



From FRBR to FRAD: Extending the Model

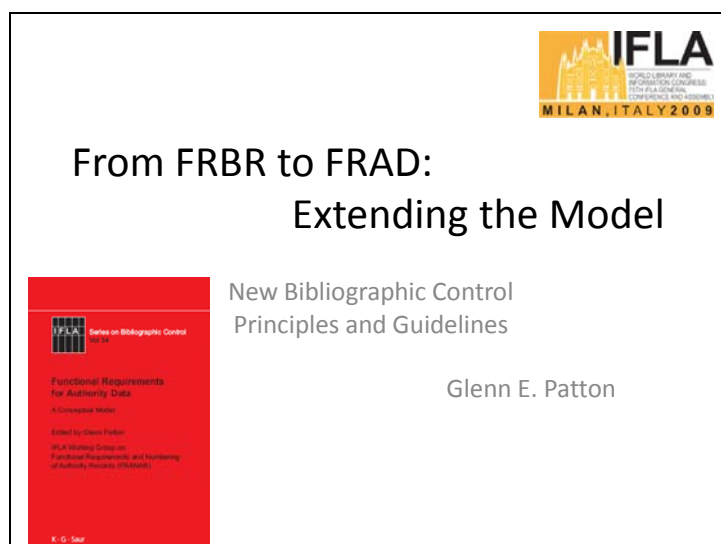
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Abstract:

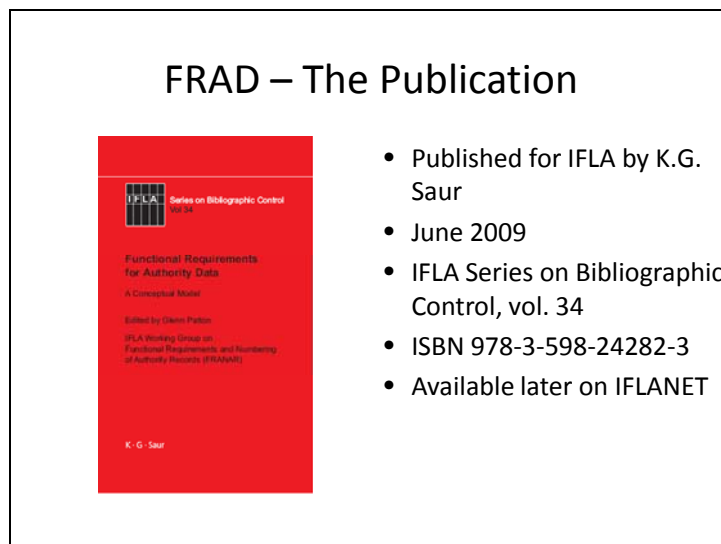
A report on the completion of the work of the IFLA Working Group on Functional Requirements and Numbering of Authority Records which was charged by the IFLA Division of Bibliographic Control to extend the FRBR model to authority data.



The IFLA Working Group on Functional Requirements and Numbering of Authority Data is pleased to have the opportunity to describe the conclusion of IFLA's efforts to extend the FRBR model to authority data.

The *Functional Requirements for Authority Data* is the creation of the IFLA Working Group on Functional Requirements and Numbering of Authority Records, a working group appointed by the IFLA Division of Bibliographic Control and the Universal Bibliographic Control and International MARC Program.

The ten members of the Working Group are Françoise Bourdon, Christina Hengel-Dietrich, Olga Lavrenova, Andrew MacEwan, Eeva Mortomaa, Glenn Patton, Henry Snyder, Barbara Tillett, Hartmut Walravens, and Mirna Willer. Seven countries are represented: Croatia, Finland, France, Germany, Russia, the United Kingdom, and the United States. Françoise Bourdon served as chair until January 2002 when Glenn Patton became the chair. We had excellent assistance from Marie-France Plassard, Director of the UBCIM Programme, until her retirement in 2003. Since October 2001, Tom Delsey has served as consultant, bringing the group his long experience with modeling and his service as a consultant to the FRBR Study Group.



The Working Group is pleased to announce the publication of *Functional Requirements for Authority Data* earlier this year. Printed copies, issued in the *IFLA Series on Bibliographic Control*, are available now. An electronic version will be available on IFLANET later.

A number of translations are already in preparation so watch for upcoming announcements of those.

During all of the FRANAR Working Group's activities to extend the FRBR model to authority data, we have been guided by these two objectives:


- To provide an understanding of how authority data functions currently
- To clarify the underlying concepts to provide a basis for refining and improving on current practice in the future

These are similar to the FRBR model objectives of understanding **why** catalogers do what we do and **how** the bibliographic information that is recorded as part of the cataloging process is

actually used by users of online catalogs and to provide a rational basis for improving the cataloging process.

