates **expressing FRBR in RDF Schema or OWL** in order to implement catalogues using RDF and integrating Semantic Web ontologies:
    - would dig records **out of the “hidden Web”**
    - would enable **inferences**
    - would allow libraries to benefit from the general market for Web technologies, instead of the expensive, specialised library software market
  - **Expression in RDF** of FRBR concepts and relations (Ian Davis, Richard Newman, Bruce D’Arcus, 2005):  
<http://vocab.org/frbr/extended> <http://vocab.org/frbr/core>

# Is there a World beyond FRBR?

## ■ CIDOC CRM

- Though it focuses on museum information, its concepts can apply to bibliographic information
- I mapped (2005-2006) **UNIMARC to CIDOC CRM** for the C2RMF (Centre de recherche et de restauration des musées de France) in the context of the European project SCULPTEUR
  - Objective: to **integrate bibliographic and museum info** in an **ontology-driven** search engine (“**Concept Browser**”)
  - Mapping still unreleased (*needs checking for consistency; but in the near future, I promise...*)

# Is there a World beyond FRBR?

## ■ **XOBIS** (XML Organic Bibliographic Information Schema)

- Developed 2001-2002 by Lane Medical Library, Stanford University
- **Not** a conceptual model; an XML Schema (= a format) for bibliographic information, but with a very **original underlying conceptualisation**
- Unlike BiblioML and MARCXML, it is **not “just” a MARC format with XML tags**, but an effort to redefine bibliographic structures, having the XML potential in mind
  - “Unlimited” possibilities for bibliographic relationships
  - Allows for authority control even of qualifiers within headings

# Is there a World beyond FRBR?

- Some other related models and initiatives:
  - **<indecs>** ([www.indecs.org](http://www.indecs.org), 2000): bibliographic info from producers' and publishers' viewpoint
  - **ABC** (<http://metadata.net/harmony/ABCV2.htm>, 2001): an ontology to account for changes that affect ALM materials
  - **MPEG-7** (2004): a standard for describing multimedia content data (goes far beyond the needs of “classical” catalogues); there are current efforts (<http://rhizomik.net/ontologies/mpeg7ontos/>) to transform it into an ontology for Semantic Web usages
  - **MarcOnt** initiative ([www.marcont.org](http://www.marcont.org), 2005): transform MARC21 into an ontology expressed in OWL

# Conclusion

- FRBR was a groundbreaking initiative, but it was **just a beginning**
- FRBR **will influence** the International Cataloguing Principles and RDA (**our future environment?**)
- There is a connection with **Semantic Web activities and RDF**
- There is a connection with **museums**
- FRBR is **not the only way** to conceptualise / model / “ontologise” bibliographic information

# Open questions

- Should we **“FRBRise” UNIMARC?**
- Should we **“ontologise” UNIMARC?**
- Should we **“RDFise”** and **“OWLise” UNIMARC?**
- Should we **merge FRBR with** other models / ontologies (not just CIDOC CRM)?
- Should we **extend** and **“RDFise” FRBR?**
- Should we **“semanticwebise” the bibliographic information** we’ve been storing for centuries?
  
- (Personally, I think we should -- but what do *you* think?)

**Obrigado!**