To: Joint Steering Committee for Development of RDA

From: Gordon Dunsire, Chair, JSC Technical Working Group

Subject: Meta-metadata elements in RDA

Abstract

The paper identifies and discusses RDA elements that describe other RDA elements; that is, RDA meta-elements. They include *Cataloguer's Note*, *Date of Usage*, *Scope of Usage*, *Source Consulted*, *Status of Identification*, and *Undifferentiated Name Indicator*. Further investigation of the RDA approach to meta-elements is recommended. The paper also recommends amendments to RDA instructions for meta-elements to make them more consistent with the use of Glossary definitions.

Introduction

A task for the JSC Technical Working Group in 2014 is to review the various needs for data about data and missing elements noted in 6JSC/Chair/9 and make proposals based on findings.

This paper discusses the *data about data* or meta-metadata elements (*meta-elements*) in RDA.

Table 1 shows the meta-elements and the kinds of data they describe.

Element	RDA	Subject (element)	Subject (other)
Cataloguer's Note	5.9		AAP(WE)
	8.13		AAP(PFC)
	24.8	R(WE)	AAP(WE)
	29.7	R(PFC)	AAP(PFC)
Date of Usage	8.9	Preferred Name for the P	
Scope of Usage	8.8	Preferred Name for the PFC	
Source Consulted	5.8	Title [of the work] "Identifying attributes"(WE)	
	8.12	Name of the PFC "Identifying attributes"(PFC)	
	24.7	R(WEMI)	
	29.6	R(PFC)	
Status of Identification	5.7	"Data identifying"(WE)	
	8.10	"Data identifying"(PFC)	
Undifferentiated Name Indicator	8.11	Name of the P	

Table 1: RDA meta-elements (R=relationships; AAP=authorized access point)

The Subject (element) column shows the RDA elements described; the Subject (other) column shows data described that has no corresponding RDA element.

Cataloguer's Note 5.9 and ***Cataloguer's Note*** 8.13 do not apply to any RDA element.

Date of Usage and ***Undifferentiated Name Indicator*** each apply to a single RDA element.

All other meta-elements apply to more than one RDA element.

The RDA instructions refer to **Cataloguer's Note** at RDA 5.9, RDA 8.13, RDA 24.8, and RDA 29.7. The "definition" at the start of each instruction is a variation of the Glossary definition, specifying the range of attributes and their entities for the related section of RDA. For example, the RDA 5.9 text is "an annotation that might be helpful to those using or revising the authorized access point representing a work or expression, or creating an authorized access point representing a related work or expression".

The RDA instructions refer to **Source Consulted** at RDA 5.8, RDA 8.12, RDA 24.7, and RDA 29.6. The "definition" at the start of each instruction is a variation of the Glossary definition, specifying the range of attributes and their entities for the related section of RDA. For example, the RDA 5.8 text is "a resource used in determining the title or other identifying attributes of a work or expression".

The RDA instructions refer to **Status of Identification** at RDA 5.7 and RDA 8.10. The "definition" at the start of each instruction is a variation of the Glossary definition, specifying the range of attributes and their entities for the related section of RDA. For example, the RDA 5.7 text is "an indication of the level of authentication of the data identifying a work or expression".

Registry

Cataloguer's Note, **Source Consulted**, and **Status of Identification** are not represented in the RDA Registry while awaiting clarification of their semantics.

Date of Usage, **Scope of Usage**, and **Undifferentiated Name Indicator** have Registry entries with domains of WEMI and PFC classes.

Brief responses to the specific questions asked in 6JSC/Chair/9 are given in the Appendix.

Discussion

The variation of definition between the RDA Glossary and instructions is inconsistent with other RDA elements. Consistency is desirable for the development of further improvements to the treatment of meta-elements in RDA. The specific application of the meta-element is clear from the context of the RDA instructions.

Recommendation 1: Use the Glossary definitions of **Cataloguer's Note**, **Source Consulted**, and **Status of Identification** in the RDA instructions in the preferred style. Add text to specify the variations for each instruction, if necessary for clarification.

The meta-elements cannot have an RDA entity (WEMIPFC) as a domain. Table 1 shows that the domain is either an RDA element or an authorized access point.