FRAD – The Methodology

- Entity-relationship model
 - Entities
 - Attributes of those entities
 - Relationships between those entities
- Attributes and relationships mapped to User Tasks



Just as is true of the FRBR model, the FRAD model is an entity-relationship model. The model defines a group of entities, the attributes of those entities as well as the relationships between those entities. Also, the model maps the attributes and relationships to the User Tasks described in the model.

Functions of Authority Data

- 1) Document decisions
- 2) Serve as reference tool
- 3) Control forms of access points
- 4) Support access to bibliographic file
- 5) Link bibliographic and authority files

As a step toward understanding how authority data is used currently in the library context, the group identified five functions of that data:

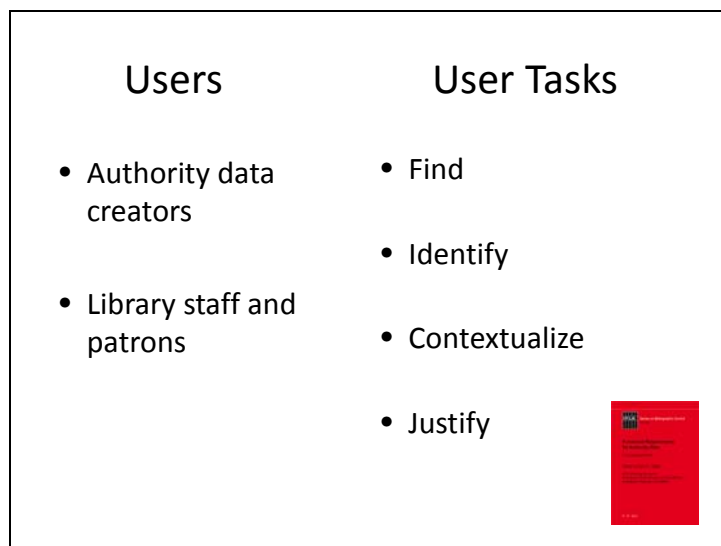
First, the data documents decisions made by the cataloger when choosing the appropriate controlled access points for a new bibliographic record or when formulating new access points.

Second, information recorded in authority data serves as a reference tool for those same two activities as well as providing information that can be used in distinguishing one person, corporate body or work from another. It may also serve to help the cataloger to determine that none of the existing access points is appropriate and that a new access point is needed. It can also serve a broader reference function for other library staff.

Third, authority data can be used to control the forms of access points in bibliographic records and, in an automated environment, change those access points when the authority data itself is changed.

Fourth, authority data supports access to bibliographic records by leading the user from the form of name as searched to the form of name used in the bibliographic file.

Finally, authority data can be used to link bibliographic and authority files in ways that, for example, allow the conversion of data elements into languages and scripts most appropriate to the user's needs.



The FRAD model also defines user tasks and maps the entity attributes, and relationships to those user tasks. In considering the user tasks, Working Group members first defined two groups of users:

- authority data creators who create, maintain and use authority data directly

- library staff and patrons who use authority information either through direct access to authority data or indirectly through the controlled access points (i.e., authorized forms and references) in library catalogues, national bibliographies, etc.

We have also defined a list of User Tasks. These are related to the FRBR user tasks but are more specific to what catalogers do in working with authority data.

Find: Find an entity or set of entities corresponding to stated criteria (i.e., to find either a single entity or a set of entities using an attribute or relationship of the entity as the search criteria).


Identify: Identify an entity (i.e., to confirm that the entity represented corresponds to the entity sought, to distinguish between two or more entities with similar characteristics).

Contextualize: Place a person, corporate body, work, etc. in context; clarify the relationship between two or more persons, corporate bodies, works, etc.; or clarify the relationship between a person, corporate body, etc. and a name by which that entity is known.

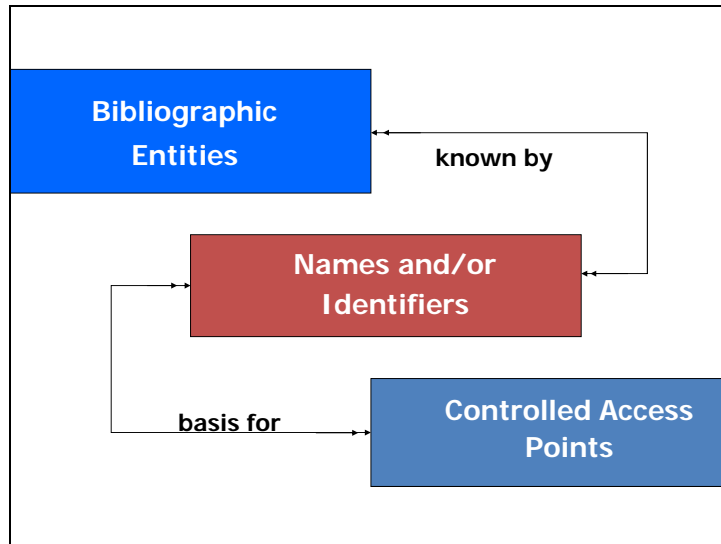
Justify: Document the authority record creator’s reason for choosing the name or form of name on which a controlled access point is based.

