



# Yes, we can!

## Some observations on library linked data

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What is the answer?

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# What is the question?

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# What do we do?

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# Why do we do it?

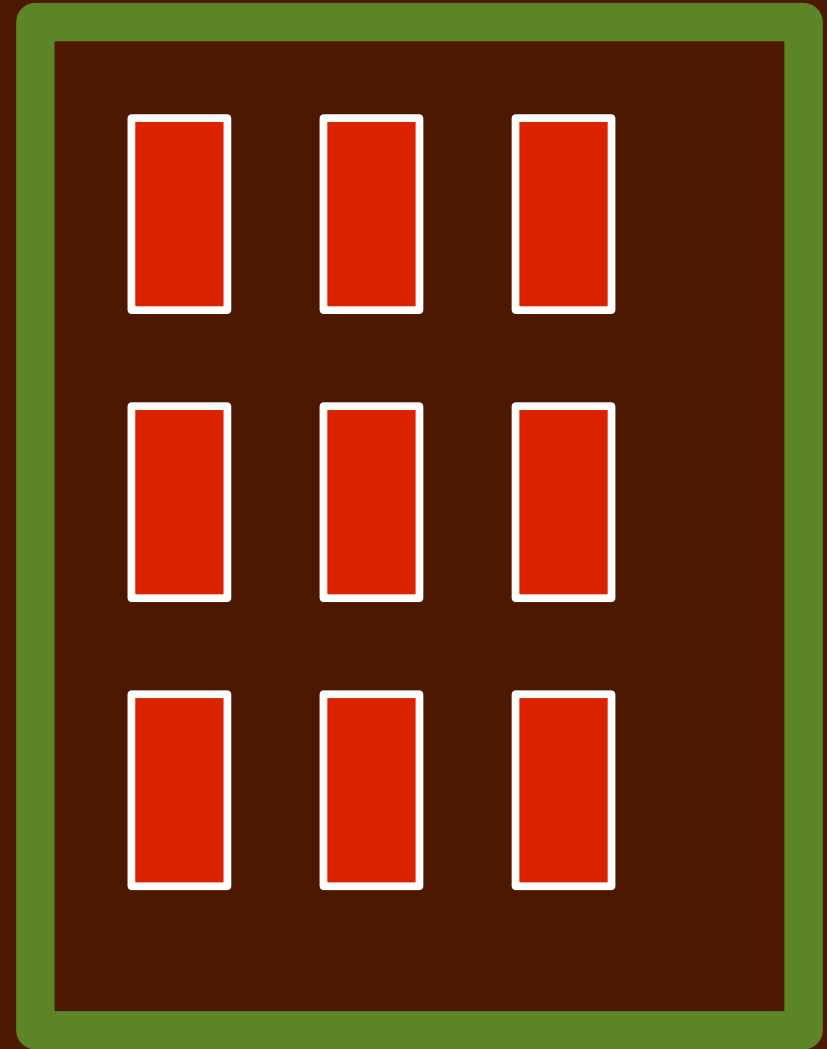
[kcoyle@kcoyle.net](mailto:kcoyle@kcoyle.net)

# Cataloging

- Distinguish
- Differentiate
- Separate

# Cataloging

- Distinguish
- Differentiate
- Separate





Is this the same book?

Or

Is this a different book?

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# "Books are a slow conversation"

Each one listens to others and talks to others.

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# Evolution of the Catalog

- Book catalogs
- Card catalogs
- Online catalogs

Same  
data



N.Y.S.P.I.

W

2

N213d

no.15

1961

Mack, Raymond W

The occasion instant; the structure of social responses to unanticipated air raid warnings, by Raymond W. Mack and, George W. Baker. Foreword by Robin M. Williams, Jr. Washington, National Academy of Sciences-National Research Council, 1961.

xv, 69 p. 25 cm. (National Research Council, Disaster Research Group. Disaster study, no. 15)

National Research Council. Publication 945.

Bibliography: p. 65-69.

*Behavior.*

1. ~~U. S.~~ Civilian defense. 2. ~~Air warfare~~ Psychological aspects. I. Baker, George Walter, 1915- joint author. (Series) Series: ~~National Research Council. Publication 945~~

UA927.M23

355.232

61-64605

Library of Congress

[10]

W

2

N213d

no. 15

1961

# Mack, Raymond W

The occasion instant; the structure of social responses to unanticipated air raid warnings, by Raymond W. Mack and, George W. Baker. Foreword by Robin M. Williams, Jr. Washington, National Academy of Sciences-National Research Council, 1961.

xv, 69 p. 25 cm. (National Research Council, Disaster Research Group. Disaster study, no. 15)

National Research Council. Publication 945.

Bibliog

1. U. S.

I. Baker,

National

UA927J

Library

**LC Control No.:** 61064605

**LCCN Permalink:** <http://lccn.loc.gov/61064605>

**Type of Material:** Book (Print, Microform, Electronic, etc.)

**Personal Name:** [Mack, Raymond W.](#)

**Main Title:** The occasion instant : the structure of social responses to unanticipated air raid warnings / by Raymond W. Mack, George W. Baker ; Foreword by Robin M. Williams, Jr.

**Published/Created:** Washington, National Academy of Sciences-National Research Council, 1961.

**Related Names:** [Baker, George W. \(George Walter\), 1915- joint author.](#)

**Description:** xv, 69 p. ; 25 cm.

**Notes:** National Research Council. Publication 945.  
Includes bibliographical references (p. 65-69).

**Subjects:** [Civil defense --United States.](#)  
[Air warfare --Psychological aspects.](#)

**Series:** National Research Council (U.S.). Disaster Research Group. Disaster study, no. 15  
[National Research Council \(U.S.\). Disaster Research Group. Disaster study, no. 15](#)

# Today's tools and models

- MARC (at the end of its life)
- FRBR (a model, but based on past practices)
- RDA (based on FRBR and AACR and MARC, with some new concepts).



