Understanding FRBR

What It Is and How It Will Affect Our Retrieval Tools

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LIBRARIES UNLIMITED

U N L I M I T E D

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An Introduction to Functional Requirements for Authority Data (FRAD)

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In 1998, the International Federation of Library Institutions and Associations (IFLA) Division of Bibliographic Control and the Universal Bibliographic Control and International MARC Program appointed the IFLA Working Group on Functional Requirements and Numbering of Authority Records (FRANAR). One of the Working Group's three charges was "to define functional requirements of authority records, continuing the work that the *Functional Requirements for Bibliographic Records* [FRBR] initiated."[1] The Working Group has prepared several drafts of a conceptual model that defines those functional requirements. Early drafts had the title, *Functional Requirements for Authority Records*, and thus became known by the acronym *FRAR;* the current draft, which at this writing has been submitted for worldwide review and approval for publication, has been retitled *Functional Requirements for Authority Data*, with the acronym *FRAD*.

In developing functional requirements for authority records, the group has been guided by these two objectives:

- To provide an understanding of how authority files function 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 *what* catalogers 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.

As a step toward understanding how authority files are used currently in the library context, the group has identified five functions of an authority file:

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

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

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

Fourth, an authority file 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, an authority file 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 model also defines user tasks and maps the entities, attributes, and relationships to those user tasks. In considering the user tasks, Working Group members first defined two groups of users:

- authority record creators who create and maintain authority files
- users who use authority information either through direct access to authority files or indirectly through the controlled access points (authorized forms, references, etc.) in catalogs, national bibliographies, other similar databases, etc.

The group has also defined a list of User Tasks. These are related to the FRBR user tasks but are specific to what catalogers do in working with authority data. The first three tasks relate to both groups of users; the fourth task relates solely to catalogers.

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 person, corporate body, etc. 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.

The conceptual model, which the Working Group has developed, can be most simply described as follows: Entities in the bibliographic universe (such

as those identified in FRBR) 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. Fundamental to the model is a diagram that represents the entity-relationship model that is central to the Working Group's activity (Figure 2.1).[2]

Depicted in the upper half of the diagram are the entities on which authority records are focused (that is, the 10 entities defined in FRBR—*person, corporate body, work, expression, manifestation, item, concept, object, event,*
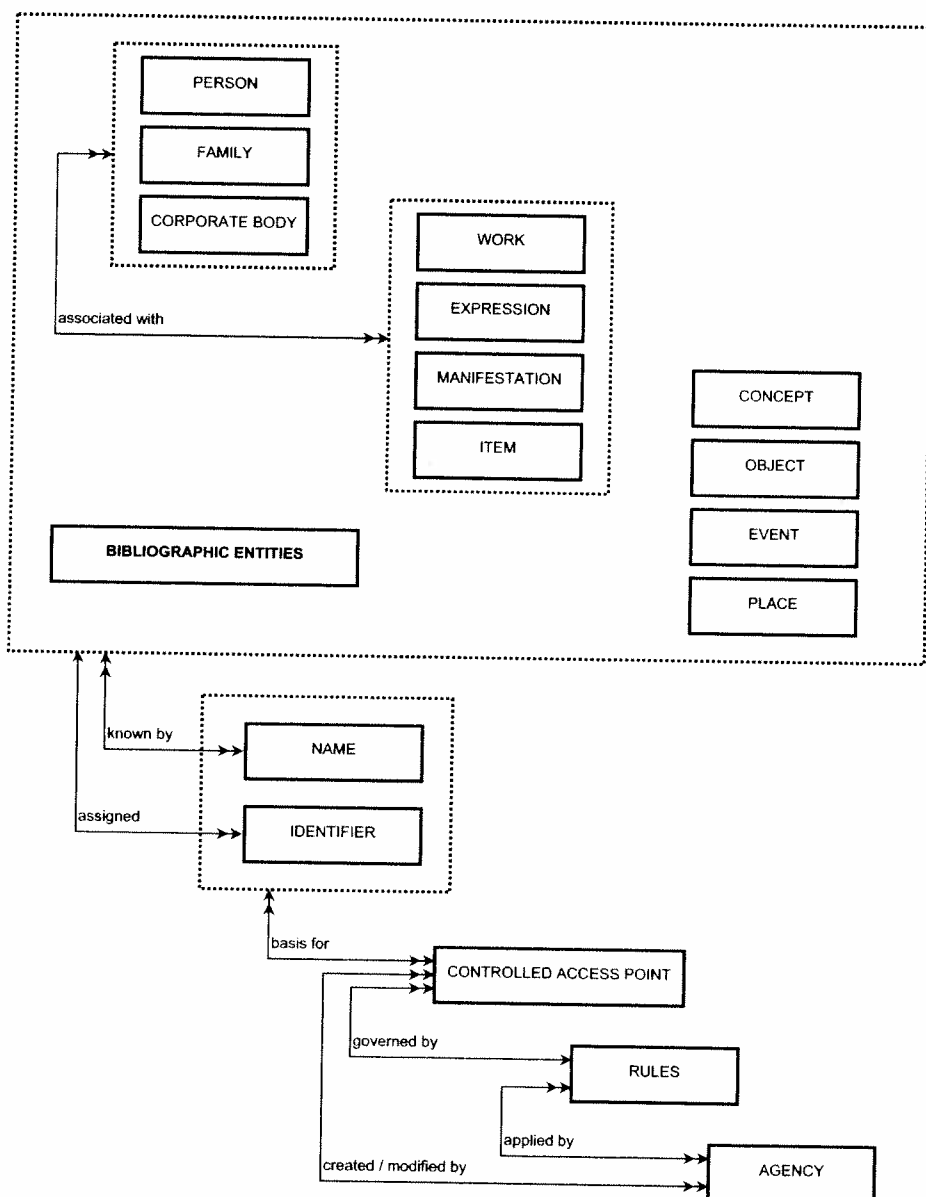

