FRBR Group 1 as a Preservation Administration Framework

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The Problems of Preservation

• How to preserve a thing
• Which things to preserve
• For whom (or for what use)
• For how long
Why FRBR: Version 1

• FRBR marries analytical and descriptive bibliography
• Similar to preservation model of intellectual content and artifactual value
  • Intellectual content requires an artifactual carrier
  • No necessary relationship between artifactual value and intellectual value
    - Useful information in poorly made books (*Dover, PoD*)
    - Materially fascinating books with no particularly valuable information (*Gutenberg Bible*)
Why FRBR: Version 2

• Major professional trauma: Nicholson Baker’s *Double Fold*
  • Libraries understood “newspaper” to mean a particular kind text
  • Baker understood “newspaper” to mean a particular kind of artifact
  • Neither party was wrong
    ➤ Though one of the notable American authors involved was pretty rude. *Ahem.*
Mismatch of Levels

• Preservation controversy occurs when different FRBR levels are used for:
  1. Detection of problems and
  2. Implementation of solutions*
Implementing Solutions: Materials & Rendering

- **Substrate**: material substance(s) of the object (e.g. paper, film, aluminum, silicon)
- **Media**: the material substance(s) that record information (e.g. ink, silver, ferrous alloys, electrons)
- **Transport**: the means of moving information from the Media to the reader (e.g. light, light, SATA bus, USB bus)
- **Language**: the semiotic system(s) that renders the information in a meaningful way (e.g. Latin, Cinema studies, TIFF, PDF)
**M&R in FRBR: Highly Speculative**

<table>
<thead>
<tr>
<th>FRBR Group 1</th>
<th>M&amp;R</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work</td>
<td>No equivalent</td>
<td>Preservation has to have an object.*</td>
</tr>
<tr>
<td>Expression</td>
<td>Language</td>
<td>Each way of expressing a work has semiotic implications. Consider translations.</td>
</tr>
<tr>
<td>Manifestation</td>
<td>Transport</td>
<td>The way an expression is recorded implies the way it has to be rendered back.</td>
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</tbody>
</table>
| Item         | Substrate + Media | The item is the *concrete* endpoint for FRBR.  
*Note that preservation “doubles up” here.* |
FRBR: For Description

• **Work**: a distinct intellectual or artistic creation

• **Expression**: specific intellectual or artistic form that a Work takes each time it is realized

• **Manifestation**: embodiment(s) of an Expression [with the same] intellectual content and physical form

• **Item**: a single exemplar of a Manifestation; the entity defined as Item is a concrete entity
FRBR: For Description

- **Work**: a distinct intellectual or artistic creation
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Item: Preservation must address a concrete entity, which can be:
  • repaired in conservation
  • created during reformatting
  • stabilized through preservation

Manifestation
Expression
Work

Preservation actions support outcomes at one or more of these levels
Preservation in a FRBR context

Preservation only act on *Items*

• These items may be important entities *(special collections?)* or may be instances of a *W, E, or M* *(research collections?)*

• Each Item preserves one *WEM →I* chain

• Preservation **success** at one level (*W,E,M,* or *I*) can **coexist with** preservation **failure** at another level
Preserving Items

- Easy to confuse $M$ and $I$ in preservation
  - $M$-level & up is preservation \textit{(risk management)}
  - $I$-level is conservation \textit{(corrective/preventative treatment)}
  - $I_1M_1 \rightarrow I_1M_2$ is reformatting \textit{(digitization, etc.)}
    - Working \textit{(not PARS approved)} definitions in FRBR terms:
      - “Preservation consists in activities that improve the likelihood of ongoing access to existence of $M,E$, or $W$”
      - “Conservation consists in activities that perpetuate the existence of $I$”
      - “Reformatting consists in activities that perpetuate the existence of $E$ or $W$ through the creation of new $I$ and $M$”

- If $I_x$ has unique value and cannot be exchanged with $I_y$
  - Implies that $I \equiv M$: “Item-Manifestation Equivalence”
    - Working \textit{(not RBMS approved)} definition for special collections could be made in FRBR terms:
      - “Collections where all $I$ have Item-Manifestation Equivalence”
Manifestation-level Preservation
Expression-level Preservation

**Work-Level**

**Expression-Level**

**Manifestation-Level**

**Item-Level**

Multiple Copies in Many Manifestations: Low risk and Easy Access
Expression-level Preservation

$E$ preservation possible with many $I$ loss scenarios, but... Does $E$ preservation require all $M$s?

Many $M$, but only in Last/Single Copies: Higher Risk and/or Less Access
Work-level Preservation

- Work-Level
  - Expression-Level
    - Manifestation-Level
      - Item-Level
Work-level Preservation

Must require at least one $I$ (realizes an $M$ of an $E$)… but… Does $W$ preservation require all $Es$?
Risk Management: Initial $I$ for likelihood of (1) $I$ in 2100 C.E., given a 1% annual loss rate

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<tr>
<th>Initial number of copies</th>
<th>Survival probability in 2100 CE (1% loss)</th>
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<tbody>
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<td>20</td>
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</table>
No $M$-level risk: Many $I$

Manifestation

Items for 99%

- $l_1$
- $l_2$
- $l_3$
- $l_4$
- $l_5$
- $l_6$
- $l_7$
- $l_8$

for 99.9%

- $l_{10}$
- $l_{11}$
- $l_{12}$
- $l_{13}$

for 99.99%

- $l_{14}$
- $l_{15}$
- $l_{16}$
- $l_{17...n}$
Low Risk to $M$: Ample Copies
Managed Preservation: Adequate copies if loss is carefully controlled (≤1% per year)
Towards a National/Global Plan: Identify Dedicated Repositories and Support Networks

Manifestation

- for 99% → Preservation Repositories
- for 99.9% → Constoria/Regions
- for 99.99% → Mega-regions/Global library network
Questions & Discussion

- Is this interpretation of FRBR appropriately aligned with cataloging practice and interpretation?
  - Does preservation of a $W$ require all $E$?
  - Does preservation of an $E$ require all $M$?

- Are these FRBR-based definitions of preservation useful?
  - Special Collection/Repository Copy $\rightarrow I = M$
  - Preservation sustains $MEW$
  - Conservation sustains $I$
  - Reformatting sustains $EW$ by $I_{1}M_{1} \rightarrow I_{1}M_{2}$

- And more, I’m sure...