**Where do we need to go?**



# Further





# Cutter's questions

- What books does the library have by this author?
- What books does the library have on this topic?
- Does the library have a book with this title?

# Tomorrow's questions

- Starting with this author, what authors are related to him/her through their subject matter? Which are closest to this author?
- Who else was writing in this time in this place?
- Given this subject, who are the key authors?

# Day after tomorrow's questions

- Where does this subject lead me?
- What resources (library or outside of library)?
- What are related subjects?
- Information about the subject  
(encyclo/wiki/pedia)
- Persons and institutions related to the subject.



# Seeking books, or seeking knowledge?

## BOTH!

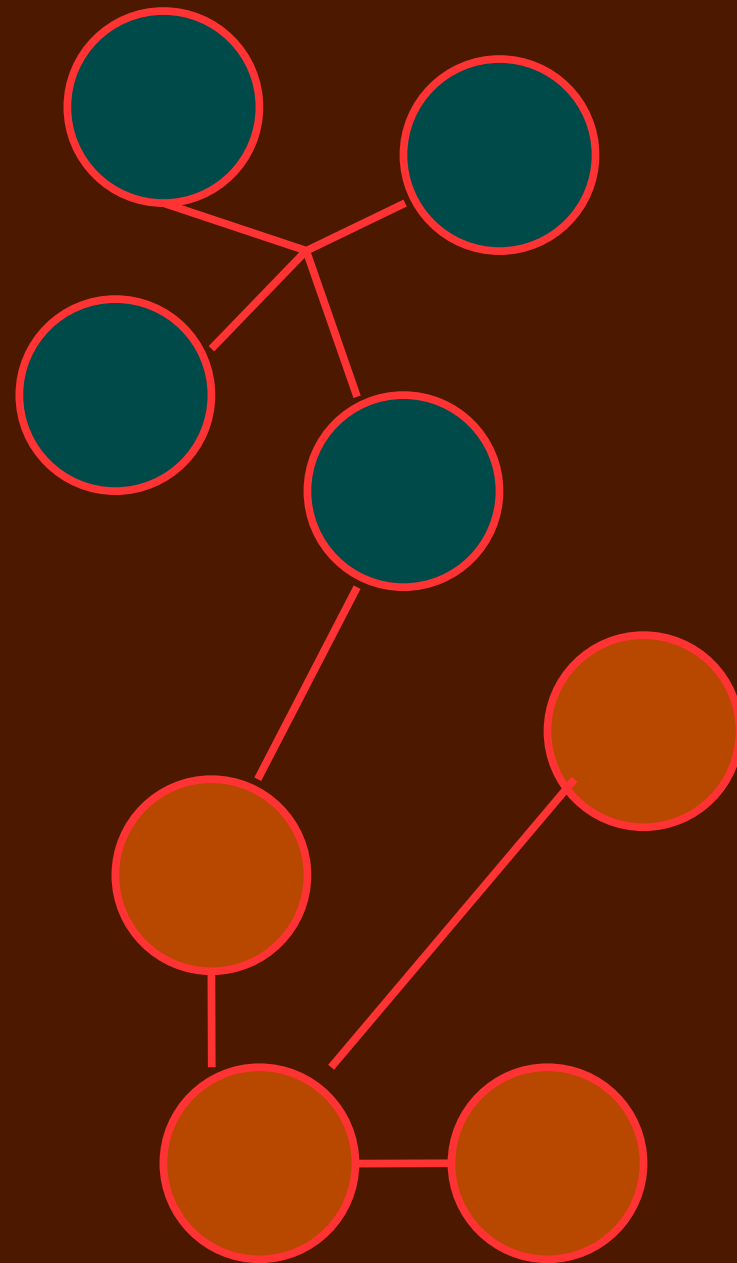
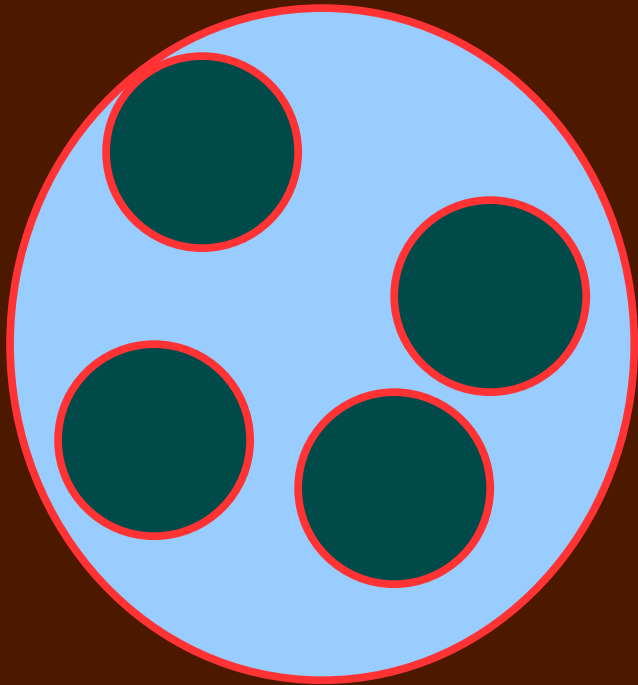
But users have learned to come to the library only to seek books.