Figure 2.1. Conceptual Model for Authority Data.

and *place*—plus one additional entity—*family*, which came out of the group's involvement with the archival community).[3]

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 controlled access points—*rules* and *agency*.

The relationships depicted in the diagram reflect the inherent associations 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*, and conversely any *name* may be associated with one or more specific instances of any of the bibliographic entities. Similarly, a specific instance of any one of the bibliographic entities may be "assigned" one or more *identifiers*, but an *identifier* may be assigned to only one specific instance of a bibliographic entity.

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*, and conversely a *controlled access point* may be based on a *name* or *identifier*. A *controlled access point* may also be based on a combination of two *names* and/or *identifiers*, as in the case of a name/title access point representing a *work* that combines the name of the author with the name (i.e., the title) of the work. *Controlled access points* may be "governed by" *rules*, and those *rules* in turn may be "applied by" one or more *agencies*. Likewise, *controlled access points* may be "created by" or "modified by" one or more *agencies*.

It should be emphasized that the Working Group is consciously using the more general term *controlled access point*, rather than more specific terms such as *authorized form of name* and *variant form of name*, which might be used more traditionally to describe data elements found in an authority record. The Working Group has defined the term *controlled access point* as "A name, term, code, etc. under which a bibliographic or authority record or reference will be found" and has noted that the term "includes access points designated as authorized or preferred forms as well as those designated as variant forms." The Working Group agreed to this terminology in recognition of authority files in which all forms of name recorded in the authority record are treated as a cluster with none of the forms being designated as an *authorized form of name*.

To relate the general form of the model to one that is aligned more closely with traditional library authority files and to the IFLA *Guidelines for Authority Records and References*, the group has included a pair of diagrams (and accompanying text) as an Appendix.

The first diagram (Figure 2.2A) is the equivalent of the upper portion of the more general model. The second diagram (Figure 2.2B) expands the lower portion of the more general model and focuses on the formal or structural entities

that come into play when a *name* or *identifier* is used to formulate an *access point* and the access point is subsequently registered in an authority file as an *authorized heading* or a *variant heading* in an *authority record* or *reference record,* or as an *explanatory heading* in a *general explanatory record.* Also included in this second diagram are the two entities that are instrumental in determining the content and form of headings, references, and records—*rules* and *agency.*

