RDA and FRBR: the Shape of Things to Come?

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Over the next hour...

Overview of FRBR and FRAD
Conceptual models
Organization

Outline of RDA
Organization, principles, etc.
Examples from the current version

Implementation questions
“Constituency responses”
Library of Congress response
Timetable
Fuelling most of the changes to the cataloguing code are two reports from the International Federation of Library Associations and Institutions (IFLA): first of all, *Functional Requirements for Bibliographic Records* (known everywhere as FRBR) published in 1998, and second, *Functional Requirements for Authority Data* (FRAD), published as a draft in 2007.

This IFLA group set out to analyze what it calls the bibliographic universe, and in these documents (FRBR FRAD) seeks to define a consistent *entity-relationship model* for bibliographic information.
FRBR User Tasks:

People *navigate* library catalogues to:

- *find* items corresponding to their search criteria
- *identify* an entity
- *select* an entity that is appropriate to their needs
- acquire or *obtain* access to the entity described

FRBR Approach & Objectives

Create a framework to *identify & define*:

- **Entities** of interest to bibliographic *users*
- **Attributes** of each entity
- **Relationships** operating between entities

“No *a priori* assumptions” of record content/structure

“User-focused approach”

“Library clients and staff … publishers, distributors, retailers … providers and users of information services … [in a] wide range of applications”

Object: establishing more precise vocabulary and definitions to describe the structure of bibliographic and authority records and the relationships between them. The starting point was identifying USER TASKS (“users” being broadly defined).
FRBR defines & describes ten “entities in chapter 3; their associated “attributes” (chapter 4) and their relationships (chapter 5); covering all aspects of bibliographic information. The entities are divided into three groups, which might be summarized as what, who, and about what.

Group I describes what is being “named or described in bibliographic records”, in a hierarchy of four levels, moving from the abstract to the concrete. At the top is Work, “a distinct intellectual or artistic creation”, for example Bach’s Die Kunst der Fuge.
considered at a purely abstract level—that is, the imaginative object that we understand lies behind, but is independent of, all published editions, performances, and recordings.

The second entity is *Expression*: the “realization of a work in the form of alphanumeric, musical, or choreographic notation, sound, image, object, movement, etc., or any combination of such forms.” Bach’s unfinished open score of *Die Kunst der Fuge* is one expression; a published arrangement for brass ensemble is another; a recording of a performance on the organ is another. This entity seems to cause the most confusion, because it still refers to an abstraction, and because it is not always clear where to draw the line between a work, a related work, or an expression.

It is the next level of entity, the *Manifestation*, which refers to “the physical embodiment of an expression of a work”. Lionel Rogg’s recorded performance of the work is an expression, of which the 1970 LP release is the first manifestation; a subsequent reissue on CD would be another manifestation. *Manifestation* is really just a fancy word for what we used to call *edition*. And a physical copy of an edition of a work, or in FRBRese “a single exemplar of a manifestation”, is an *Item*, the last and most concrete Group 1 entity.

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Group 2 describes *who* is “involved in the creation or realization of a work”—either a *Person* (“an individual”) or a *Corporate Body* (“an organization or group of individuals and/or organizations acting as a unit”; this includes conferences, exhibitions, and festivals).
Then with the Group 3 entities we turn our attention to other things that works are about. In addition to any of the Group 1 and 2 entities, works can be about Concepts, Objects, Events, and Places.

FRBR devotes chapter 3 to defining these three groups of entities; collectively we can refer to these as Bibliographic Entities. Then Chapter 4 is devoted to listing in exhaustive detail the attributes of these entities.
Attributes are the **identifying characteristics** of an entity, of any kind, whether inherent and ascertainable from the entity itself (like title, physical form, medium, notation), or externally applied (like Köchel catalogue numbers for Mozart) from a reference source or something other than the entity itself. FRBR has defined attributes at a “logical” level: characteristics as they might be considered by a user, rather than individual specific data elements.

