

# The IFLA Library Reference Model and RDA

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# The IFLA LRM

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- High-level conceptual entity-relationship model
  - Basis for elaboration of rules for particular cultural communities
  - Developed to work with Semantic Web technologies
  - Expandable for implementation
- Previously referred to as the “FRBR LRM”
- Reconciliation of the FRBR and FRAD models
  - FRSAD is implied in the relationship aspect of the model
- Platform and encoding standard neutral

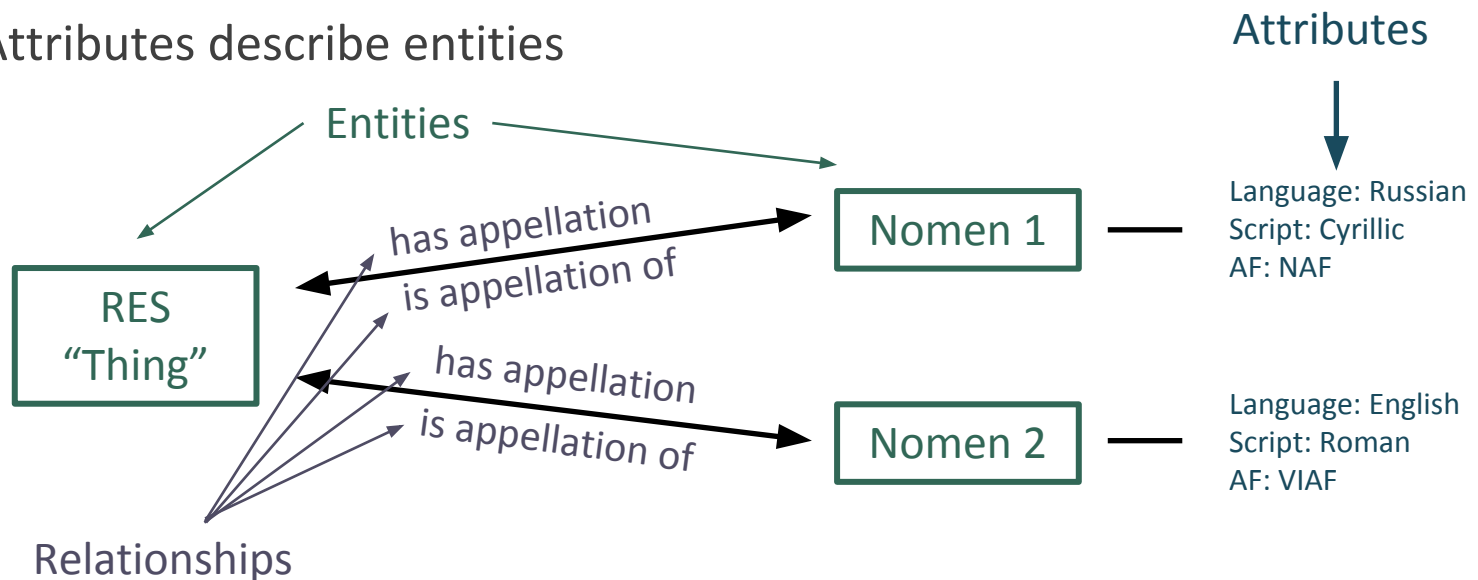
# LRM Elements

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- LRM has four elements
  - User tasks “FISOE”
    - Find
    - Identify
    - Select
    - Obtain
    - Explore
  - Entities
  - Attributes
  - Relationships

# Entities, Attributes, and Relationships

- Entities (11) are the framework of the model
- Relationships connect entities to each other
- Attributes describe entities



# Entity Hierarchy

Entity Hierarchy		
Top Level	Second Level	Third Level
LRM-E1 RES		
--	LRM-E2 Work	
--	LRM-E3 Expression	
--	LRM-E4 Manifestation	
--	LRM-E5 Item	
--	LRM-E6 Agent	
--	--	LRM-E7 Person
--	--	LRM-E8 Collective Agent
--	LRM-E9 Nomen	
--	LRM-E10 Place	
--	LRM-E11 Time-span	

