

RDA content elements

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Abstract

This paper makes recommendations for developing expression “content” elements to conform to the RDA implementation of the treatment of aggregates in the IFLA Library Reference Model (LRM). The recommendations include the refinement of the utility of representative expression elements for aggregating works.

The recommendations are based on a briefing paper, with the same title, discussed by the RDA Steering Committee during and after its meeting in Santiago, Chile. The recommendations of the briefing paper have been revised as a result of discussion and further consultation.

Background

Aggregates model

Figure 1 shows the basic model for aggregates in the IFLA Library Reference Model:

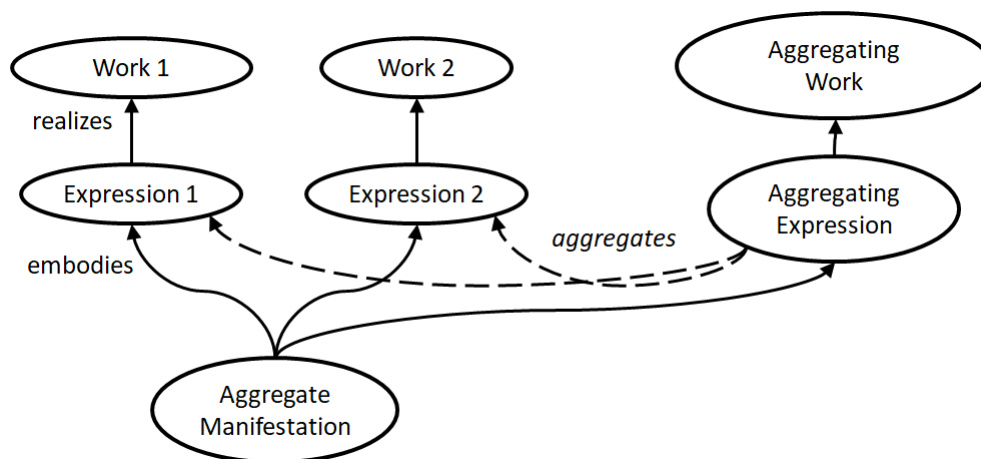


Figure 1: Basic model for aggregates

Solid arrows indicate direct relationship elements; dashed arrows indicate shortcut relationship elements.

An aggregate manifestation embodies two or more distinct expressions¹ and an aggregating expression that realizes the plan for aggregating the other expressions.

¹ In some cases, there is only one expression that is aggregated. For example, the plan may be to aggregate an ‘annual top 5’ of expressions; if no expressions are published in a particular year, the aggregate is not published, if only one expression is published that year, the ‘aggregate’ is published.

An aggregating expression is related to an expression that is aggregated by the shortcut relationship element **Expression: aggregates**. The full relationship is the chain from aggregating expression to aggregate manifestation to expression that is aggregated:

- Aggregating Expression [has] **manifestation of expression** Aggregate Manifestation
- Aggregate Manifestation [has] **expression manifested** Expression X

The shortcut omits a description of the aggregate manifestation and a direct relationship between the aggregate manifestation and an expression that is aggregated. The latter usage reduces duplication if the same aggregating expression is embodied in multiple manifestations: the aggregate manifestation is described and related only to the aggregating expression.

The recording of separate entities for the expressions or works embodied by an aggregate manifestation is optional. An application can choose to record any or all of the aggregating expression and work, or any or all of the expressions that are aggregated and their works.

Contributor relationship elements

There are use cases for associating an agent who creates an expression or work with the aggregate manifestation, without recording the intermediary expression or work.

The original ‘contributor’ relationship designators have been recast as shortcut relationship elements in the beta Toolkit. A shortcut is a linked chain of two or more relationship elements that omits the intermediary entities.

For example, an aggregate manifestation can be directly associated with an agent who creates an expression that is aggregated using **Manifestation: contributor agent to aggregate**. This is a shortcut for:

1. Aggregate Manifestation [has] **expression manifested** Expression 1
2. Expression 1 [has] **creator agent of expression** Agent 1

Sub-types of this shortcut relationship element accommodate specific kinds of expression and work that are based on the RDA Content Type vocabulary encoding scheme (VES). For example, **Manifestation: contributor agent of music** is restricted to intermediary expressions that have content type ‘notated music’, ‘performed music’, or ‘tactile notated music’. Any of these indicates an expression of a ‘musical work’. This ties references in the original Toolkit to ‘musical work’, ‘moving image work’, etc. to the RDA/ONIX Framework as a set of ‘soft’ categories for work that are defined in the Glossary but are not a formal VES.