FRAD – The Entities

| FRBR + | New in FRAD |
|---|--|
| <ul style="list-style-type: none"> • Person • Family • Corporate Body • Work • Expression • Manifestation • Item • Concept, Object, Event, Place | <ul style="list-style-type: none"> • Name • Identifier • Controlled Access Point • Rules • Agency |



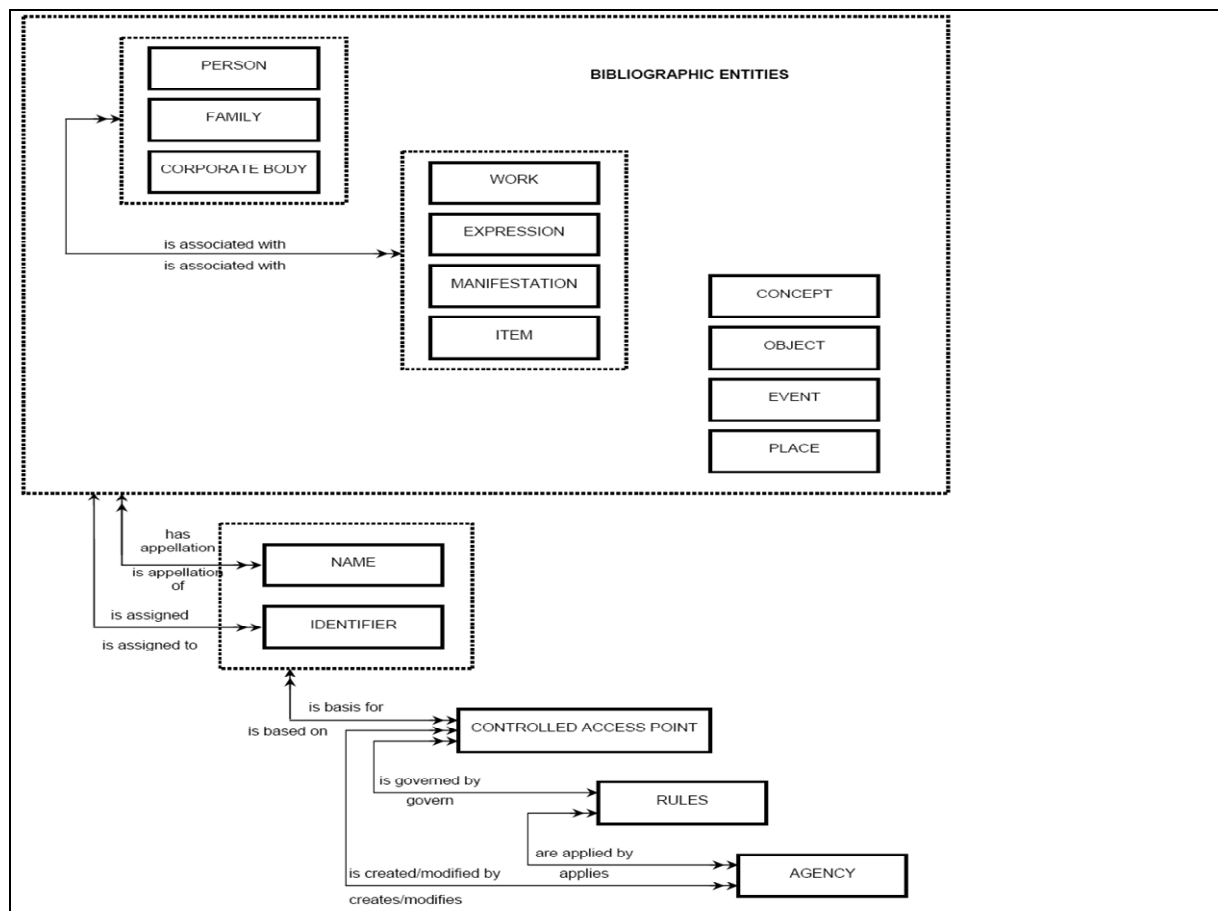
The model defines the ten FRBR entities (Person, Corporate Body, Work, Expression, Manifestation, Item, Concept, Object, Event and Place) and adds an additional entity, Family, which results of our interaction with the archival community. In the FRAD model, the entities, Concept, Object, Event and Place, are being left as defined in FRBR pending the work of the IFLA Working Group on Functional Requirements for Subject Authority Records.



