On the importance of conceptual models in the organization of knowledge – a brief feature on the IFLA models

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Technology enables us to create more and more sophisticated knowledge organization systems and services - KOS. But to make the best use of this technological potential in the global multicultural and multilingual environment requires more and more structured information as well as enhanced interoperability for satisfying the user needs.

The conceptual models of the IFLA Working Groups, Working Group on Functional Requirements for Bibliographic Records (FRBR), Working Group on Functional Requirements and Numbering Authority Data (FRANAR), and Working Group on Functional Requirements for Subject Authority Data (FRSAR) are responses to this requirement.

New structures for bibliographic records and authority records

The purpose of the FRBR model – published in 1998 – was to identify the functional requirements of bibliographic records to facilitate user tasks. The analysis resulted in three groups of entities:

- Group 1 work, *expression, manifestation*, and *item* – the **products** of intellectual or artistic endeavour;
- Group 2 person, corporate body – the **actors** responsible for the intellectual or artistic content, the physical production and dissemination, or custodianship, of Group 1 entities;
- Group 3 concept, object, event, place – **subjects of works,** intellectual or artistic endeavour. (FRSAR draft 2008–07-19).

The FRANAR Working Group, established in 1999, and the FRSAR Working Group, established in 2005, were charged to extend the FRBR model by analyzing the Group 2 and the Group 3 entities as they appear in authority records or authority data.

The role of the FRANAR Working Group was formulated:

- to define functional requirements of authority records
- to study the feasibility of an International Standard Authority Data Number (ISADN) and to examine the possible structure of the number and the type of management that would be necessary
- to serve as the official IFLA liaison to and work with other interested groups concerning authority files.

The first and the third goal have been achieved. The numbering issue has been treated separately*.

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* The final document: A Review of the Feasibility of an International Standard Authority Data Number (ISADN) / prepared for the IFLA Working Group on Functional Requirements and Numbering of Authority Records by Barbara B. Tillett ; edited by Glenn E. Patton ; approved by the Standing Committee of the IFLA Cataloguing Section, 15 September 2008 is available on the IFLA web site: http://www.ifla.org/VII/d4/wg-franar.htm

The FRANAR Working Group recommends that IFLA should continue to monitor the progress of the ISO (International Organization for Standardization) 277729 ISNI (International Standard Name Identifier) and the VIAF – Virtual International Authority File.

The role of the FRSAR Working Group was formulated:
- to build a conceptual model of Group 3 entities within the FRBR framework as they relate to the *aboutness* of works
- to provide a clearly defined, structured frame of reference for relating the data that are recorded in subject authority records to the needs of the users of those records
- to assist in an assessment of the potential for international sharing and use of subject authority data both within the library sector and beyond.
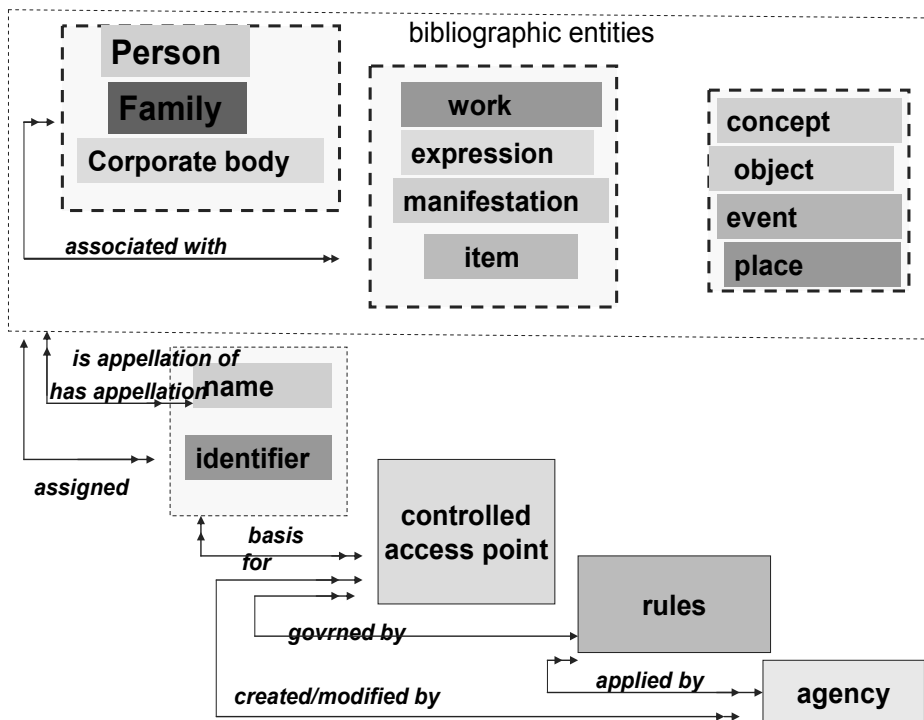
The first task concerns subject entities, the second addresses user needs, and the third encompasses the issues of interoperability.