# Attributes

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- Attributes describe (“characterize”) entities
- No attribute is **required** but may be recorded if “applicable and easily ascertainable” and relevant
- Attributes listed in the LRM are not exhaustive; applications (such as RDA) may define additional attributes as needed
- EXAMPLE:

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## LRM-E3 Expression

LRM-E3 Expression

LRM-E3 Expression

LRM-E3 Expression

LRM-E3 Expression

LRM-E3 Expression

LRM-E3-A2 Extent

LRM-E3-A3 Intended Audience

LRM-E3-A6 Language

LRM-E3-A7 Key

LRM-E3-A8 Medium of performance

# Relationships

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- Connect entities and provide context
- Can be expanded in different implementations
- All relationships are refinements of the Res 'is associated with' Res general relationship
- WEMI relationships are at the core of the model, but implementation of further relationships is “encouraged”
- Multi-step relationships called “paths” may be declared or may be substituted by allowable shortcuts

NOMEN 1 'is appellation of' RES  
RES 'has appellation' NOMEN 2 = (shortcut)  
NOMEN 1 'is equivalent to' NOMEN 2

# LRM in RDA

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- RDA is/will be an instance of the LRM
- RDA adapts and expands on the LRM
- The RDA 3R project (Restructure and Redesign of RDA) will “aim for compatibility” between current RDA entities and the LRM
- Agents, aggregates, and other undeveloped areas of RDA are being addressed



# RDA Changes

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- RDA replaces the LRM entity “Res” with a sub-class of Res “RDA entity”
  - Res is inherent in RDA and does not need to be modelled
  - “RDA entity” will be a super-type of all other RDA entities
  - Relationships of the RDA entity will usually apply to all entities in the model
    - Category: a type to which the RDA entity belongs, i.e. object, work, event, concept, etc.
    - Note: any note about the RDA entity that is not recorded through a more specific relationship
    - Exception: Cannot have a Nomen has appellation Nomen relationship
- RDA adds the entities Time-span and Place
  - These replace the attributes Place of and Date of
  - Represent real, and not fictitious, places and time-spans (these will be instances of the RDA entity)
  - Time spans can be general or specific: 18<sup>th</sup> century; March 4, 2016
  - Places can be extraterrestrial, historic, or no longer existing, but they must be/have been real

# Attributes vs. Relationships

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- RDA replaces attributes (“elements” in RDA) with relationships

Manifestation “Place of publication” : Copenhagen →

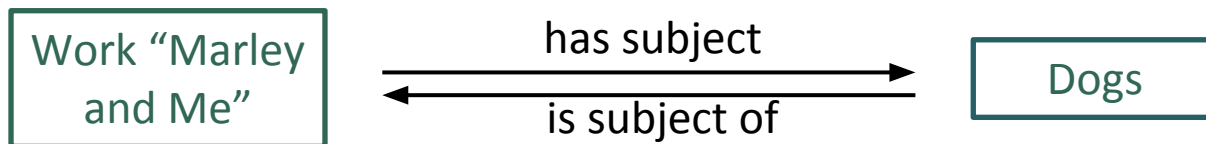
Manifestation “has place of publication” Copenhagen

- Subjects of works are expressed as relationships

- Replaces FRAD attribute “subject of work”

“Work (Marley and Me)” has subject “dogs”

“Dogs” is the subject of “Work (Marley and Me)”