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# Where we could go

- Semantic web – to interact with data from other communities, ending the library data silo
- Navigation and discovery for users that takes better advantage of the data and leads users to new discoveries
- Computable data – ability to mine bibliographic data for information
- Expansion of library data through discovery of new communities of interest.



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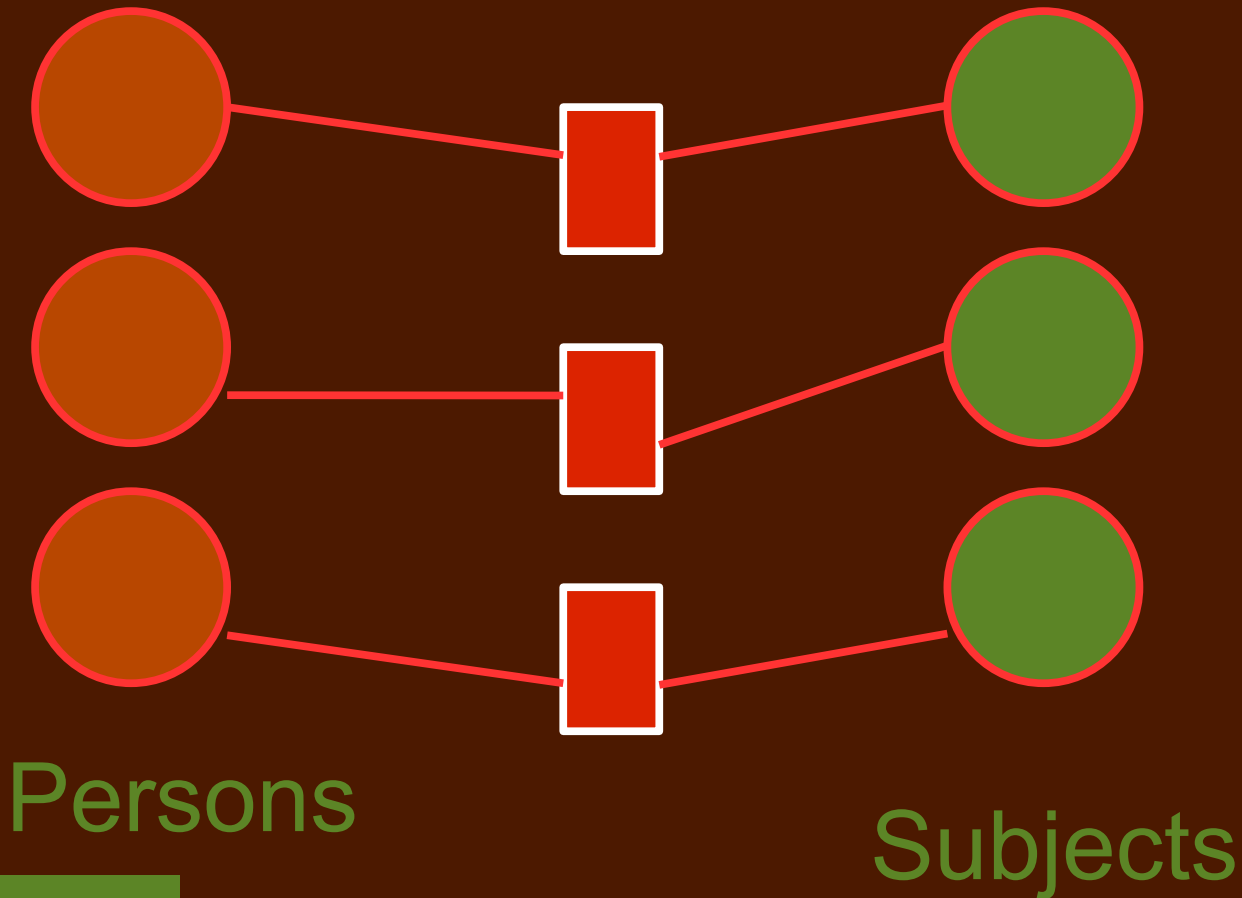


# Similarities are as important as differences

Where do we find the similarities in library data?