At the time of the writing of this chapter, the Working Group continues its work on a final draft of the *Functional Requirements for Authority Data,* which will be made available, following approval, on the IFLA Web site.
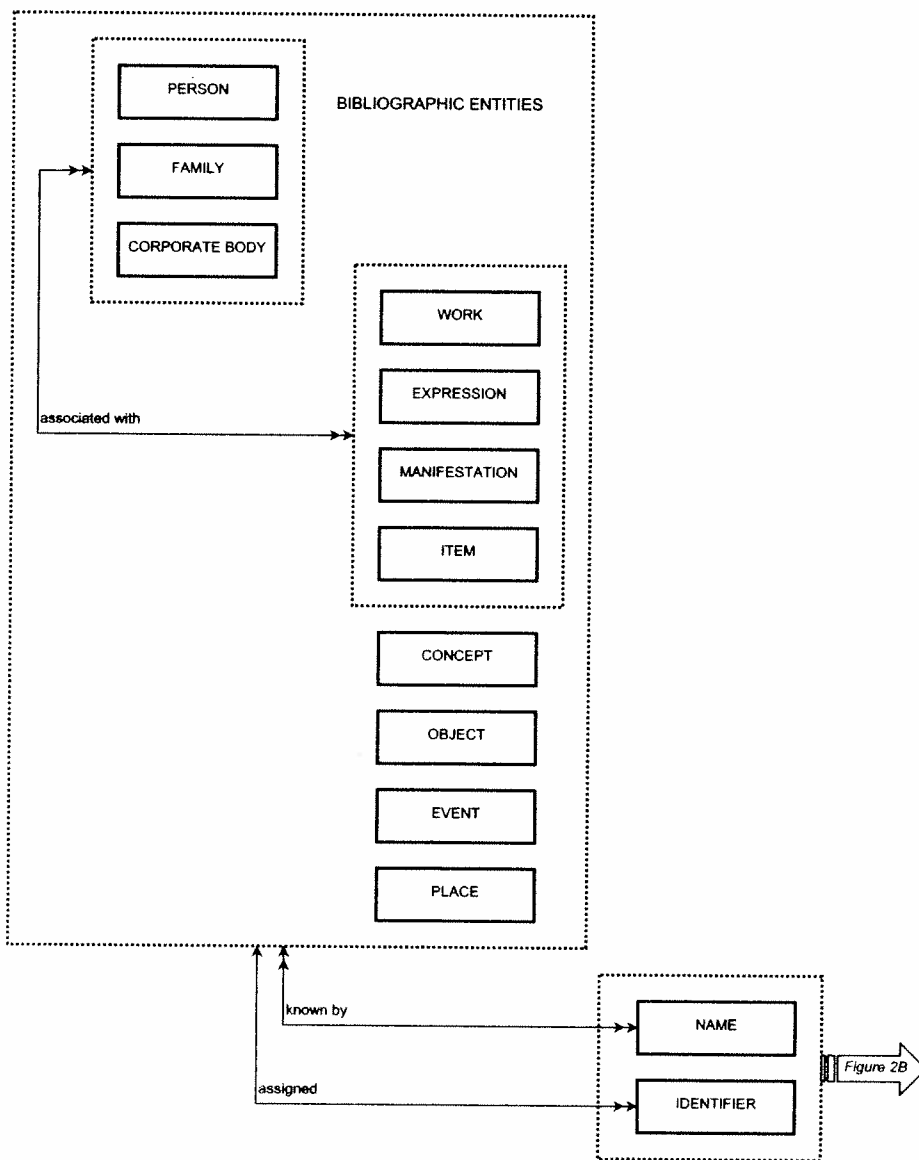