The fundamental basis for the conceptual model of authority data is very simple:

Entities in the bibliographic universe (such as those identified in the *Functional Requirements for Bibliographic Records*) are known by names and/or identifiers. In the cataloguing process (whether it happens in libraries, museums or archives), those names and identifiers are used as the basis for constructing controlled access points.

As a result of the two worldwide reviews of the FRAD model, it became clear to the Working Group that this fundamental basis needed to be explicitly described and needed to be clearly explained before presenting the more complex version below.



This more detailed diagram of the entity-relationship model is central to the working group’s activity.

Depicted in the upper half of the diagram are the entities on which authority data is focused (that is, the ten entities defined in *Functional Requirements for Bibliographic Records* (FRBR) plus one additional entity—*family*).

The lower half of the diagram depicts the *names* by which those entities are known, the *identifiers* assigned to the entities, and the *controlled access points* based on those names and identifiers that are registered in authority files. The diagram also highlights two entities that are instrumental in determining the content and form of access points—*rules* and *agency*.

The relationships depicted in the diagram reflect relationships between the various entity types. The lines and arrows connecting the entities in the upper half of the diagram with those in the lower half represent the relationships between *name* and *identifier* and the bibliographic entities with which they are associated. A specific instance of any of those bibliographic entities may be “known by” one or more *names* (shown in the diagram as a **has appellation** relationship). Conversely any *name* may be associated with one or more specific

instances of any of the bibliographic entities (shown here as an **is appellation of** relationship). Similarly, a specific instance of any one of the bibliographic entities may be “assigned” one or more *identifiers* (shown here as an **is assigned** relationship), but an *identifier* may be assigned to only one specific instance of a bibliographic entity (an **is assigned to** relationship).

The relationships depicted in the lower half of the diagram represent the associations between the entities *name* and *identifier* and the formal or structural entity *controlled access point*, and the association between that entity and the entities *rules* and *agency*. A specific *name* or *identifier* may be the “basis for” a *controlled access point* (shown here as an **is basis for** relationship). Conversely a *controlled access point* may be based on a *name* or *identifier* (shown here as an **is basis on** relationship).

Controlled access points may be “governed by” *rules* (an **is governed by** relationship), and those *rules* in turn may be “applied by” one or more *agencies* (an **are applied by** relationship). Likewise, *access points* may be “created by”, or “modified by” one or more *agencies* (an **is created/modified by** relationship).

The model defines a variety of attributes for these entities and also describes relationships between the entities. These attributes and relationships are fully laid out in the published version of the model.

A final portion of the model maps the attributes and relationships to the set of user tasks that described above. This mapping is similar to that done in the FRBR model except that there is not been an attempt assess the relative importance of each attribute or relationship to a given user task as was done in the FRBR model.

The following is a portion of the beginning of this mapping:

Mapping to User Tasks

| Entity | Attribute/Relationship | FIND | IDENTIFY | CONTEXTUALIZE | JUSTIFY |
|--------|---|------|----------|---------------|---------|
| Person | "Has appellation/is appellation of" relationship ⇔ name | ■ | | ■ | |
| | "Assigned" relationship ⇔ identifier | ■ | ■ | | |
| | Dates of person | | ■ | ■ | ■ |
| | Title of person | ■ | ■ | | |
| | Gender* | | ■ | | |
| | Place of birth* | | ■ | | |

FRAD in Use Already

- *International Cataloguing Principles (ICP)*
 - FRAD entities are part of the ICP foundation
 - Entity definitions influenced the ICP Glossary (and vice-versa)
- *RDA: Resource Description and Access*
 - FRAD entities, attributes, relationships and user tasks are part of the RDA foundation
 - RDA to FRAD mapping: <http://www.rda-jsc.org/docs/5rda-rdafradmappingrev2.pdf>



The Working Group is pleased that the FRAD model has been incorporated into the *International Cataloguing Principles*. Since the two documents were in preparation during

the same time period and some of the same people were involved in both, the *ICP* discussions also influenced and contributed to our work.

RDA, the new description and access standard that will be published later this year, is heavily influenced by both the *FRBR* and *FRAD* models. If you'd like to explore that further, please take a look at the *RDA-to-FRAD* mapping at the URL shown above.

The Working Group is pleased to have had this opportunity to describe the conclusion of our work and we want to take this opportunity to thank IFLA's Division IV for its support of our activities.