# Nomen in RDA

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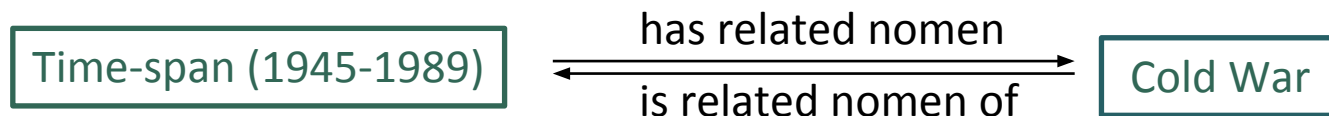
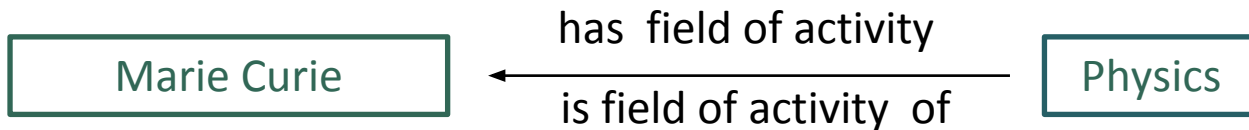
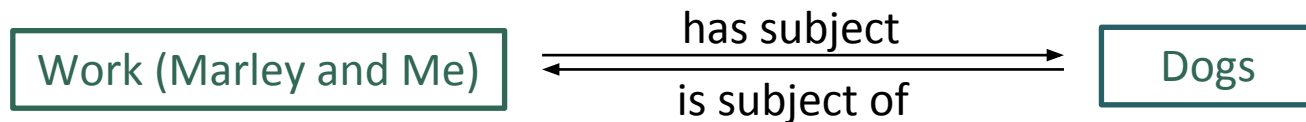
- RDA is adding the entity “Nomen”
  - A Nomen is “a designation that refers to an RDA entity”
  - Nomen and the LRM “appellation” have the same meaning
  - RDA entity (the “Thing”) ≠ Nomen (the name for the “Thing”)
  - Has a mandatory attribute “nomen string”
    - there is no Nomen without a nomen string
    - identical nomen strings can refer to different Nomens

Alabama [state]  
Alabama [musical group]  
Alabama [battleship]  
Alabama [city in New York]  
Alabama [schooner]

# Nomens

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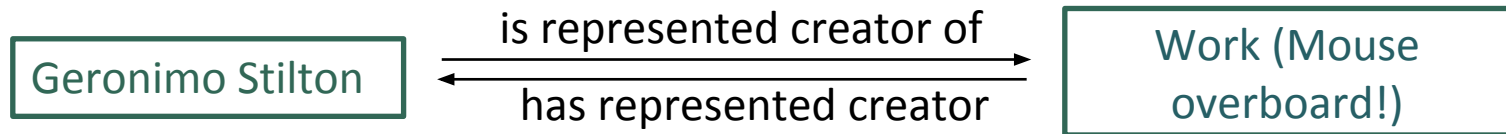
- The object, concept, and event entities which have been deprecated in the LRM
  - Expressed through the Time-span entity and “has subject” relationship



# Nomens

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- Nomens will allow the recording of fictitious entities (people, places, time-spans, corporate bodies, families, etc.) and non-human entities



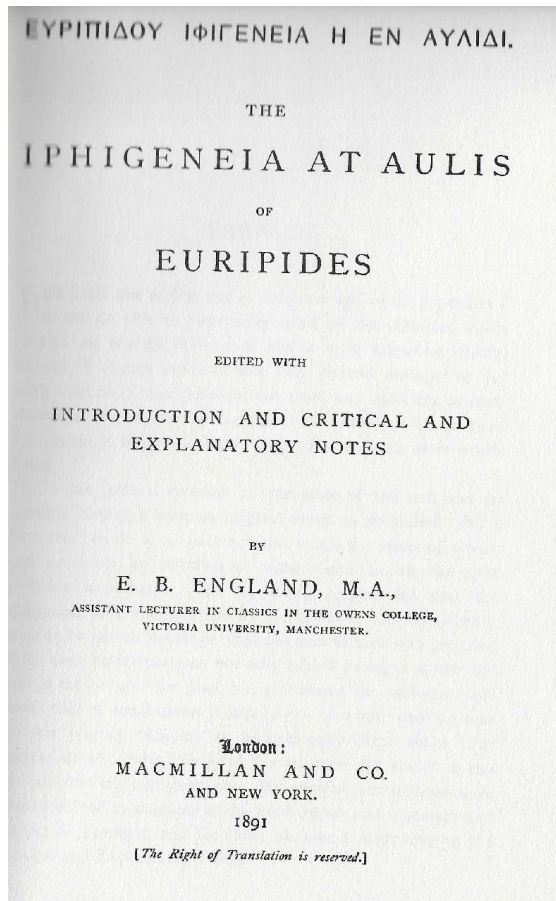
\*N.B.! This is the ongoing work of the Fictitious Entities group and is subject to change!