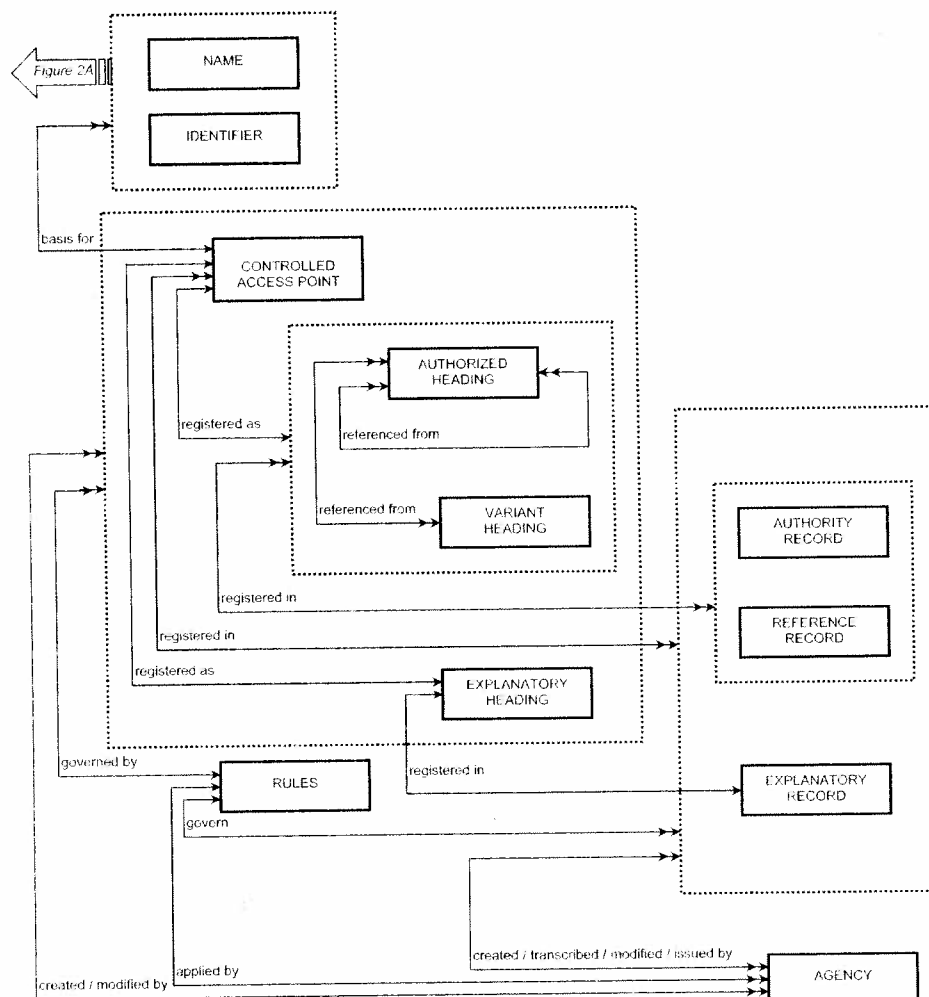**Figure 2.2A.** Entity Names and Identifiers.

Figure 2.2B. Access Points and Authority Records in a Library Context.

Also at the time of this writing, another IFLA Working Group, the Working Group on Functional Requirements of Subject Authority Records (FRSAR),[4] has begun work to build a conceptual model of Group 3 entities within the FRBR framework as they relate to the aboutness of works. This group's work will further extend the FRAD model to cover both subject authority data and classification data. More information will become available as the group's work progresses.

Notes

1. IFLA, Working Group on Functional Requirements and Numbering of Authority Records (FRANAR), available: http://www.ifla.org/VII/d4/wg-franar.htm.

2. For further discussion of previous versions of the FRAR entity relationship model, see: Glenn Patton, "FRANAR: A Conceptual Model for Authority Data," *Cataloging & Classification Quarterly* 38, no. 3/4 (2004), pp. 91–104; Glenn Patton, "Extending FRBR to Authorities," *Cataloging & Classification Quarterly,* 39, no. 3/4 (2005), p. 39–48.

3. The description of the entity-relationship model is adapted from text prepared for the Working Group by Tom Delsey.

4. IFLA, Working Group, Functional Requirements for Subject Authority Records, available: http://www.ifla.org/VII/s29/wgfrsar.htm.

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Understanding the Relationship between FRBR and FRAD

Glenn E. Patton

In their final report, the International Federation of Library Institutions and Associations (IFLA) Study Group on Functional Requirements for Bibliographic Records (FRBR) included some suggestions for further study and noted that, "[The model] is intended to provide a base for common understanding and further dialogue, but it does not presume to be the last word on the issues it addresses."[1] The report goes on to suggest, "The model could be extended to cover the additional data that are normally recorded in authority records."[2] The result of that suggestion was the creation of the IFLA Working Group on Functional Requirements and Numbering of Authority Records (FRANAR),[3] which has, as one of its charges, to define functional requirements for authority records. The Working Group has prepared several drafts of a conceptual model that defines those functional requirements. Early drafts had the title, *Functional Requirements for Authority Records*, and thus became known by the acronym *FRAR;* the current draft, which at this writing has been submitted for worldwide review and approval for publication, has been retitled as *Functional Requirements for Authority Data* with the acronym *FRAD*.