Recasting the original ‘contributor’ elements to conform to the aggregates model required changing the domain from Expression to Manifestation, as well as clarifying the definitions and amending the labels for consistency.

Content elements

The following original Toolkit elements have not yet been recast to align them with the aggregates model:

- Expression: accessibility content

- Expression: colour content
 - Expression: details of colour content
 - Work: colour content of representative expression
- Expression: illustrative content
 - Expression: details of illustrative content
- Expression: sound content
 - Work: sound content of representative expression
- Expression: supplementary content

The current definitions of the elements are given in Appendix 1.

Most of the content elements have the context of an augmentation aggregate of two or more distinct expressions, with an assumption that one or more expressions are ‘primary’ and the rest are ‘supplementary’. Some of the elements are also applicable to a collection aggregate, where all the expressions are more or less equal.

Expression: content type is a fundamental element for categorizing a distinct expression. The content elements can be aligned with all or some of the RDA Content Type terms, as shown in Table 1.

This provides the basis of two categories of content element:

- Elements that indicate a category of content (i.e. category of expression) that is not specifically based on content type:
 - accessibility content
 - supplementary content
- Elements that are restricted to a subset of content types:
 - colour content
 - illustrative content
 - sound content

The content elements are redundant in the context of describing an expression that is aggregated because the expression can be assigned a content type or category of expression that conveys the same information at a finer level of granularity.

The elements represent a range of semantics with respect to the RDA ontology.

“accessibility content” and “supplementary content” record values that may be taken from a VES. The context is too wide to justify the development of RDA VESs for these elements.

“illustrative content” records values from a VES, and RDA provides a VES. The data are only relevant to expressions with ‘image-like’ content types, including tactile images.

“colour content” records values from a VES, and RDA provides a VES. The data are only relevant to expressions with ‘image’ and ‘text’ content types, excluding tactile images and text. “details of colour content” is used for unstructured descriptions and colour terms and should be removed. A new element for ‘colour’ can record values from a VES. The context is too wide to justify the development of an RDA VES for this element.

The 'sound content' values of 'sound' and 'silent' correspond to a content type of performed music, sounds, or spoken word, or the absence of these content types, respectively. These values are a 'dumbing-up' or lossy indicators of the specific content types. An additional factor is that this element is currently the basis of a representative expression element, so there is some utility for a Work element for this characteristic. This element only has utility in the context of an aggregate, as a sound expression augmenting a primary expression.

Aggregating expression

The RDA term 'aggregating expression' is defined as: An expression that is the realization of an aggregating work that selects and arranges expressions of one or more works and embodies them in an aggregate.

The definition refers only to the context of the aggregating work.

The RDA term 'aggregating work' is defined as: A work that is a plan to select and arrange one or more expressions of one or more works and embody them in an aggregate.

The definition does not refer to an aggregating expression.

The definitions reflect the LRM's treatment of aggregating works and expressions. The LRM defines an aggregating expression in terms of the aggregating work. The LRM uses 'aggregating expression' and 'expression of an aggregating work' interchangeably. The only additional information about an aggregating expression is given in the scope note for LRM-R25 (was aggregated by/aggregated):

"Unlike the whole-part relationship between *expressions*, the *expressions* selected to appear together in the aggregate *manifestation* do not become components of the aggregating *expression*. Furthermore, the relationship between these *expressions* is not an inherent feature of the *works* that these *expressions* realize, and thus it does not hold in other *expressions* of those *works*."

An aggregating expression does not accumulate or inherit the characteristics of the expressions that are aggregated.

An aggregating expression that 'aggregates' a set of expressions that are English texts does not itself have English as a language of expression or text as a content type.

No attribute elements for an expression are applicable to an aggregating expression because an aggregating expression has no intrinsic characteristics that are worth recording.

The general element **Expression: note on expression** can be used as a catch-all for applications.

A description of an aggregating expression must conform to the minimum description of an expression:

- At least one appellation element
- **Expression: work expressed** for the aggregating work

- **Expression: manifestation of expression** for the aggregate manifestation.

The direct (primary) relationship elements for a minimum description are applicable to an aggregating expression.

The only other element that is applicable an aggregating expression is the shortcut relationship **Expression: aggregates**.