Linked data models for meta-metadata elements usually involve "reification". This is a process which assigns a URI to a specific data triple so that statements can be made that describe the triple; that is, the specific data triple becomes the subject of one or more additional data triples. The RDF

namespace provides properties that relate the component parts of the specified data triple. The general model applied to RDA is shown in Figure 1.
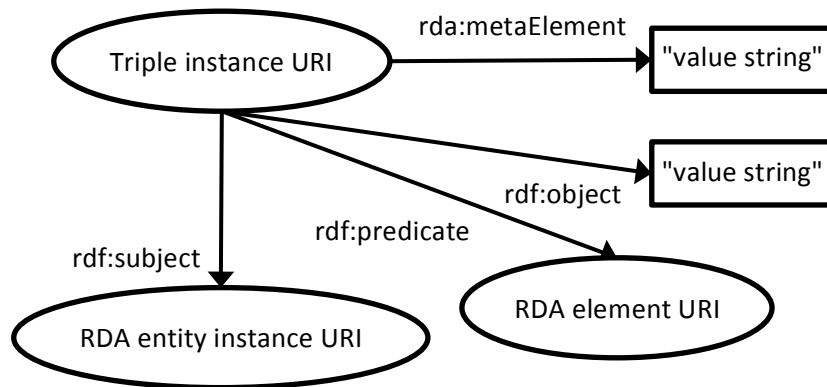

Figure 1: Reification data model.

In Figure 1, the reified triple is the subject of three triples relating it to its subject-predicate-object components. It can also be the subject of an RDA meta-element statement.

Data triple instance	
RDF Subject	ex:WorkX
RDF Predicate	rdaw:preferredTitleForTheWork
RDF Object	"Don Giovanni"
Cataloguer's Note	"Preferred title chosen as Don Giovanni per 6.14.2.3, better known title in the same language"

Figure 2: RDA example using the reification model of Figure 1.

Figure 2 shows an example from RDA expressed in the data model of Figure 1. "ex:WorkX" is the URI of a specific instance of a work. The example can be readily extended to cover additional elements for, say, Name of Cataloguer, Governing Rules, etc.

The model itself can be extended to meta-elements that describe RDA relationships by replacing the string object of the rdf:object triple with a URI representing the related RDA entity.

Reification involves assigning a URI, or "naming", to a triple. A triple is the simplest form of RDF graph, or linked data net, and the Semantic Web communities are currently developing a generalization to so-called named graphs. Reification provides a model for provenance data at the individual element level, as indicated in Figure 2. Named graphs provide a model for provenance data for aggregations of triples such as DCAM description sets and bibliographic records.

Recommendation 2: Refer the development of general models for provenance and other meta-metadata to the JSC Technical Working Group for monitoring and application to RDA in due course.

A more limited data model can be used for meta-elements. This is shown in Figure 3.
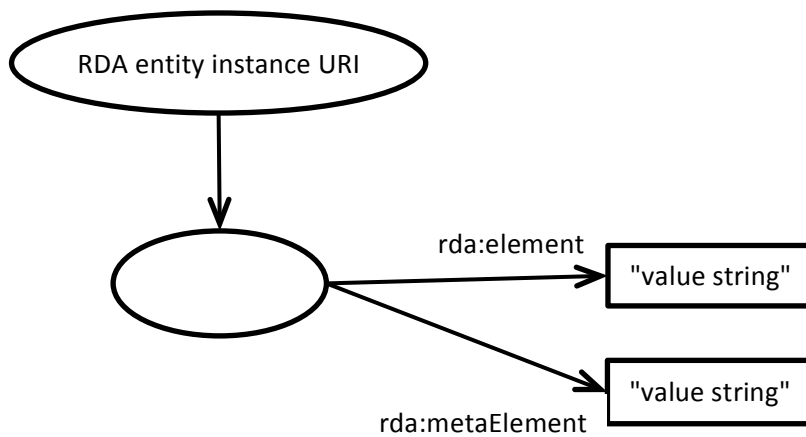
Figure 3: "Aggregated statement" data model for RDA meta-elements.

The data model in Figure 3 is similar to the model for RDA elements which have values taken from component sub-elements and assembled using an RDA "syntax encoding scheme" (at the top of page 3 of 5JSC/RDA/Element analysis/Rev/3).

Person instance	
[X]	[Y]
[Y]	
Preferred Name of the Person	"Howard Fast"
Date of Usage	"1933-2000"

Figure 4: RDA example using the aggregated statement model of Figure 3.