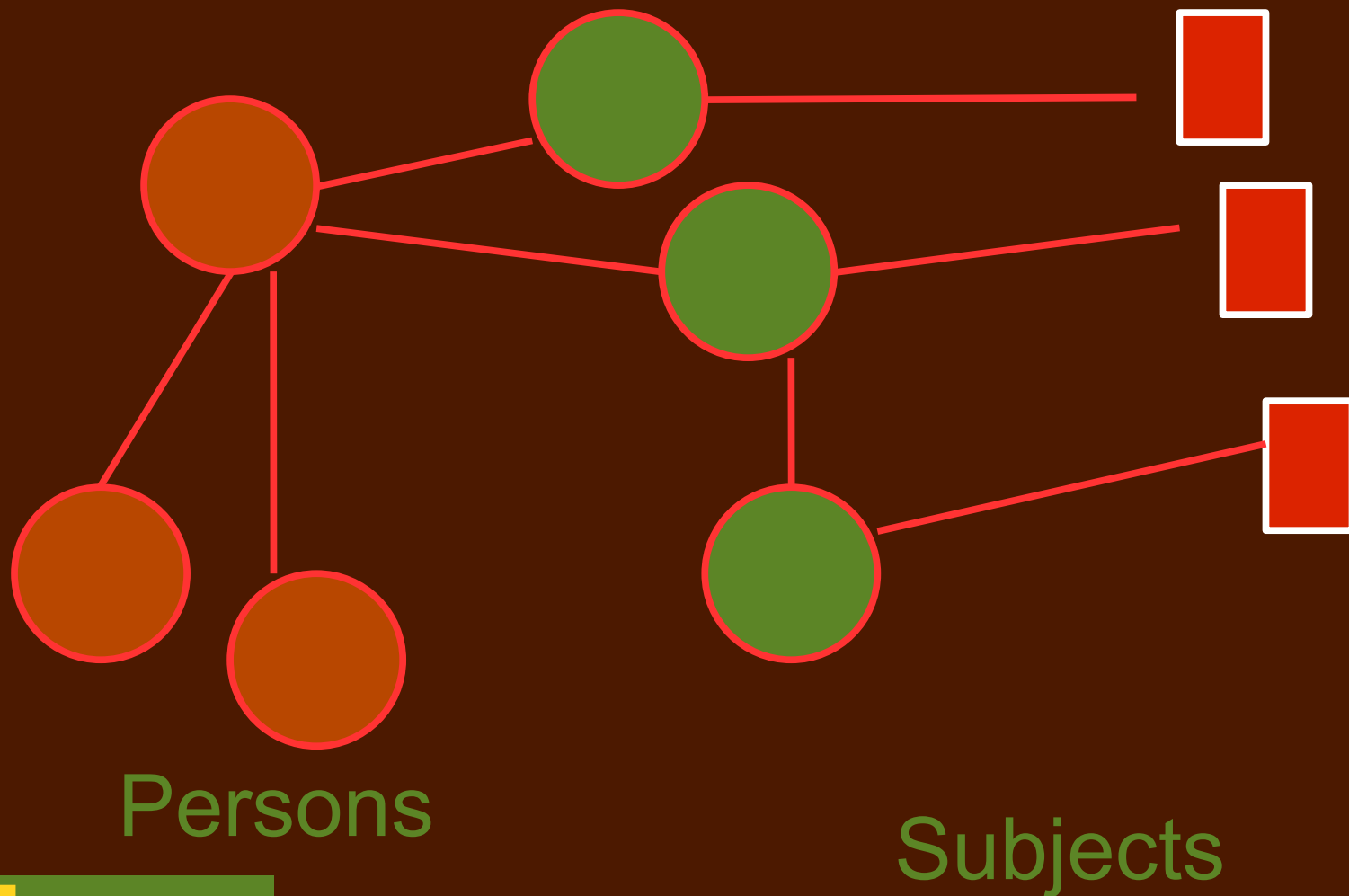
Answer: in authoritative headings; in controlled lists, in fixed (data) fields; in some text fields