This results in the complete structure for a metadata description set for an aggregating expression shown in the diagram.

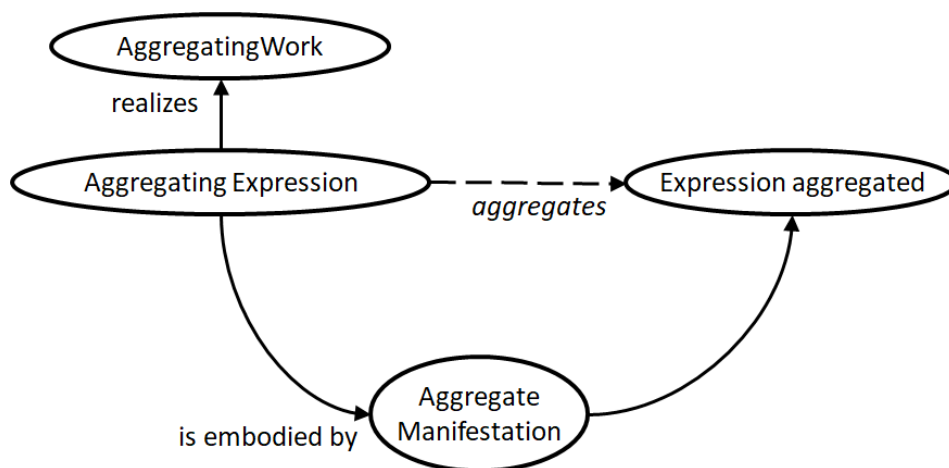


Figure 2: Complete shell for aggregating expression

Representative expression of an aggregating work

An aggregating work is realized by one and only one aggregating expression. This means that the aggregating expression is the only possible representative expression for an aggregating work.

An aggregating expression has no utility as a representative expression because it has no characteristics that are useful for identifying or distinguishing its aggregating work. Therefore, the representative expression elements for an aggregating work have no source of values unless special instructions are added.

Recommendation 1: add specific optional instructions for representative expression elements for aggregating works.

Values from single expressions that are aggregated

The following representative expression elements can record values taken from one or more of the expressions that are aggregated:

- **Work: aspect ratio of representative expression**
- **Work: content type of representative expression**
- **Work: date of capture of representative expression**
- **Work: date of representative expression**

- Work: intended audience of representative expression
- Work: key of representative expression
- Work: language of representative expression
- Work: medium of performance of choreographic content of representative expression
- Work: medium of performance of musical content of representative expression
- Work: place of capture of representative expression
- Work: projection of cartographic content of representative expression
- Work: scale of representative expression
- Work: script of representative expression

Recommendation 1.1: Add a condition and option template to the Recording section of each of the representative expression elements for single expressions that are aggregated.

Condition: A work is an aggregating work.

Option: Record a value of an [Expression: language of expression] for one or more of the expressions that are aggregated.

Option: Record a value of an Expression: language of expression that is common to all of the expressions that are aggregated.

Values from the cumulated content of expressions that are aggregated

The following representative expression elements can only record a cumulation of values taken from all of the expressions that are aggregated:

- Work: duration of representative expression
- Work: extent of representative expression

Recommendation 1.2: Add a condition and option template to the Recording section of each of the representative expressions of cumulated aggregated content.

Condition: A work is an aggregating work.

Option: Record a value that is a cumulation of values of [Expression: duration of expression] for each of the expressions that are aggregated.

Values from the shortcut content of expressions that are aggregated

The following representative expression elements record a value from an aggregate manifestation shortcut content element:

- Work: colour content of representative expression
- Work: sound content of representative expression

Recommendation 1.3: Add a condition and option template to the Recording section of each of the representative expressions of shortcut aggregate content elements.

Condition: A work is an aggregating work.

Option: Record a value of [Manifestation: colour content] for a manifestation that realizes an aggregating work.

Element domain

The content elements have utility as shortcuts from an aggregate manifestation to an indication of the content type or category of an expression that is aggregated.

The content and contributor elements are used when an expression that is aggregated is not recorded as a separate description set. The elements record values from an expression or its relationships without the overhead of a minimal description of an expression.

The advantages in relocating the content elements to the manifestation entity are:

- There is consistency with the contributor element shortcuts.
- The overhead of a minimal description of an aggregating expression is avoided.

The advantage of keeping the content elements with the expression entity is:

- The data for an aggregating expression are recorded once, irrespective of the number of manifestations of the aggregate.