Figure 4 shows an example from RDA expressed in the data model of Figure 3. [X] is the URI of an unidentified RDA element that relates a person to the aggregated data, represented by the URI [Y], about the **Preferred Name of the Person**. Figure 5 shows the same example using the FRAD entity **Controlled Access Point**.

Person instance	
Controlled Access Point	[ex:CAPX]
[ex:CAPX]	
Preferred Name	"Howard Fast"
Date of Usage	"1933-2000"

Figure 5: RDA example generalized for the model of Figure 3.

Figure 5 uses a new RDA element **Controlled Access Point**. "ex:CAPX" is the URI of a specific RDA authorized access point.

The model can be extended to other meta-elements describing the Preferred Name of the Person element, say **Description of Name** ("The real name of the author of Spartacus, used in defiance of

blacklisting in the McCarthy era"), **Normalized Name** ("Fast, Howard"), other elements from FRAD, etc.

Figure 5 shows that the model of Figure 3 can be generalized for application in authority control. It also suggests that a new RDA entity for **Access Point** should be developed, as well as the corresponding RDA element shown in the example. This would resolve the anomalies and restrictions shown in Table 1 by providing an element and entity for RDA authorized access points so that they can be subject elements of meta-elements.

Recommendation 3: Refer the development of RDA models for authority data to the JSC Technical Working Group for action in 2015.

The meta- elements should all be represented in the RDA Registry as soon as possible, to allow them to be used in RDA linked data. The meta-elements should not have domains or ranges while further work on their data model is carried out.

Recommendation 4: Add **Cataloguer's Note**, **Source Consulted**, and **Status of Identification** to the RDA Registry with no semantic association with other RDA elements; that is, with no domain or range.

Recommendation 5: Deprecate the domains of **Date of Usage**, **Scope of Usage**, and **Undifferentiated Name Indicator** in the RDA Registry.

Recommendation 6: Consideration should be given to placing RDA meta-elements in a separate Registry element set, or in the unconstrained element set.

Recommendations

Recommendation 1: Use the Glossary definitions of **Cataloguer's Note**, **Source Consulted**, and **Status of Identification** in the RDA instructions in the preferred style. Add text to specify the variations for each instruction, if necessary for clarification.

Recommendation 2: Refer the development of general models for provenance and other meta-metadata to the JSC Technical Working Group for monitoring and application to RDA in due course.

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Recommendation 4: Add **Cataloguer's Note**, **Source Consulted**, and **Status of Identification** to the RDA Registry with no semantic association with other RDA elements; that is, with no domain or range.

Recommendation 5: Deprecate the domains of **Date of Usage**, **Scope of Usage**, and **Undifferentiated Name Indicator** in the RDA Registry.

Recommendation 6: Consideration should be given to placing RDA meta-elements in a separate Registry element set, or in the unconstrained element set.

Justification

The terminology used in the current RDA instructions for meta-elements varies from the Glossary definitions and is inconsistent with the general treatment of elements in RDA. RDA should expect cataloguer's judgement to be applied to the specific context of the instructions.

The issues in modelling meta-elements and integrating them in to the RDA instructions are complex and require further investigation. The recommendations are intended to make the current approach consistent so that future recommendations can be developed and applied more easily.

Impact

The recommended changes are intended to make the RDA instructions more consistent without changing their meaning.

Summary of changes

The RDA instructions are made consistent with the general definitions of *Cataloguer's Note*, *Source Consulted*, and *Status of Identification* in the RDA Glossary.

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5.7.1.1 Scope

Status of identification is an indication of the level of authentication of the data identifying ~~a work or expression~~<u>an entity</u>.

5.8.1.1 Scope

A source consulted is a resource used in determining the <u>name,</u> title, or other identifying attributes of ~~a work or expression~~<u>an entity, or in determining the relationship between entities</u>.

5.9.1.1 Scope

A cataloguer's note is an annotation that might be helpful to those using or revising the ~~authorized access point representing a work or expression~~<u>relationship data</u>, or creating an authorized access point representing a related ~~work or expression~~<u>entity</u>.

8.10.1.1 Scope

Status of identification is an indication of the level of authentication of the data identifying ~~a person, family or corporate body~~<u>an entity</u>.

8.12.1.1 Scope

A source consulted is a resource used in determining the name<u>, title,</u> or other identifying attributes of ~~a person, family, or corporate body~~<u>an entity, or in determining the relationship between entities</u>.