# Could we reorganize around similarities?

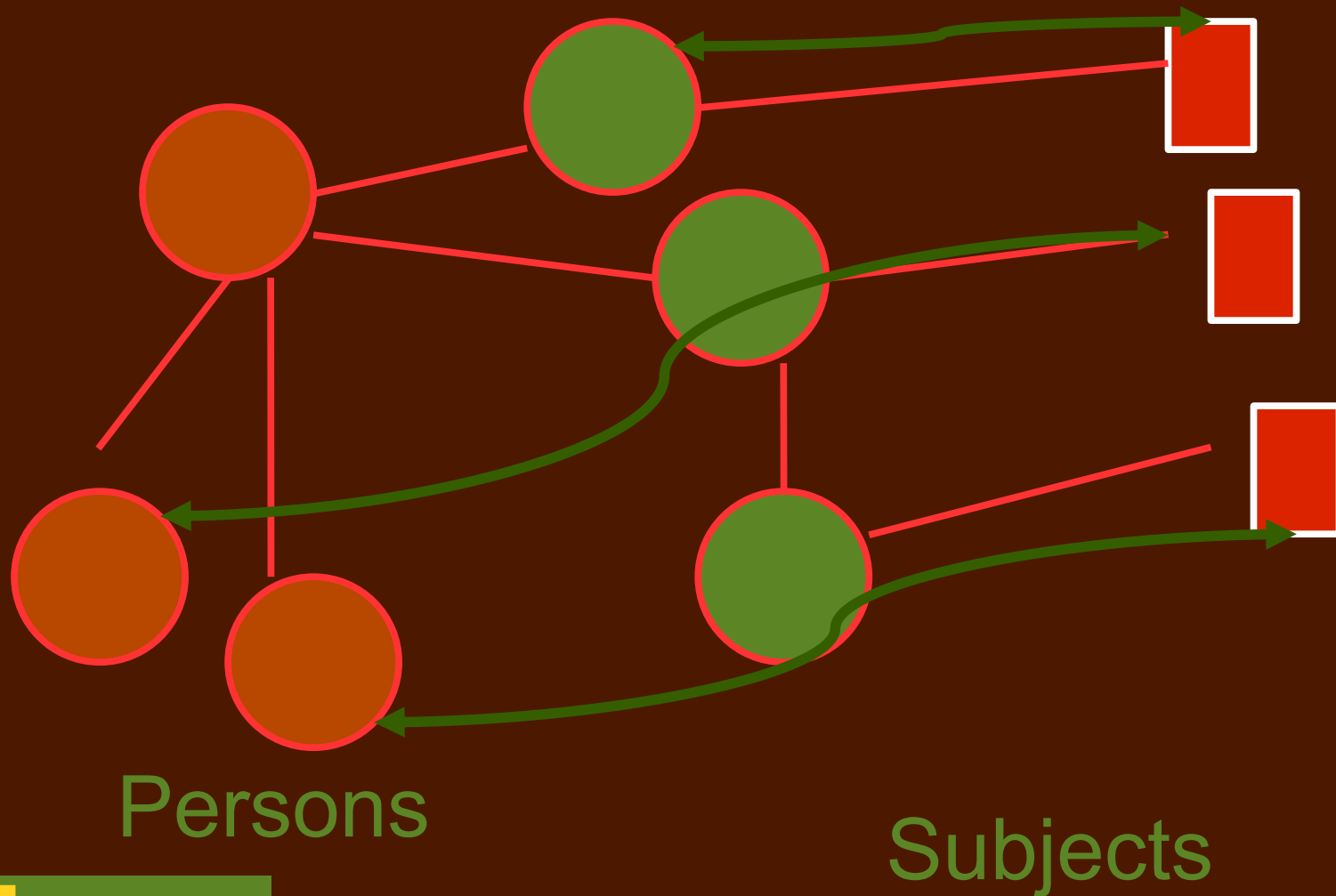




# Could we reorganize around similarities?



# Could we reorganize around similarities?





# Open Library

<http://openlibrary.org>

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# Thomas Mann

6 June 1875 - 12 August 1955

Thomas Mann was a German novelist, short story writer, social critic, philanthropist, essayist, and 1929 Nobel Prize laureate, known for his series of highly symbolic and ironic epic novels and novellas, noted for their insight into the psychology of the artist and the intellectual. His analysis and critique of the European and German soul used modernized German and Biblical stories, as well as the ideas of Goethe, Nietzsche, and Schopenhauer.

His older brother was the radical writer Heinrich Mann, and three of his six children, Erika Mann, Klaus Mann and Golo Mann, also became important German writers.

When Hitler came to power in 1933, the anti-fascist Mann fled to Switzerland. When World War II broke out in 1939, he emigrated to the United States, from where he returned to Switzerland in 1952. Thomas Mann is one of the most known exponents of the so called Exilliteratur. ([Source](#))

**713 works** [Add another?](#)

☰ **Most Editions** | [First Published](#) | [Most Recent](#)



**[Buddenbrooks: Verfall einer Familie](#)**

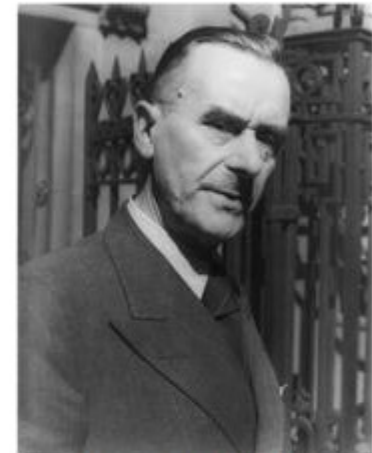
79 editions - first published in 1909



[Read](#)

Last edited by [Prajña](#)  
September 24, 2010 | [History](#)

[Edit](#)



[Manage Author Photos](#)

## SUBJECTS

[Correspondence](#), [Fiction](#), [German Authors](#), [Accessible book](#), [German Novelists](#), [Democracy](#), [German fiction](#), [Knowledge](#), [Politics and government](#), [National socialism](#), [Translations into English](#), [World War, 1939-1945](#), [Authors](#), [Diaries](#), [German language](#), [Music](#), [Criticism and interpretation](#), [Music and literature](#), [Readers](#), [Biography](#), [Guerra Mundial II, 1939-1945](#), [Nacionalsocialismo](#), [Novelists](#), [German](#), [American Authors](#), [History](#)



[Previous](#) [Next](#) [Highlight all](#) ☐ Match case

erg



DAISY



DAISY

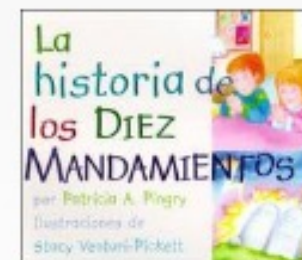
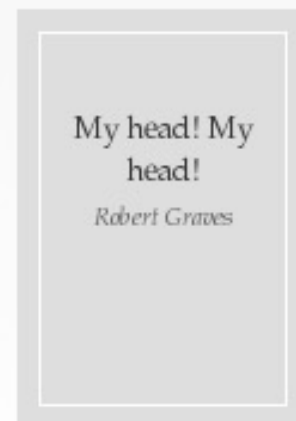
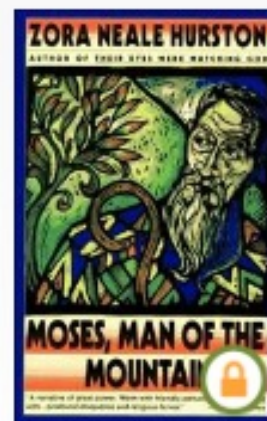
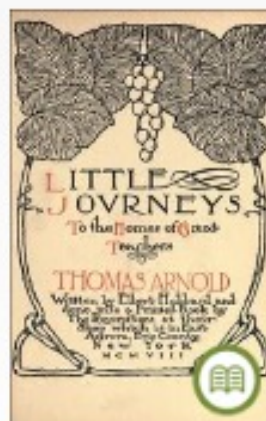
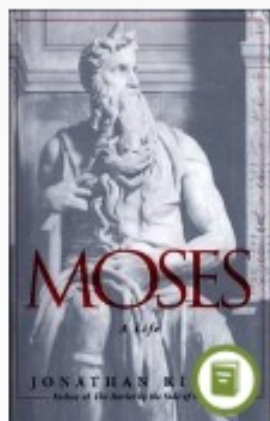
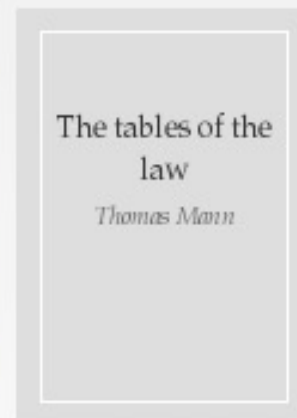
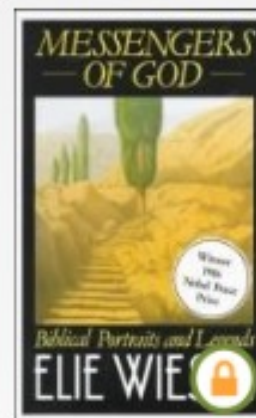
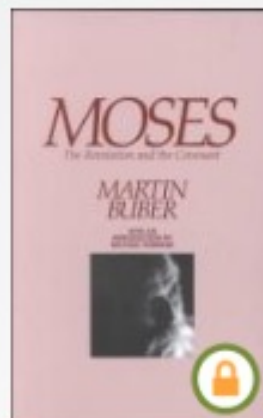
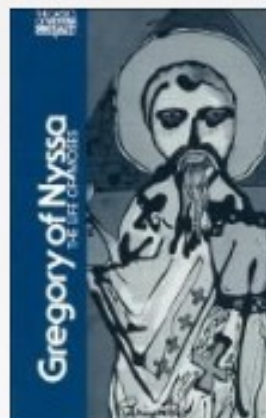
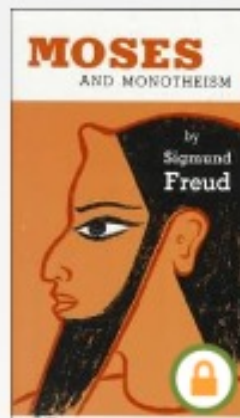
[Germany](#), [Alemania](#), [Europe](#), [Prussia \(Germany\)](#),  
[Foreign countries](#), [France](#), [Lubeck \(Germany\)](#),  
[Lübeck \(Germany\)](#), [Munich \(Germany\)](#), [Spain](#),  
[Venice \(Italy\)](#), [Weimar \(Thuringia\)](#)