It is much more likely for an aggregating work and expression to be embodied by a single manifestation than in multiple manifestations, because only reproductions can be made. Any change in the expressions that are aggregated requires a new aggregating work: replacement of a single poem in an anthology results in a new aggregating work.

Optimizing the content and contributor shortcuts for the description of an aggregate manifestation is shown in Figure 3.

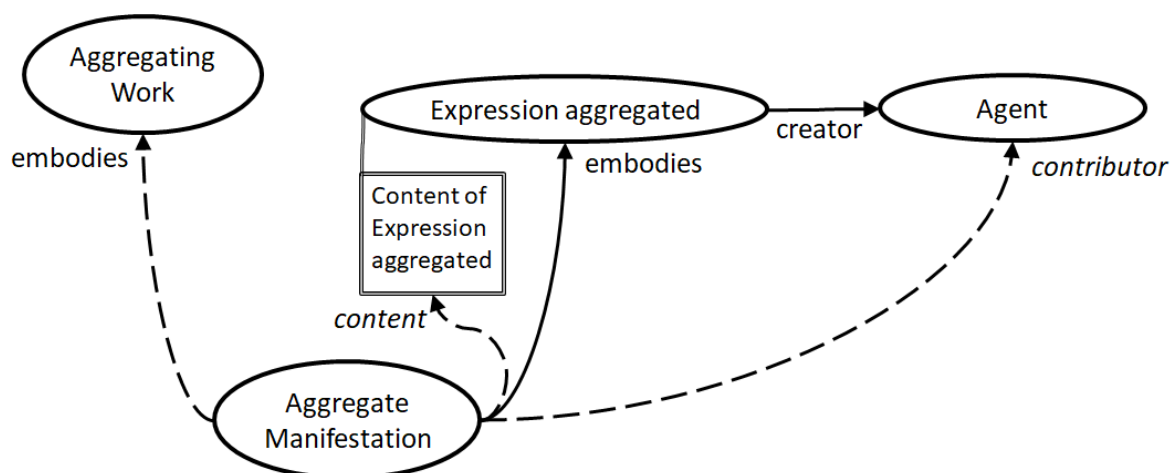


Figure 3: Shortcuts for aggregate

Recommendation 2: Relocate the content elements to the Manifestation entity.

supplementary content

Recommendation 2.1: Redefine Expression: supplementary content as a Manifestation shortcut.

Shortcut:

1. **Manifestation: expression manifested** [for an expression that is aggregated]
2. **Expression: category of expression** [for a category of supplementary content taken from an unspecified VES]

Definition: An indication of the kinds of expression that supplement the main expressions that are embodied by an augmentation aggregate.

Scope note: Supplementary content includes an index, a bibliography, an appendix, etc.

accessibility content

Recommendation 2.2: Redefine Expression: accessibility content as a Manifestation shortcut

Shortcut:

1. **Manifestation: expression manifested** [for an expression that is aggregated]
2. **Expression: category of expression** [for a category of accessibility content taken from an unspecified VES]

Definition: An indication of the kinds of expression that provide alternative sensory modes to perceive the main expressions that are embodied by an augmentation aggregate.

Scope note: Accessibility content includes accessible labels, an audio description, captioning, image descriptions, sign language, and subtitles. Accessibility content does not include subtitles in a language different from the spoken content.

This is an element sub-type of **Manifestation: supplementary content**.

This shortcut allows information about accessibility of content and carrier to be recorded for a manifestation.

illustrative content

Recommendation 2.3: Redefine Expression: illustrative content as a Manifestation shortcut.

Shortcut:

1. **Manifestation: expression manifested** [for an expression that is aggregated]
2. **Expression: category of expression** [for a category of illustrative content taken from the **RDA Illustrative Content** VES]

Definition: An indication of the kinds of expression of image content that supplement the main expressions that are embodied by an augmentation aggregate.

Scope note: Illustrative content applies to an aggregate that embodies an expression with a content type of “cartographic image”, “cartographic moving image”, “cartographic tactile image”, “cartographic tactile three-dimensional form”, “cartographic three-dimensional form”, “three-dimensional moving image”, “two-dimensional moving image”, “tactile three-dimensional form”, “three-dimensional form”, “still image”, or “tactile image”. Tables containing only words or numerical data are excluded.

This is an element sub-type of **Manifestation: supplementary content**.

colour content

Recommendation 2.4: Redefine Expression: colour content as a Manifestation shortcut.