# Manifestation Statement

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- RDA is adding a new element set Manifestation Statement
- The Manifestation Statement set will allow for a direct transcription of the title page, statement of responsibility, and other elements
- Important for understanding how the resource identifies itself
- Requires basic transcription rules, but mostly WYSIWYG
- Many singleton works (works with one expression and one manifestation) may not need a Manifestation Statement
- Useful for situations where identifying a resource may be ambiguous

# Manifestation Statement



RDA Element	Data
> Title proper (ms)	ΕΥΡΙΠΙΔΟΥ ΙΦΙΓΕΝΕΙΑ Η ΕΝ ΑΥΛΙΔΙ.
> Title proper (ms)	THE IPHIGENEIA AT AULIS OF EURIPIDES
> Statement of responsibility relating to title proper (ms)	EDITED WITH INTRODUCTION AND CRITICAL AND EXPLANATORY NOTES BY E. B. ENGLAND
Publication statement (ms)	London: MACMILLAN AND CO. AND NEW YORK. 1891

# Aggregates

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- The Aggregates Working Group has been working to model and formulate instructions for aggregates
- Goals:
  - Simplify process of identifying, describing, and relating aggregates and whole-part entities through clear instructions
  - Encourage catalogers to describe aggregates at the most granular level they can manage
  - Provide explicit relationships that will allow software to make connections between less and more granular data
  - To allow a user to find information about an expression whether it is alone or with other expressions, explore by finding information about that aggregate in other expressions, and to identify, select, and obtain the expression in the preferred manifestation



# Aggregates

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- The AWG identified four types of aggregates:
  - Aggregate collections of expressions (volumes of poems, short stories, etc.)
  - Aggregates resulting from augmentation (novel plus added material)
  - Aggregates resulting from parallel expressions (works in two languages)
  - “Integrated” aggregates (songs with words and music, comics (text and drawings))
- Preliminary discussions have taken place at the RSC+ meeting in Chicago and are ongoing
- See the AWG paper for more detailed information on the model

