

Overview of differences between IFLA LRM and the FRBR-FRAD-FRSAD models

1. User Tasks

IFLA LRM is focused around five generic user tasks: *find*, *identify*, *select*, *obtain*, *explore*. As with FRBR and FRSAD, the IFLA LRM model is primarily concerned with the data and functionality required by end-users (and intermediaries working on behalf of end-users) to meet their information needs. The point-of-view of the FRAD model differed somewhat, as FRAD considered both end-user needs and library staff administrative uses in its definition of user tasks; this is reflected in the FRAD user tasks *contextualize* and *justify*.

The first four IFLA LRM tasks (*find*, *identify*, *select*, *obtain*) are defined as generalizations of the four FRBR tasks of the same names. The tasks *find* and *identify* are also generalized to cover the FRAD and FRSAD tasks of the same names; *select* is generalized so as to include the FRSAD *select* task as well. The *explore* task is drawn from FRSAD, but is defined in IFLA LRM so as to include aspects drawn from the FRAD task *contextualize*. The other aspects of the FRAD task *contextualize* are considered out of scope in IFLA LRM. The final task from FRAD (*justify*), as it is a task relating to the work of library staff, is out of scope in IFLA LRM.

2. Entities

IFLA LRM defines only 11 entities in total. Unlike the previous “flat” entity structures, in IFLA LRM entities are in a superclass/subclass structure which permits the transfer of attributes and relationships from the superclass to its subclasses. The FRSAD entity *thema* is generalized and renamed *res* (Latin for “thing”) to serve as the top entity in the hierarchy, the superclass of all other entities. Entities that are not declared in the superclass/subclass structure are all disjoint.

The FRBR group 1 entities (*work*, *expression*, *manifestation*, *item*) are retained, although the definitions are reworked to avoid using one entity in the definition of another, to avoid the term “alpha-numeric” in the definition of *expression* (viewed as not including ideographic writing systems), to clarify the nature of the *manifestation* as a set. A new superclass entity *agent* is defined to encompass the FRBR group 2 entities (*person*, *corporate body*) and the FRAD entity *family*. The entity *person* is retained using a rewording of the FRBR definition (not the FRAD definition). The new entity *collective agent* encompasses the *family* and *corporate body* entities from FRAD (and FRBR). These former entities are deprecated, but may be viewed as “types” or categories of *collective agent*. The FRBR group 3 entities (*concept*, *object*, *event*, *place*) are deprecated. The term *place* is reused for a new general *place* entity, and a new *time-span* entity is defined.

The FRAD entity *name* and the FRSAD entity *nomen* are merged into a single entity under the term *nomen* with a generalized definition. The distinction between a *res* and its *nomen* is implemented to its full potential. The FRAD entities *identifier* and *controlled access point* are deprecated, but may be viewed as “types” or categories of *nomen*.

The final two FRAD entities, *agency* and *rules*, served in the modelling of library-internal processes for the assignment of *controlled access points* and are deemed outside of the functional scope of the IFLA LRM model.

3. Attributes

IFLA LRM includes 37 attributes, relating to 10 entities (the entity *collective agent* has no attributes). Properties are declared as attributes only when the target of the property is not an instance of any of the entities in the model. Thus all attributes (generally named *place of* or *date of*) that could be recast as relationships involving the IFLA LRM entities *place* and *time-span* are replaced by the mechanism of creating refinements of the generic relationships (LRM-R33 and LRM-R35) to these entities. Similarly, the appellation relationship is preferred in all cases which involve linking a specific subclass of the entity *nomen* to any other entity. The result is that FRBR attributes such as *title of work*, *manifestation identifier*, *name of person*, *term for the concept*, and FRAD attributes such as *name of agency*, *agency identifier* are all modelled as instances of the appellation relationship (LRM-R13). IFLA LRM models the subject of *works* as a relationship (LRM-R12), replacing the FRAD *work* attribute *subject of the work* and the FRBR *work* attribute *coordinates (cartographic work)*. Additionally, the FRAD *affiliation of a person* attribute implies membership and so is modelled using the membership relationship (LRM-R30).