What does it mean to extend the FRBR model to cover the data that catalogers record in authority records? How does the model that the FRANAR Working Group is developing relate to and interact with the FRBR model?

Extending FRBR

The FRBR model defines the 10 bibliographic entities that are of most interest to users of bibliographic information: work, expression, manifestation, item, person, corporate body, concept, object, event, and place. It also lays out a number of types of relationships that exist between and/or among those entities. For example, the entities *person* and *corporate body* have "responsibility" relationships with the entities *work, expression, manifestation,* and *item.*

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The relationship between the FRBR model and authority data was reinforced by early experiments in applying the principles of the FRBR model to existing bibliographic data.[4] These experiments demonstrated that bibliographic records under authority control could be manipulated more easily and accurately into work clusters than was true for records with uncontrolled headings and that the cross-reference structures that appear in authority records assisted in pulling together work clusters.

The FRBR model does not, however, describe how those entities and relationships are reflected in access points that are used in bibliographic records. Nor does it account for how catalogers determine the form of name to be used in those access points.

To help fill that gap, the FRANAR Working Group has laid out a model that is, in its simplest form, described as follows:

> 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 cataloging process (whether it happens in libraries, museums or archives), those names and identifiers are used as the basis for constructing controlled access points.

This extends the FRBR model to cover the process in which a cataloger evaluates the information available on the item to be cataloged, compares that information to what is already available in the catalog and related authority files, and determines how access points for the entities associated with the item should be constructed according to whatever cataloging rules and practices are being used.

An Additional Entity

The FRANAR Working Group, as part of one of its charges, has maintained liaison relationships with a number of other organizations that are concerned with authority files. Among those is the International Council on Archives Committee on Descriptive Standards (ICA/CDS). A joint meeting of IFLA and ICA members in Beijing in 1995 laid the groundwork for a mutual liaison relationship, which has continued during that group's work on revisions to the *International Standard Archival Authority Record for Corporate Bodies, Persons, and Families (ISAAR/CPF)*. The FRANAR Working Group had the opportunity to review and offer comments on the draft 2nd edition of the ISAAR/CPF, and it became clear from that review that, in the archival community, the family is recognized as an entity around which archival collections may be collocated. The FRANAR Working Group has, therefore, included *family* as one of the bibliographic entities in its model and is recommending its addition to the FRBR model.

Additional Attributes

The FRBR model defines a selected set of attributes for each of the bibliographic entities. For example, *Person* has these attributes: name of *person,*

dates of *person,* title of *person,* and other designation associated with the *person. Corporate body* has these attributes: name of the *corporate body,* number associated with the *corporate body,* place associated with the *corporate body,* date associated with the *corporate body,* and other designation associated with the *corporate body.* Although these attributes are the most prominent of those associated with each of the entities in the context of bibliographic data, the Working Group recognized that each entity has a variety of other attributes that are part of the processes of determining the names by which an entity is known and of constructing access points based on those names.

The Working Group also determined that, for the purposes of modeling authority data, it would be more appropriate to define the entity *Name* as an entity on its own, rather than as an attribute of each of the entities. This approach allows the model, for example, to make it clearer that an instance of one of the entities may be known by multiple names, one of which may, in traditional library practice, be chosen as the *authorized heading,* with the other names serving as *variant headings.*

In the model then, the entities *Person* and *Corporate body* have the following attributes:

Person	Corporate body
Dates associated with the *person*	Place associated with the *corporate body*
Title of *person*	Date associated with the *corporate body*
Other designation associated with the *person*	Other designation associated with the *corporate body*
Gender	Type of *corporate body*
Place of birth	Language of the *corporate body*
Place of death	Address
Country	Field of activity
Place of residence	History
Affiliation	
Address	
Language of *person*	
Field of activity	
Profession/occupation	
Biography/history	

If one considers each of these attributes in relation to the processes that a cataloger goes through in identifying an author, determining whether that author is already represented in the authority file and, if not, constructing the appropriate access points for an authority record for that author, one can recognize that these attributes may influence the form of the access point and may also be recorded as part of the authority record.