**Work attributes**: *Title* (can be more than one associated); *Form* = class to which it belongs (novel, biography, symphony, map, painting); *Other characteristic*: anything that can differentiate a work from another of the same title.
Group 1 Entities and their Attributes

**Manifestation**
- title
- statement of responsibility
- edition/issue
- edition/issue designation
- place of publication
- publisher/distributor
- date of publication
- fabricator/manufacturer
- series statement
- form of carrier
- extent of the carrier
- physical medium
- capture mode
- dimensions of the carrier
- manifestation identifier
- source for acquisition authorization
- terms of availability
- access restrictions
- typeface (printed book)
- type size (printed book)
- foliation (hand-printed book)
- collation (hand-printed book)
- publication status (serial)
- numbering (serial)
- playing speed, groove width, kind of cutting, tape configuration (sound recording)
- colour (image)
- reduction ratio (microform)
- polarity (microform or visual projection)
- generation (microform or visual projection)
- system requirements (electronic resource)
- file characteristics (electronic resource)
- mode of access (remote access electronic resource)
- access address (remote access electronic resource)

**Item**
- item identifier
- fingerprint
- provenance
- marks/inscriptions
- exhibition history
- condition of the item
- treatment history
- scheduled treatment
- access restrictions

N.B. Attributes of “ephemeral” transactions are not part of the model.

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Group 2 & 3 Entities and their Attributes

**Person**
- name
- dates
- title
- other associated designation

**Corporate Body**
- name of the corporate body
- associated number
- associated place
- associated date
- other associated designation

**Concept**

**Object**

**Event**

**Place**
Then in chapter 5 we find a codification of the many kinds of relationships to be found between the 10 entities.

We’ve already seen the primary relationships between the 10 entities (work – expression – manifestation … person … place, event…) in the previous diagrams. An additional class of relationships is defined, both among and between the three groups of entities (e.g. equivalent, derivative, or whole / part relationships between works and other works or expressions; manifestation to manifestation relationships such as reprints or reproductions (microform, digital etc.); role relationships such as those that exist between creators / performers and works / expressions; and so on.)
It is a question of drawing the line; at what point are two things different enough to count as separate works? E.g. music transcriptions or arrangements are different expressions up to a point, beyond which they are separate works (derivative).
In the *Functional Requirements for Authority Data* IFLA seeks to establish a conceptual model for authority data just as FRBR does for bibliographic data. And thus, to understand the current functioning of authorities, and to clarify the concepts and perhaps improve the way it works. FRAD is similarly careful to describe “data” rather than records, but for all current purposes we are talking about MARC authority records.
**Identifiers** are “a number, code, word, phrase, logo, device, etc. that is uniquely associated with an entity, and serves to differentiate that entity from other entities within the domain in which the identifier is assigned”. E.g. SINs, ISBNs, Book barcodes, etc.

**Person:** An individual or a persona established or adopted by an individual or group.  
**Name:** A character or group of words and/or characters by which an entity is known  
**Controlled access point:** — A name, term, code, etc. under which a bibliographic or authority record or reference will be found.
Examples of FRAD Relationships

- Parallel language relationship
- Alternative script relationship
- Different rules relationship
  etc.

- Real name relationship
- Earlier name relationship
- Later name relationship
  etc.

Controlled Access Point

- Parallel language relationship
- Alternative script relationship
- Different rules relationship
  etc.

Ring out the Old, Ring in the New!

*RDA Design Objectives*

- Comprehensiveness
- Consistency
- Clarity
- Rationality
- Currency
- Compatibility
- Adaptability
- Ease and efficiency of use
- Format flexibility
The end result of IFLA's rigorous entity analysis is purportedly a stronger conceptual model. It is on this basis that FRBR and FRAD inform the rules, **terminology** and **organization** of the updated cataloguing code, RDA.

- **Comprehensiveness**: The guidelines and instructions should cover all types of resources and all types of content represented in catalogues or similar tools.
- **Consistency**: The guidelines and instructions should be consistent in their formulation.
- **Clarity**: The guidelines and instructions should be clear and written in plain English. They should be unambiguous with respect to underlying concepts, terminology, and scope of application.
- **Rationality**: The guidelines and instructions should reflect rational, non-arbitrary decisions.
- **Currency**: The guidelines and instructions should be responsive to new developments affecting the range, nature, and characteristics of the resources and types of content covered, and to the emergence of new types of resources and content.
- **Compatibility**: The guidelines and instructions should be compatible with internationally established principles, models, and standards.
- **Adaptability**: The guidelines and instructions should be amenable to adaptation by various communities to meet their specific needs.
- **Ease and efficiency of use**: …
- **Format**: The guidelines and instructions should be amenable to presentation in either a conventional print format or in a digital format embodying features such as hypertext links, selective display, etc.