8.13.1.1 Scope

A cataloguer's note is an annotation that might be helpful to those using or revising ~~the authorized access point representing a person, family, or corporate body~~relationship data, or creating an authorized access point representing a related ~~person, family, or corporate body~~entity.

24.7.1.1 Scope

A source consulted is a resource used in <u>determining the name, title, or other identifying attributes of an entity, or in </u>determining the relationship between ~~works, expressions, manifestations, or items~~entities.

24.8.1.1 Scope

A cataloguer's note is an annotation that might be helpful to those using or revising the relationship data, or creating an authorized access point representing a related ~~work or expression~~entity.

29.6.1.1 Scope

A source consulted is a resource used in <u>determining the name, title, or other identifying attributes of an entity, or in </u>determining the relationship between ~~persons, families, or corporate bodies~~entities.

29.7.1.1 Scope

A cataloguer's note is an annotation that might be helpful to those using or revising the relationship data, or creating an authorized access point representing a related ~~person, family, or corporate body~~entity.

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5.7.1.1 Scope

Status of identification is an indication of the level of authentication of the data identifying an entity.

5.8.1.1 Scope

A source consulted is a resource used in determining the name, title, or other identifying attributes of an entity, or in determining the relationship between entities.

5.9.1.1 Scope

A cataloguer's note is an annotation that might be helpful to those using or revising the relationship data, or creating an authorized access point representing a related entity.

8.10.1.1 Scope

Status of identification is an indication of the level of authentication of the data identifying an entity.

8.12.1.1 Scope

A source consulted is a resource used in determining the name, title, or other identifying attributes of an entity, or in determining the relationship between entities.

8.13.1.1 Scope

A cataloguer's note is an annotation that might be helpful to those using or revising the relationship data, or creating an authorized access point representing a related entity.

24.7.1.1 Scope

A source consulted is a resource used in determining the name, title, or other identifying attributes of an entity, or in determining the relationship between entities.

24.8.1.1 Scope

A cataloguer's note is an annotation that might be helpful to those using or revising the relationship data, or creating an authorized access point representing a related entity.

29.6.1.1 Scope

A source consulted is a resource used in determining the name, title, or other identifying attributes of an entity, or in determining the relationship between entities.

29.7.1.1 Scope

A cataloguer's note is an annotation that might be helpful to those using or revising the relationship data, or creating an authorized access point representing a related entity.

Appendix: Responses to questions in 6JSC/Chair/9

General questions

1.C. *Do these 'bibliographic' note type instructions have anything in common with the 'authority' note type instructions ("Source Consulted", "Status of Identification", "Cataloguer's Note", Scope of Usage", and "Date of Usage")?* Those authority notes are treated as single elements, applied where applicable.

Response: No, these instructions refer to different types of metadata. The "authority" note instructions refer to meta-metadata; the "bibliographic" note instructions refer to just metadata.

4.A. This element [*Source Consulted*] has a single label for its use wherever appropriate; *how does it differ from "Notes on" and "Details of" to explain why it is handled this way?*

Response: The element describes an unspecified identifying attribute of an entity or a relationship between two entities. A single label is used to avoid the provision of an exhaustive set of unique labels for every identifying attribute and relationship.

5.A. This element [**Status of Identification**] has a <u>single</u> label for its use wherever appropriate; *how does it resemble "Source Consulted" and differ from "Notes on" and "Details of" to explain why it is handled this way?*

Response: The element describes an unspecified identifier attribute of an entity. A single label is used to avoid the provision of an exhaustive set of unique labels for every identifying attribute.

6.A. This element [**Cataloguer's Note**:] has a <u>single</u> label for its use wherever appropriate; *how does it resemble "Source Consulted" and differ from "Notes on" and "Details of" to explain why it is handled this way?*

Response: The element describes unspecified relationship data or an authorized access point for a related entity. A single label is used to avoid the provision of an exhaustive set of unique labels for every relationship.

7.A. *Should "Scope of usage" be treated consistently with the other elements mentioned in this document?*

Response: This is a meta-metadata element, and should be treated as part of the development of RDA meta-elements.

8.A. *Should "Date of usage" be treated consistently with the other elements mentioned in this document?*

Response: This is a meta-metadata element, and should be treated as part of the development of RDA meta-elements.