Additional Relationships

As noted previously, the FRBR model defines basic relationships that exist between and/or among the bibliographic entities. The FRAR model adds the relationships that exist between and/or among the names of those entities and between and/or among the access points based on those names.

Examples of relationships, which have traditionally been expressed in authority records, are those that exist:

- between Persons, Families, Corporate bodies, and Works
- between Names and Persons, Families, Corporate Bodies, and Works
- between Controlled Access Points

Some examples of Person-to-Person relationships include "pseudonymous" relationships in which a "real" person is related to a "persona" adopted by that person; an "attributive" relationship in which one person and another person to whom a work by the former has been attributed, either erroneously or falsely; and, "collaborative" relationships in which two or more persons collaborate in intellectual or artistic endeavors using a single identity.

Some examples of Corporate Body-to-Corporate Body relationships include a "hierarchical" relationship in which one corporate body is subordinate to the other (within, for example, a corporate hierarchy); and, a "sequential" relationship in which two or more corporate bodies are related in order or time, including predecessor/successor relationships, mergers, splits, etc.

Some examples of Name-to-Person relationships include "earlier" and "later" name relationships, in which the name by which a person is known changes over time because of marriage, divorce, adoption of a religious name, etc.; and, "official name" relationships in which a person is known both by his or her own name and by the name assigned to that person in an official capacity.

Some examples of Name-to-Work relationships include an "alternative linguistic form" relationship which exists between a work and the various names by which a work is known in other languages; and, a "conventional name" relationship between a work and other names by which it may be commonly known.

Examples of Controlled Access Point-to-Controlled Access Point relationships include "alternate script" relationships in which two or more access points for the same entity are expressed in different scripts (Latin script and Chinese script, for example) and "different rules" relationship in which two or more access points for the same entity have been established according to different sets of cataloging rules.

More Work to Be Done

The work to extend the FRBR model to cover authority data will not be complete when the FRANAR Working Group completes its model, because

the FRAD model touches only the surface of subject-related authority data. The Working Group initially intended to cover subject aspects more thoroughly but quickly realized that the membership of the group did not contain sufficient depth of knowledge in the areas of classification and indexing to accomplish that goal. In 2005, the IFLA Division Classification and Indexing Section established a new Working Group on Functional Requirements of Subject Authority Records (FRSAR)[5] whose task is to extend the FRBR model more fully into all aspects of the aboutness of works, including both subject headings and classification data.

Notes

1. IFLA Study Group on the Functional Requirements for Bibliographic Records. *Functional Requirements for Bibliographic Records: Final Report* (München: K. G. Saur, 1998), p. 5.

2. *FRBR Report,* p. 5.

3. http://www.ifla.org/VII/d4/wg-franar.htm

For further discussion of previous versions of the FRAD entity relationship model, see Glenn E. Patton. "FRANAR: A Conceptual Model for Authority Data," *Cataloging & Classification Quarterly* 38, no. 3/4, (2004): 91–104; Glenn E. Patton. "Extending FRBR to Authorities," *Cataloging & Classification Quarterly,* 39, no. 3/4, (2005): pp. 39–48. For more information about the other aspects of the Working Group's charge, see Glenn E. Patton. "FRAR: Extending FRBR Concepts to Authority Data," *International Cataloguing and Bibliographic Control* 35, no. 2 (2006): 41–45.

4. See, for example, Knut Henga and Eeva Murtomaa. 2002. *Data mining to find FRBR?* Available online at: http://folk.uio.no/knuthe/dok/frbr/datamining.pdf (Accessed September 21, 2006) and Thomas B. Hickey, Edward T. O'Neill, and Jenny Toves. 2002. "Experiments with the IFLA Functional Requirements for Bibliographic Records (FRBR)." D-Lib Magazine 8, 9 (September). Available online at: http://www.dlib.org/dlib/september02/hickey/09hickey.html (accessed September 21, 2006).

5. http://www.ifla.org/VII/s29/wgfrsar.htm (accessed September 21, 2006).