Some of these objectives verge on the mutually exclusive: Comprehensiveness / Clarity / Ease of Use ….
RDA Changes in Terminology

<table>
<thead>
<tr>
<th>AACR2</th>
<th>RDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>rules</td>
<td>guidelines</td>
</tr>
<tr>
<td>(e.g.: 1.4F6)</td>
<td>(e.g.: 2.8.6.6)</td>
</tr>
<tr>
<td>item</td>
<td>resource</td>
</tr>
<tr>
<td>heading</td>
<td>access point</td>
</tr>
<tr>
<td>main entry</td>
<td>preferred access point</td>
</tr>
<tr>
<td>uniform title</td>
<td>preferred title</td>
</tr>
<tr>
<td>GMD</td>
<td>carrier</td>
</tr>
</tbody>
</table>

RDA is saturated in FRBR jargon, to avoid the “imprecision” of AACR2 language. The first words out of its mouth -- Chapter 0, section 0 (Purpose and Scope) -- cite FRBR and FRAD user tasks (“find, identify, select, obtain”).

Conspicuous are replacements for the “General Material Designation” or GMD that was previously inserted (in AACR2) within square brackets into the title, e.g. [sound recording] and the “Specific Material Designation” found in the physical description, e.g. 1 score. The idea is to make a clear distinction between content and carrier terms, removing AACR2’s occasional blurriness (both carrier terms like [microform] and content terms like [map] are listed as GMDs, for example).
Many of the actual rules and examples have not changed much....

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RDA guidelines vs. AACR2 rules...

2.4.1.4 Recording Statements of Responsibility

Transcribe a statement of responsibility in the form in which it appears on the source of information. Apply the general guidelines on transcription given rules 2.7 REK.

FOR EXAMPLE:

by Walter de la Mare
by H. S. Gurney
by J. B. Hitchcock
by Homer L. Froy
dictated and produced by the Ladies of the Daughters of Washington

Edition and Introduced by Mrs. C. F. Loyd

McKitterick of Washington Theolgy Seminary, Berkeley, Calif.

Sponsored by the United States Board of Education

FOR EXAMPLE:

Published by the Library Association

Source of Information made available by the Library Association (Western) (WA)

Optional Observation

Adapt a statement of responsibility only if it can be adapted without loss of essential information. Do not use a mark of punctuation such as an ellipsis. Also avoid the first name appearing in the statement. When multiple names are given adapt the responsibility statement more than one period, etc. apply the instructions given under 2.4.1.5 REK.

FOR EXAMPLE:

By Mary Smith

Source of Information made by Dr. Mary Smith

FOR EXAMPLE:

Charles E. Watson, Jr.

Source of Information made by Charles E. Watson, Jr.

FOR EXAMPLE:

Sponsored by the Library Association

Source of Information made available by the Library Association (Western) (WA)
RDA started out with a similar basic layout to AACR2, but has now been radically reorganized, so as to be conceptually arranged by the underlying FRBR/FRAD attributes, entities and relationships of the catalogue and authority file, rather than based on the order of elements in a catalogue display.

Quote: The organization of [the first draft of] RDA was too closely based on current database structures of linked bibliographic and authority records, whereas the ultimate aim is a relational/ object-oriented database structure [ACOC]; [It was] insufficiently aligned with Functional Requirements for Bibliographic Records (FRBR) and Functional Requirements for Authority Data (FRAD) [ALA].
RDA implementation scenario 2: Linked bibliographic & authority records

This is the prevalent model from which RDA seeks to escape....
Sections 1-4: Recording attributes of...
1. Manifestation and item (chapters 1-4)
2. Work and expression (chapters 5-7)
3. Person, family, and corporate body (chapters 8-11)
4. Concept, object, event, and place (chapters 12-16*)

Sections 5-10: Recording relationships...
5. (primary) between a work, expression, manifestation, and item (chapter 17)
6. to associated persons, families, and corporate bodies (chapters 18-22)
7. to concepts, objects, events, & places associated with a work (chapter 23*)
8. between works, expressions, manifestations, and items (chapter 24-28)
9. between persons, families, and corporate bodies (chapters 29-32)
10. between concepts, objects, events, and places (chapters 33-37*)

* forthcoming...

The most obvious change between AACR2 and RDA is the ORGANIZATION of the rules (now called “guidelines”). AACR2 is based on the pragmatic assumption that cataloguers begin with a physical object in front of them which needs to be converted into a descriptive surrogate, and which also needs to have consistent access points added. So the code starts with rules and principles for describing documents of all kinds, in Part I. Part II covers the rules for making headings.