## PEOPLE

[Thomas Mann \(1875-1955\)](#), [Johann Wolfgang von Goethe \(1749-1832\)](#), [Joseph \(Son of Jacob\)](#),  
[Heinrich Mann \(1871-1950\)](#), [Richard Wagner \(1813-1883\)](#), [Charlotte Buff Kestner \(1753-1828\)](#),  
[Erich Kahler \(1885-1970\)](#), [Leo Tolstoy graf \(1828-1910\)](#), [Agnes Elizabeth Ernst Meyer \(1887-\)](#),  
[Alfred Neumann \(1895-1952\)](#), [Ida Boy-Ed \(1852-1928\)](#), [Käte Hamburger \(1896-\)](#), [Käte Hamburger \(1896-1992\)](#), [Otto Grautoff \(1876-1937\)](#), [Sigmund Freud \(1856-1939\)](#),  
[Friedrich Schiller \(1759-1805\)](#), [Jacob \(Biblical patriarch\)](#), [Moses \(Biblical leader\)](#), [Theodor Storm \(1817-1888\)](#), [Arthur Schopenhauer \(1788-1860\)](#),  
[Frederick II King of Prussia \(1712-1786\)](#), [Friedrich Wilhelm Nietzsche \(1844-1900\)](#), [Gottfried Bermann Fischer \(1897-\)](#), [H. T. Lowe-Porter \(1876-1963\)](#), [Miguel de Cervantes Saavedra \(1547-1616\)](#)

# Moses (Biblical leader)

456 works / 4 ebooks published between 1548 & 2011.



## Publishing History

This graph charts editions published on this subject. Click to view a single year, or drag across a range.







## Related... [Search within Moses \(Biblical leader\)](#)

### SUBJECTS

[Bible](#), [Fiction](#), [Moses in fiction](#), [Juvenile literature](#), [Biography](#), [Criticism](#), [interpretation](#), [History](#), [Bible stories](#), [History of Biblical events](#), [O.T.](#), [Judaism](#), [Jews](#), [Bible. in fiction](#), [The Exodus](#), [Accessible book](#), [Relations](#), [Monotheism](#), [Drama](#), [O.T. Exodus](#), [English Bible stories](#)

### PLACES

[Egypt](#), [Middle East](#), [Italy](#), [Rome](#), [England](#), [Fayyūm \(Egypt\)](#), [France](#), [Germany](#), [Great Britain](#), [India](#), [Israel](#), [Jerusalem](#), [Kurdistan](#), [Mari \(Extinct city\)](#), [Montdidier \(Picardy\)](#), [Palestine](#), [Rome \(Italy\)](#), [Santa Sabina \(Basilica : Rome, Italy\)](#), [Scotland](#), [Sinai \(Egypt\)](#)

### PEOPLE

[Jesus Christ](#), [Sigmund Freud \(1856-1939\)](#), [Moses \(Prophet\)](#), [Joseph \(Son of Jacob\)](#), [Joshua \(Biblical figure\)](#), [Akhenaton King of Egypt](#), [Elisha \(Biblical prophet\)](#), [Muhammad Prophet \(d. 632\)](#), [Abraham \(Biblical patriarch\)](#), [David King of Israel](#)

### TIMES

[To 332 B.C.](#), [To 1200 B.C.](#), [To 70 A.D](#), [To 953 B.C.](#), [Eighteenth dynasty, ca. 1570-1320 B.C.](#), [20th century](#), [Early church, ca. 30-600](#), [1649-1660](#), [16th century](#), [17th century](#)