Two attributes are declared for the IFLA LRM entity *res*: *category* (LRM-E1-A1) and *note* (LRM-E1-A2) which generalize the FRSAD attributes *type of thema* and *scope note* defined for the entity *thema*. As *res* is a superclass of all other entities in IFLA LRM, most *type of* and note-like attributes for other entities are merged into these general attributes.

FRBR attributes for group 1 entities (*work*, *expression*, *manifestation*, *item*) are considerably reduced in IFLA LRM (to 18 attributes) through the application of the mechanism of preferring relationships, and through generalization to the attributes of the *res* entity. Additionally, only the most essential, commonly-found attributes are explicitly declared in IFLA LRM. A number of highly-specialized or class-of-material-specific attributes, particularly for *expression* and *manifestation*, are omitted; their definition is relegated to those implementations that find these attributes relevant. The attribute *category* (LRM-E2-A1), defined in IFLA LRM for the entity *work*, subsumes a number of FRBR *work* attributes whose essence is to provide sub-typing mechanisms for *works* (such as *form of work*, *intended termination*). Similarly, the *category* attribute is defined for the entity *expression* (LRM-E3-A1), subsuming such FRBR *expression* attributes as *form of expression*, *extensibility*, and *revisability*. The FRBR *expression* attribute *extent* is retained (LRM-E3-A2), as is *use restrictions* (renamed *use rights*, LRM-E3-A4).

IFLA LRM adopts a new mechanism involving the new *work* attribute *representative expression attribute* (LRM-E2-A2). Selected *expression* attributes (for example, *intended audience*, *cartographic scale*, *language*, *key*, *medium of performance*, LRM-E3-A3 and LRM-E3-A5 through LRM-E3-A8) may be deemed significant for the identification of *works*. Representative values of these attributes function as though they are imputed to the *work* itself. In FRBR these attributes were declared for either *works* or *expressions*, and in some cases for both of these entities.

The essence of a great many of the FRBR attributes for the *manifestation* entity is that they consist of statements transcribed from a representative exemplar of a self-describing *manifestation*. In IFLA LRM a single *manifestation statement* attribute (LRM-E4-A4) is declared which subsumes all these attributes, which would most likely be implemented as sub-types of this attribute. Other attributes serve to categorize *manifestations* in different ways; in IFLA LRM the *category of carrier* attribute (LRM-E4-A1) incorporates FRBR *manifestation* attributes such as *form of carrier*, *physical medium*, and

capture mode. The *extent* attribute (LRM-E4-A2) is retained and merged with *dimensions*. Several FRBR attributes are merged into the *access conditions* (LRM-E4-A5) attribute, while *access restrictions* is renamed *use rights* (LRM-E4-A6). *Intended audience*, defined only for *works* in FRBR, is also defined (LRM-E4-A3) for the entity *manifestation*.

The *item* attribute *location* (LRM-E5-A1) is retained, as is *access restrictions* which is renamed *use rights* (LRM-E5-A2). *Provenance* and *ownership* attributes are modelled through the ownership relationship to *agents* (LRM-R10). Certain FRBR and FRAD *item* attributes (*exhibition history*, *treatment history*, *scheduled treatment*) concern library administrative metadata and are deemed out of scope for IFLA LRM.

Due to the superclass/subclass structure of the entities in IFLA LRM, an attribute defined for a superclass entity (such as *agent*) can automatically be applied to the subclass entities (in this case *person*, *collective agent*) without requiring separate declaration in the model. This permits the merger of the FRAD attributes *contact information*, *language*, *field of activity* for *person*, *family*, and *corporate body* into attributes defined for the entity *agent* (LRM-E6-A1 through LRM-E6-A3). However, the attribute *profession / occupation* (LRM-E7-A1) remains defined for the entity *person* as it cannot logically apply to *collective agents*. The FRAD attribute *gender*, although correctly placed with the entity *person*, is not defined in IFLA LRM as it is not seen as an essential attribute for most implementations.

The FRSAD attributes for the entity *nomen* are merged, when possible, with the FRAD attributes for the entities *name*, *identifier*, and *controlled access point*, resulting in nine IFLA LRM attributes for the entity *nomen* (LRM-E9-A1 through LRM-E9-A9).