Both parts of AACR2 are agnostic about the encoding scheme used to input and index the data: there is nothing in the rules or examples about MARC coding. But because it was a product of the card catalogue era, AACR2 does prescribe and illustrate punctuation as specified by the ISBD. RDA takes agnosticism a step further, with no reference to any particular coding scheme, nor any reference to a particular “record syntax” and concomitant punctuation in the illustrative examples. From the promotional brochure: “RDA focuses on the information needed to describe a resource NOT how to display that information.”

But a bigger difference is the organization of the rules into chapters and sections.

Sections 1-4 are focused on recording the attributes of FRBR entities: Sections 5-10 are devoted to recording the relationships between all these entities. The reasoning is that “closer alignment with the FRBR and FRAD models and direct reference to the FRBR entities and user tasks will make it easier for cataloguers to learn and understand RDA concepts and for system designers to create powerful applications to support resource discovery.”

Because the arrangement is by FRBR concept rather than ISBD display, navigating the text in search of rules for specific formats such as music can at first be rather daunting for experienced cataloguers.
RDA is conceived primarily as a web resource, not a printed manual. Searching the text, establishing links, making bookmarks, customizing the display—these things can be done quite easily through a web browser, or so the theory goes.
Sample MARC Records

<table>
<thead>
<tr>
<th>Field</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>005</td>
<td>20110103082048.0</td>
</tr>
<tr>
<td>010</td>
<td>$a 2010561586</td>
</tr>
<tr>
<td>020</td>
<td>$a 9788496594413</td>
</tr>
<tr>
<td>035</td>
<td>$a (EP-BaPL)pu100001128</td>
</tr>
<tr>
<td>035</td>
<td>$a (DLC) 2010561680</td>
</tr>
<tr>
<td>035</td>
<td>$a 9877130</td>
</tr>
<tr>
<td>040</td>
<td>$a DLC $b eng $c DLC $e rda</td>
</tr>
<tr>
<td>042</td>
<td>$a pcc</td>
</tr>
<tr>
<td>050</td>
<td>00 $a PQ6652.L2937 $b D4 2010</td>
</tr>
<tr>
<td>100</td>
<td>1 $a Blanco Aguinaga, Carlos, $d 1926-</td>
</tr>
<tr>
<td>245</td>
<td>10 $a De mal asiente / $c Carlos Blanco Aguinaga.</td>
</tr>
<tr>
<td>250</td>
<td>$a Primera edición</td>
</tr>
<tr>
<td>300</td>
<td>$a 329 pages : $b illustrations ; $c 20 cm.</td>
</tr>
<tr>
<td>336</td>
<td>$a text $2 rdcontent</td>
</tr>
<tr>
<td>337</td>
<td>$a unmediated $2 rdmedium</td>
</tr>
<tr>
<td>338</td>
<td>$a volume $2 rdconver</td>
</tr>
<tr>
<td>490</td>
<td>0 $a Retinas imprescindibles</td>
</tr>
</tbody>
</table>

Note:

- No more abbreviations (e.g. 250 and 260);
- GMD banished from 245, replaced by 336, 337, 338 fields, to separate the three FRBR attributes of content, medium and carrier.
Sample MARC Records

| 005 | 20101213113543 0 |
| 007 | softrsnungnmneded |
| 906 | $a 7 $b cbc $c orignew $d 5 $e nclp $f 20 $g y-soundrec |
| 925 | 0 $a acquire $b 2 shelf copies $x policy default |
| 955 | $a q01 2010-12-02 |
| 010 | $a 2010615055 |
| 024 | 0 $a 094501031602 |
| 033 | $b 4414 $c C25 |
| 040 | $a DLC $b eng $c DLC $e rda |
| 050 | 00 $a SDB 980E3 |
| 245 | 00 $a Contemporary piano music for four hands. |
| 260 | $a Place of production not identified : $b Emüke Uji and Eri Yoshimura, [2008?], ©2008. |
| 300 | $a 1 compact disc : $b digital, optical, 1.4 m/s ; $c 4 3/4 in. |
| 336 | $a performed music $2 rdacontent |
| 337 | $a audio $2 rdamedia |
| 338 | $a audiodisc $2 rdacarrier |
| 511 | 0 $a Eri Yoshimura and Emüke Uji, piano. |
| 518 | $a Recorded at Agov Soft Studio, Cancun, Mexico. |

Again, no 245 GMD; also note that [S.I.] is no longer used when no place of publication or production can be ascertained. But even common abbreviations (p., ill.) are banished.
Constituency Response

Iterative, protracted process of feedback

formal responses from LC, ALA, CILIP, Canadian Cataloguing Committee, etc.

informal responses on blogs, lists, etc.