## Prolific Authors

who have written the most books on this subject

[Sigmund Freud](#), 11 books

[Gregory of Nyssa, Saint](#), 8 books

[Poul Hoffmann](#), 6 books

[Mary Manz Simon](#), 4 books

[Edmond Fleg](#), 2 books

## Prominent Publishers

who have published the most books on this subject

[Sine nomine](#), 7 editions

["Nauka"](#), 6 editions

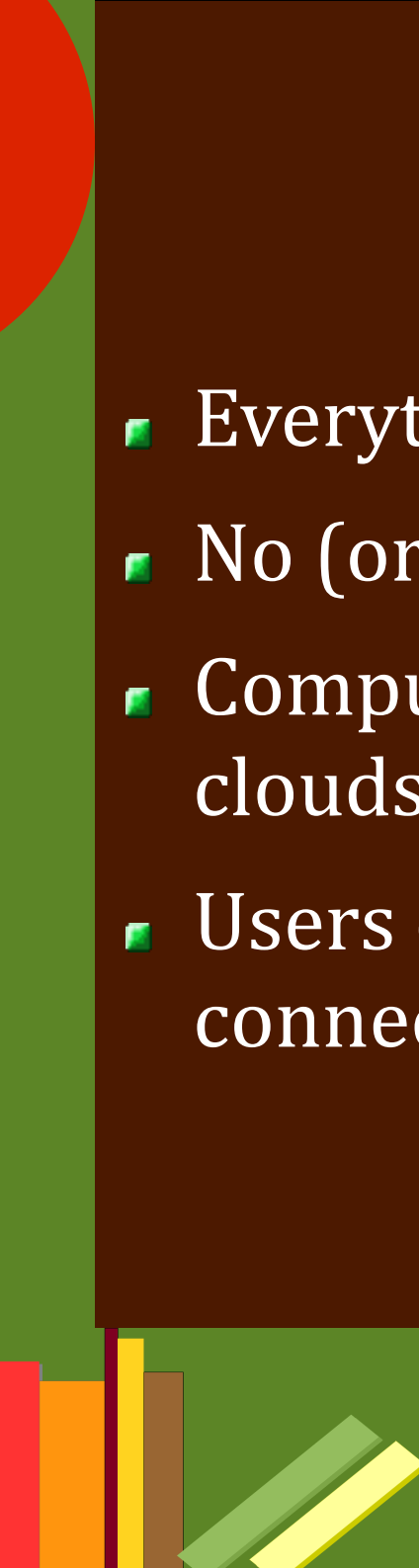
[Concordia Pub. House](#), 4 editions

[Harper & Row](#), 4 editions

[Knauf](#), 4 editions


[illegible]



- 
- Everything is connected to something
  - No (or few) dead ends
  - Computation is "easy" (e.g. topic maps, term clouds, timelines)
  - Users can discover previously unseen connections between information resources.