Finally, new attributes are defined for the IFLA LRM entities *place* (LRM-E10-A1 and LRM-E10-A2) and *time-span* (LRM-E11-A1 and LRM-E11-A2).

4. Relationships

IFLA LRM declares 36 relationships (which explicitly have both relationship names and inverse names, when relevant). Unlike the previous “flat” relationship structure, IFLA LRM defines a new “top” relationship, *res* is associated with *res* (LRM-R1); all other relationships are refinements of this relationship. Relationships are streamlined by declaring the domains and ranges at the highest superclass possible, rather than repeating the same relationships for multiple entities. This applies particularly to relationships involving the FRBR group 2 entities, which in IFLA LRM are subclasses of the new entity *agent*.

The basic FRBR relationship structure is retained, including the three group 1 primary relationships (LRM-R2 to LRM-R4), the group 2 *agent* relationships (LRM-R5 through LRM-R11), and the *work* has-subject relationship (LRM-R12). However, the subject relationship is declared by using the entity *res*, and the group 2 responsibility relationships are declared using the entity *agent*. IFLA LRM provides new relationships for responsibility for the creation (LRM-R7) and distribution (LRM-R9) of *manifestations*, and the modification (LRM-R11) of *items*, which can be used to account for *item* reconfiguration as well as other modifications.

The FRAD and FRSAD appellation relationship is retained using entities *res* and *nomen* (LRM-R13),

while the *nomen* assignment relationship (LRM-R14) generalizes several FRAD relationships concerning the creating or assignment of FRAD entities *controlled access point* and *identifier*. The FRAD is-basis-for relationships are merged into a general *nomen* derivation relationship (LRM-R17).

The FRBR additional WEMI relationships are retained, although in most cases renamed, merged or generalized (LRM-R18 through LRM-R29). In FRBR certain relationships are declared multiple times (those appearing in tables 5.1 (Work-to-Work), and 5.4 (Expression-to-Expression, different Works), and 5.6 (Expression-to-Work)); in IFLA LRM their equivalents are declared only once (between *works*), as the link to specific *expressions* can be made with a path that also uses LRM-R2 (*expression* realizes *work*), and an implementation can declare a shortcut if desired. The reproduction relationship is declared between *manifestations* (LRM-R27), or between an *item* and a *manifestation* (LRM-R28) when the link to a specific *item* used as the source of a reproduction is desired. However, in IFLA LRM no reproduction relationship is declared between *items* as it is considered that the process of reproduction always creates a new *manifestation*, even when that *manifestation* consists only of a single *item*.

The modelling of aggregates as *manifestations embodying multiple distinct expressions* makes use of the existing is-embodied-in relationship (LRM-R3) between the *expressions* and the aggregate *manifestation*. To provide an explicit link with the *expressions* chosen by the aggregating *expression* to produce the aggregate *manifestation*, IFLA LRM defines a new relationship, *expression* was aggregated by *expression* (LRM-R25).

FRAD relationships between *persons* were analyzed into those relating to the *nomens* of *persons* (all these are refinements of the appellation relationship, LRM-R13) and those between *persons* in the IFLA LRM definition. FRAD relationships between *names* and between *controlled access points* are all modelled as refinements of the *nomen* equivalence relationship (LRM-R15) retained from FRSAD. The *nomen* whole-part relationship (LRM-R16) is also retained from FRSAD.

IFLA LRM declares three relationships among the entities *agent* and its subclasses *person* and *collective agent*. The membership relationship (LRM-R30) links an *agent* to a *collective agent*, and includes the membership of a *person* in a family (a type of *collective agent*) or corporate body (another type of *collective agent*) as declared in FRAD. Whole-part (LRM-R31) and predecessor/successor (LRM-R32) relationships are declared between *collective agents*, covering the FRAD *corporate body* hierarchical and sequential relationships and the *family* genealogical relationships. FRAD additionally defined founding and ownership relationships specifically between the entities *family* and *corporate body*; neither of these are declared in IFLA LRM.

Finally, new relationships are declared involving the new entities *place* and *time-span*: whole-part relationships (LRM-R34 and LRM-R36), and the general association to *res* relationships (LRM-R33 and LRM-R35) which are designed to be refined for specific types of associations and subsume many former *date of* and *place of* attributes.