There have been bouquets and brickbats; formal constituency responses from national library organizations; and informal blogs and discussions (autocat etc.) The complete reorganization based on FRBR came out of the first round, 5 years ago. The latest round was completed two years ago. Test records were created in the Fall of 2010; with evaluation by LC from January – March 2011; LC’s decision whether to adopt RDA is expected in June.
RDA: Flexibility or Contortionism?

- “Provides a flexible and extensible framework” to describe resources based on “state-of-the-art digital technologies”
- Takes advantage of “efficiencies and flexibility … provided by “newer database technologies”
- AACR2 instructions “reworked” to be “easier to use, more adaptable, and more cost-efficient”

... yet also ...

- Built on foundations established by AACR2
- Permits integration of RDA-based records into existing catalogues
- Compatible with “legacy technologies”
- “Element set” compatible with ISBD, MARC21, and Dublin Core

The JSC, collective authors of RDA, intended to produce something more flexible than AACR2, in order to encourage its adoption by publishers and vendors, and to ensure its compatibility with future relational, object-oriented database structures. But at the same time, they aimed at a standard that is backward-compatible with the millions of AACR records already in MARC catalogues. This is a challenging posture to maintain, and has led to complaints that RDA is not nearly radical enough, retaining far too much complex emphasis on outdated details of descriptive terminology. Hostile critics like Karen Coyle and Diane Hillmann eloquently denounce what they see as a fatal lack of forward thinking in a standard “built on the crumbling walls of AACR2”— but offer little advice to libraries wishing neither to discard nor entirely reconstruct their existing catalogues.
RDA: What are the Odds?

RDA has full support from professional organizations (ALA, CLA, CILIP);

Huge investment by the JSC of time, effort, money

... but ...

Underwhelming enthusiasm from LC at first;

Insufficiently radical to justify the upheaval?

Can NACO/SACO libraries (OCLC) opt in without LC?

Can libraries opt out if LC/OCLC opts in?

Will LC lead the way in implementing RDA? There is some genuine suspense here, since although LC’s cataloguing directorate is represented on the Joint Steering Committee and actively contributing to RDA, LC’s Associate Librarian for Library Services, Deanna Marcum, simultaneously convened a “Working Group on the Future of Bibliographic Control” in November 2006 whose membership included not only various library organizations but representatives from Google and Microsoft as well. The Working Group’s final report in January 2008 included the blunt recommendation to suspend work on RDA until its “presumed benefits” and indeed those of FRBR as well, have been “convincingly demonstrated.” But in May 2008 the leaders of LC (including Deanna Marcum), the National Library of Medicine, and the National Agricultural Library issued a joint statement supporting the completion of RDA, on the grounds that until the full draft standard and its online interface were available, reviewers would not be able to assess its impact.

Other objections:
RDA has hitched its wagon very firmly to FRBR entities; but is the elusive concept of a “WORK” realized through an “EXPRESSION” actually useful? Faced with the expense of implementing RDA, LC’s bean counters etc. are asking pointed questions about the underlying premise. On what basis do FRBR’s theorems rest? No actual user surveys or studies were ever conducted.

Is the full entity-relationship / relational database / granular data model sensible as the basis for a shared international cataloguing code? Creating rules to relate a high-level logical model to actual case-by-case data is complex, given the messiness of the “bibliographic universe”.


Other Scenarios
We could genuinely simplify rules (cf Michael Gorman) by removing special cases, exceptions, etc. for special kinds of material, formats (maps, music); allow “specialist manuals” created by interested parties.

Or we could even forget about a single mammoth manual covering description and access points. IFLA continues to update ISBDs; these contain only guidelines for description – why duplicate the effort? Concentrate instead on controlling access points.

Links

RDA Toolkit homepage at http://www.rdatoolkit.org/home

Joint Steering Committee RDA homepage at http://www.rda-jsc.org/rda.html

RDA Entity-Relationship Diagram for WORK at
http://www.rdatoolkit.org/backgroundfiles/Work_6_1_09.pdf

RDA Relationships Overview Diagram at
http://www.rdatoolkit.org/backgroundfiles/RelationshipsOverview_10_9_09.pdf

Library of Congress Working Group on the Future of Bibliographic Control at
http://www.loc.gov/bibliographic-future/

Michael Gorman on RDA: http://www.slc.bc.ca/rda1007.pdf