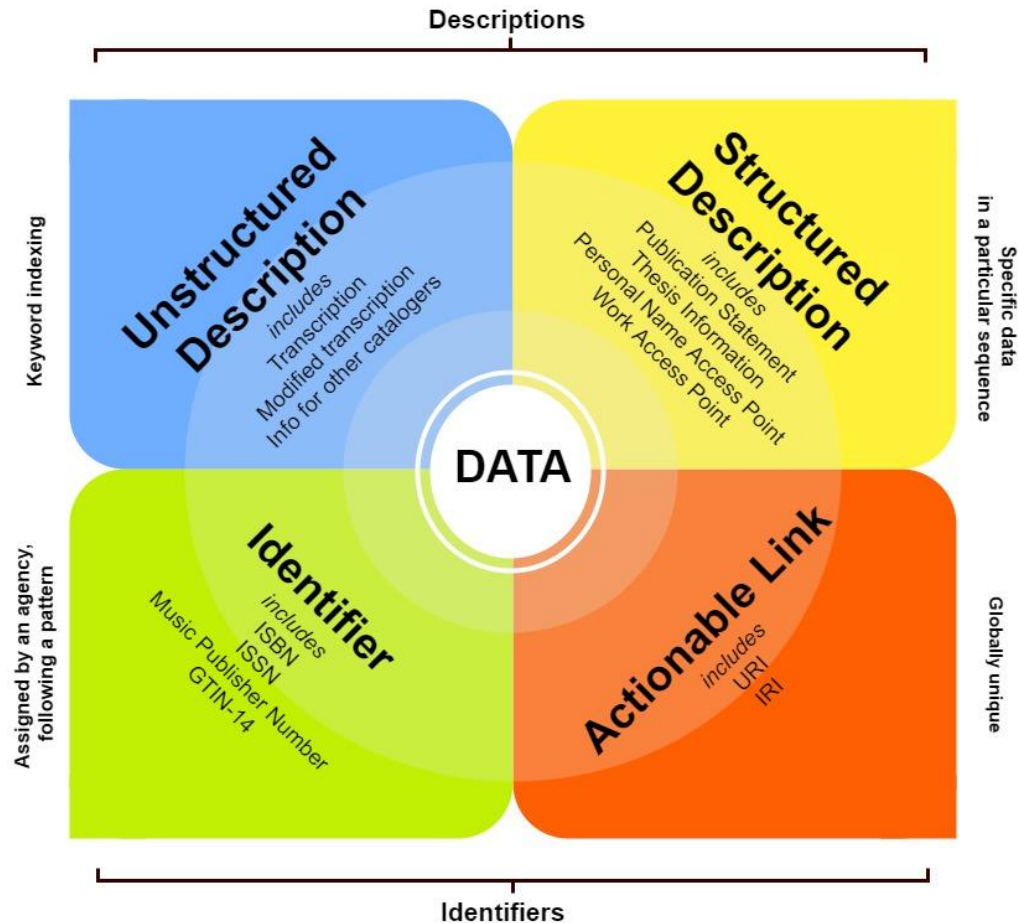
<http://www.rda-rsc.org/sites/all/files/AWGpaper.pdf>

# The 4-Fold Path

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- Sets of RDA instructions for recording the relationship between an entity being described and a related entity
- Four methods
  - Unstructured description: string of characters such as those in a free-text note; this is the only path appropriate for transcription
  - Structured description: string using some kind of syntax encoding scheme, such as a publication statement (using ISBD) or an authorized name access point
  - Identifier, such as an ISSN, ISBN, music publisher number
  - IRI: an actionable link unique to that entity
- RDA will give instructions on how an entity can be identified using one or more of the four methods
- The 4-Fold Path allows for multiple methods of data capture and database implementations

# The 4-Fold Path



Glennan, RDA Toolkit 3R Project  
(2017)

# RDA Restructuring

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- The RDA 3R project will restructure RDA from top to bottom
- General chapters for type of description, sources of information, the 4-fold path, aggregates, provenance and meta-elements, relationships, fictitious entities, etc.
- Entity chapters for each of the 12 RDA entities
- “Chunks” for each element’s instructions
  - Content will be supplied directly from the Open Metadata Registry (OMR)
  - Boilerplate wording will be used to make the Toolkit more consistent and editing easier
  - Links will be inserted to related elements
  - Links will refer where necessary to topics in the general chapters
  - The old numbering system will not be retained

# Summary

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- The 3R Project will transform RDA into a fully implemented instance of the IFLA Library Reference Model
- The structure of RDA will be based on the LRM entity-relationship model of data organization
- RDA will incorporate the 4-Fold Path for recording entities of bibliographical interest and the relationships between them
- Both machine- and human-captured data will be accommodated
- Redundancy in instructions, examples, and rules will be eliminated
- Content management in the RDA Toolkit will be synchronized using the OMR and the RDA Toolkit CMS

# Useful Resources

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- Open Metadata Registry: <http://metadataregistry.org/>
- RDA Vocabularies (GitHub):  
<https://github.com/RDAREgistry/RDA-Vocabularies>
- RDA Registry: <http://www.rdaregistry.info/#>
- RDA Toolkit website: <http://www.rdatoolkit.org/>
- RDA Steering Committee website: <http://rda-rsc.org/>



**DON'T PANIC**

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# Questions?

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