Shortcut:

1. **Manifestation: expression manifested** [for an expression that is aggregated]
2. **Expression: category of expression** [for a category of illustrative content taken from the **RDA Colour Content VES**]

Definition: An indication of the presence of colour, tone, etc., in one or more of the expressions that are embodied by an augmentation aggregate.

Scope note: Black, white, single colour shades of black, single colour tints of white, and single colour tones of gray are considered to be single colours. Colour content applies to an expression with a content type of “cartographic image”, “cartographic moving image”, “cartographic three-dimensional form”, “notated movement”, “notated music”, “performed movement”, “still image”, “text”, “three-dimensional moving image”, “three-dimensional form”, or “two-dimensional moving image”.

sound content

Recommendation 2.5: Redefine Expression: sound content as a Manifestation shortcut.

Shortcut:

1. **Manifestation: expression manifested** [for an expression that is aggregated]
2. **Expression: category of expression** [for a category of sound content taken from the **RDA Sound Content VES**]

Definition: An indication of the presence or absence of sound in the expressions that are embodied by an augmentation aggregate.

Scope note: Sound content is present in an expression with a content type of “recorded music”, “sounds”, or “spoken word”.

colour

Recommendation 3: Add an element for Expression: colour

Definition: A categorization reflecting a hue of the visual content of an expression.

Scope note: Colour may be present in an expression with a content type of “cartographic image”, “cartographic moving image”, “cartographic three-dimensional form”, “notated movement”, “notated music”, “performed movement”, “still image”, “text”, “three-dimensional moving image”, “three-dimensional form”, or “two-dimensional moving image”.

This element partially subsumes **Expression: details of colour content**. The remaining scope of the deprecated element is subsumed as an unstructured description of **Manifestation: colour content**.

A structured description, identifier or notation, or IRI are taken from a local VES for colours. There are many controlled vocabularies for colour.

The element uses the default layout and instructions for VES elements that do not have an associated RDA VES.

Details elements

For consistency and coherency, **Expression: details of colour content** and **Expression: details of illustrative content** should be redefined as Manifestation elements.

These elements have a status of soft-deprecation and should not undergo further development.

Recommendation 4: Remove Expression: details of colour content and Expression: details of illustrative content from RDA.

Guidance

Recommendation 5: Update relevant Toolkit Guidance content to reflect the changes in content elements and the use of representative expressions for aggregating works.

Impact

The content elements require significant amendment to conform to the aggregates model and to be consistent with the contributor elements.

The number of elements that are affected is small.

There is no impact on the RDA VESs for specific contents elements.

There is no significant impact on legacy data in RDA implementation scenario C: Bibliographic/authority data, where there is no clear distinction between expression and manifestation description sets.

Relocating the domain of the content elements from Expression to Manifestation breaks the semantics of RDA Vocabularies, but this is unlikely to have a serious impact on applications. This should be reflected in the semantic version number of the GitHub release of RDA Vocabularies in due course, by incrementing the middle integer.

Further development

A comprehensive review of the 'cumulation' representative expression elements for an aggregating work (duration ... and extent ...) is part of the planned development of the treatment of extent.

Recommendations

Recommendation 1: add specific optional instructions for representative expression elements for aggregating works.

Recommendation 1.1: Add a condition and option template to the Recording section of each of the representative expression elements for single expressions that are aggregated.

Recommendation 1.2: Add a condition and option template to the Recording section of each of the representative expressions of cumulated aggregated content.

Recommendation 1.3: Add a condition and option template to the Recording section of each of the representative expressions of shortcut aggregate content elements.

Recommendation 2: Relocate the content elements to the Manifestation entity.

Recommendation 2.1: Redefine Expression: supplementary content as a Manifestation shortcut.

Recommendation 2.2: Redefine Expression: accessibility content as a Manifestation shortcut

Recommendation 2.3: Redefine Expression: illustrative content as a Manifestation shortcut.

Recommendation 2.4: Redefine Expression: colour content as a Manifestation shortcut.

Recommendation 2.5: Redefine Expression: sound content as a Manifestation shortcut.

Recommendation 3: Add an element for Expression: colour

Recommendation 4: Remove Expression: details of colour content and Expression: details of illustrative content from RDA.

Recommendation 5: Update relevant Toolkit Guidance content to reflect the changes in content elements and the use of representative expressions for aggregating works.