FRANAR, in its model Functional Requirements for Authority Data FRAD, has focused on the FRBR Group 2 entities, the actors and their relations to works, i.e. **name authorities,** whereas FRSAR, in its forthcoming model Functional Requirements for Subject Authority Data FRSAD, has focused on the Group 3 entities, the **subjects of works,** i.e. **subject authorities.**

The FRAD document draft defines **authority** record or **data** as the aggregate of information about a person, family, corporate body or work whose name is used as the basis for a controlled access point for bibliographic citations or records in a library catalogue or bibliographic file. Controlled access points support structured access.

FRAD (Functional Requirements for Authority Data) Entity-relationship diagram
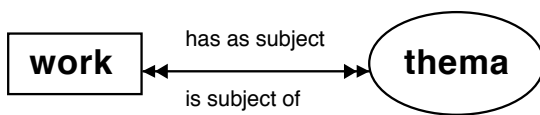
The lower half of the diagram represents the associations between names and identifiers, on the
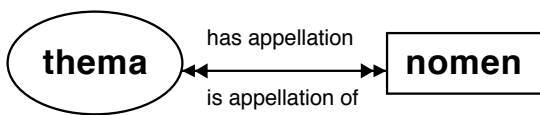
one hand, and the controlled access points based on those names and identifiers, the rules that govern those controlled access points, and the agencies that apply the rules in creating and modifying controlled access points on the other.

Subject entities and their main relationships

For reasons of clarity, the FRSAR Working Group has introduced new Latin terms for subjects and how they are called: **Thema** and **Nomen**. In the FRSAR model, subject entities and their relationships can be described as in the figures below:

Thema is defined as anything that can be subject of a work.

Nomen is defined as any alpha numeric, sound, visual etc. symbol or combination of symbols by which Thema is known, referred to or addressed as. Accordingly, all the entities of the FRBR three groups may be subject of a work, may be, i.e. Thema

The FRAD model treats persons, corporate bodies and families and their names as separate entities, which have relationships. Also, FRSAR treats Thema, subjects of works, and Nomen, how the subjects are called, as separate entities, which have relationships such as those

Between the entities: Work –
Thema and Thema – Nomen

Within the entities: Thema – *Thema and Nomen – Nomen*.

The FRAD and FRSAR models are designed to be independent of any existing system, format, language or script, or any knowledge organization tool, cataloguing code, classification scheme, thesaurus, or vocabulary.

User tasks – user functions

As in the FRBR report, users of authority data include cataloguers and reference librarians who create, maintain, and use authority files directly. Also, their users include library users who use authority information either through direct access to authority files or indirectly through the access points in databases.

In the FRBR, FRAD and FRSAR models, user tasks are defined as follows:

FRBR (1998):
To find entities that correspond to the user's search criteria
To Identify an entity (i.e. to confirm that the entity described corresponds to the entity sought, or to distinguish between two or more entities with similar characteristics)
To select an entity that is appropriate to the user's needs
To acquire or obtain access to the entity described (through purchase, loan or electronically etc.)

FRAD (2007):
To find one 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 combination of attributes or a relationship of the entity as the search criteria); or to explore the universe of bibliographic entities using those attributes and relationships.
To identify an entity (i.e. to confirm that the entity described corresponds to the entity sought, or to distinguish between two or more entities with similar characteristics) or to validate the form of name to be used for a controlled access point.
To contextualize; a place, a person, corporate body, work etc. in context; clarify the relationships between a person, corporate body, etc. and

a name by which that person, corporate body, etc. is known (e.g. name used in religion versus secular name).

To justify; to document the authority data - the creator's reason for choosing the name or form of name on which a controlled access point is based.

FRSAR (2006 / 2008 draft):

Find: to find an entity (thema or nomen) or set of entities corresponding to stated criteria

Identify: to identify an entity (thema or nomen) - to confirm that the entity described corresponds to the entity sought or to distinguish between two or more similar entities

Select: to select an entity (thema or nomen) – e.g. to select the thema corresponding to the user's information need or select the nomen in appropriate form or language

Explore: to explore relationships between subject entities (thema or nomen), correlations to other subject vocabularies or the structure of a subject domain.

To integrate user tasks to the functional requirements of bibliographic and authority data of these models, user tasks are mapped to the entities and their relationships. All these three models support the idea to have access to the contents of works in the language, script and format or form which is the most convenient for the user.

FRAD was sent to the world-wide review twice (in 2005 and 2007);

final revisions were made during the IFLA Conference in Québec City, in 2008.

The FRSAR document draft was worked on at the IFLA Conference in Quebec City in 2008.

The first version of the document will be probably distributed for review by the end of the year.2008.

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