# Back to our tools

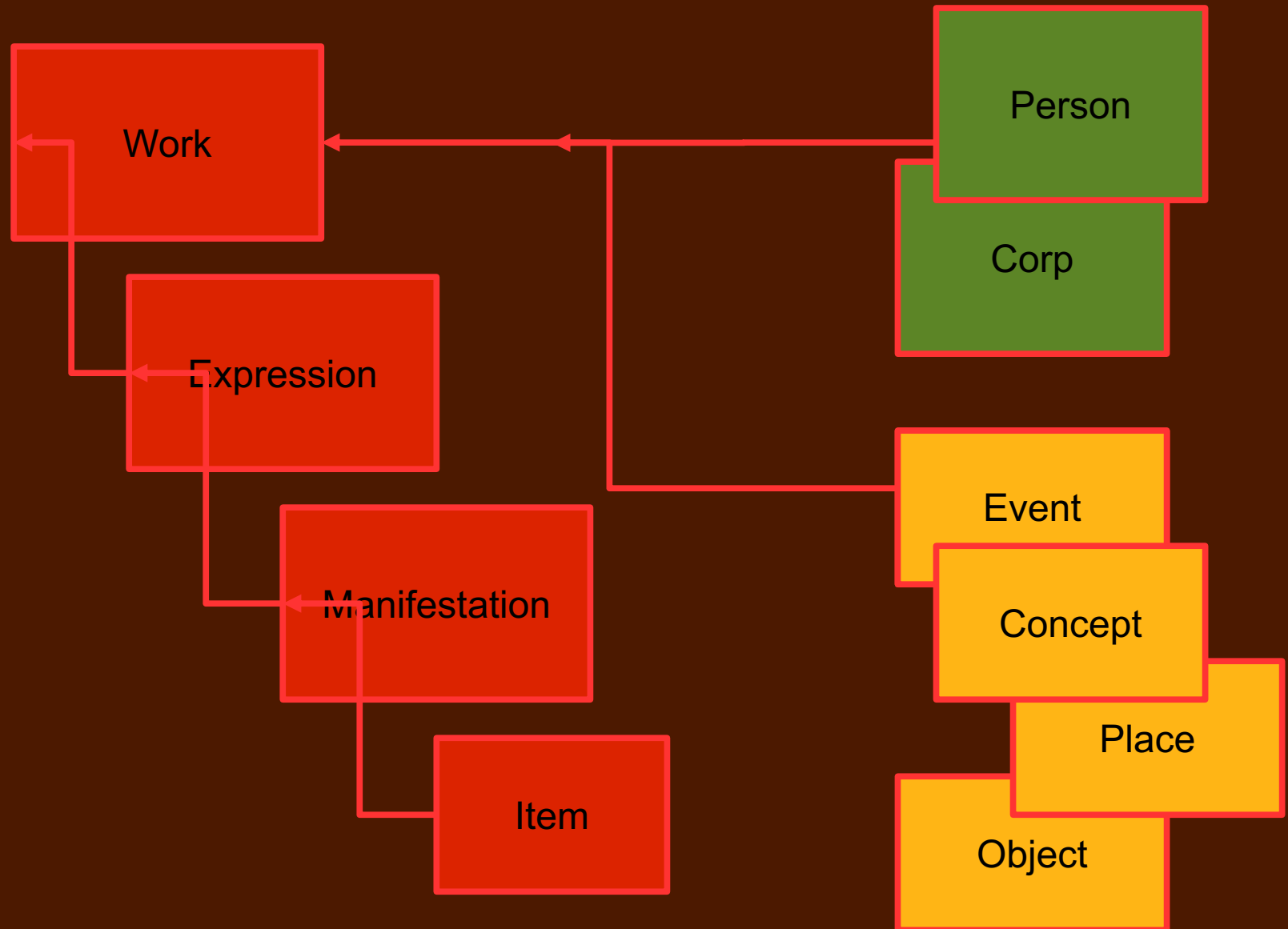
- FR's – FRBR, FRAD, FRSAD
- RDA



Perfect, or perfected?  
Not yet

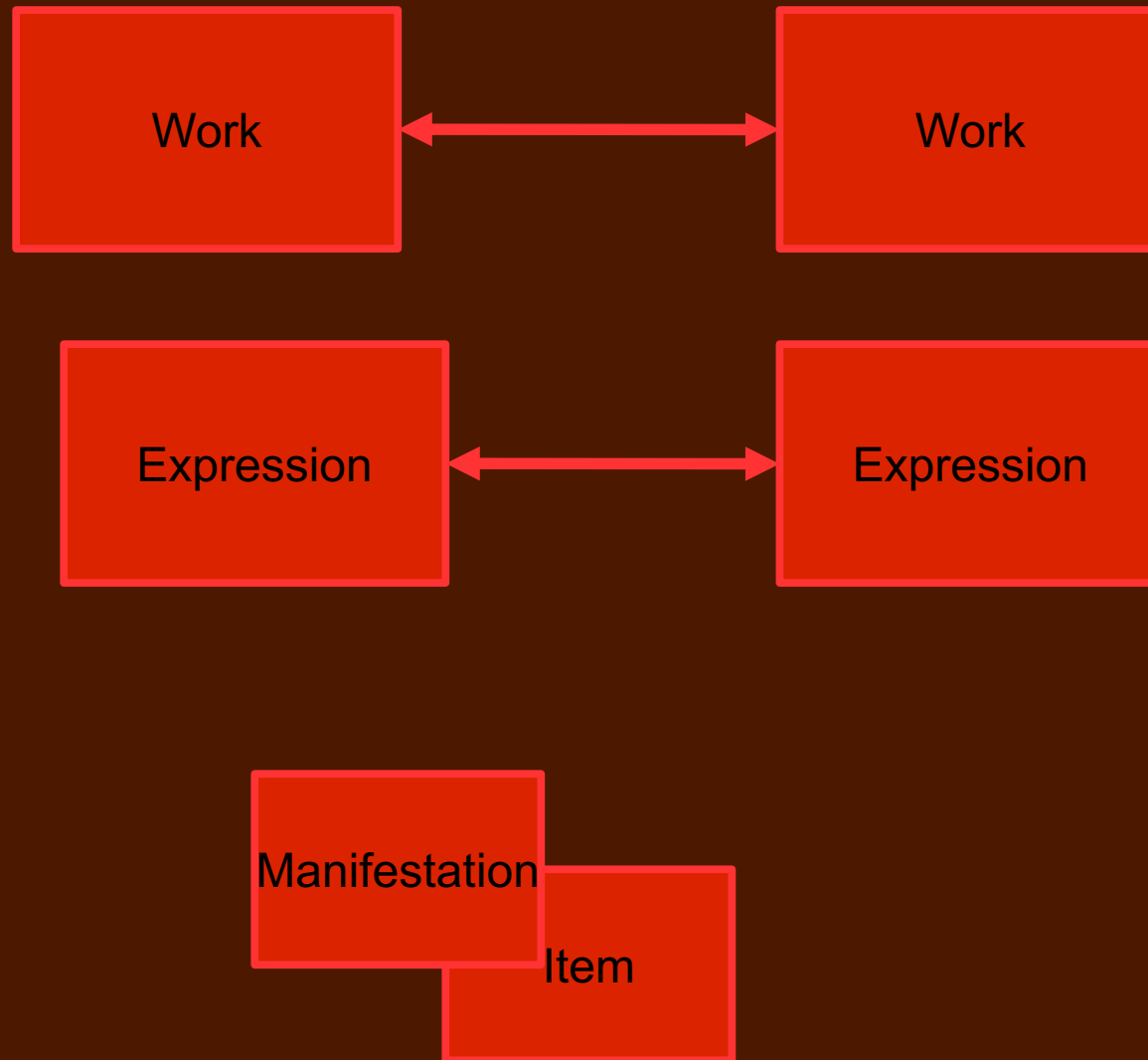
[kcoyle@kcoyle.net](mailto:kcoyle@kcoyle.net)

# FRBR



[kcoyle@kcoyle.net](mailto:kcoyle@kcoyle.net)

# FRBR – bibliographic relationships



<http://kcoyle.net/rda>

# Some issues - FRBR

- Not well understood
- Untested, mostly unimplemented
- Superseded by FRAD, FRSAD, and now requiring changes to be compatible
- Group 1 (WEMI) may impede interaction with non-FRBR-ized metadata.

# More issues - FRBR

- Group 3 (Subjects) should be replaced with a general subject relationship to anything that can be identified
- Group 3 elements should be general (e.g. Place) or be subproperties of a more general property
- Placement of data elements within WEMI is highly debated, especially for collective items (books of essays, multiple music works on a disk).



# FR for Authority Data (FRAD)

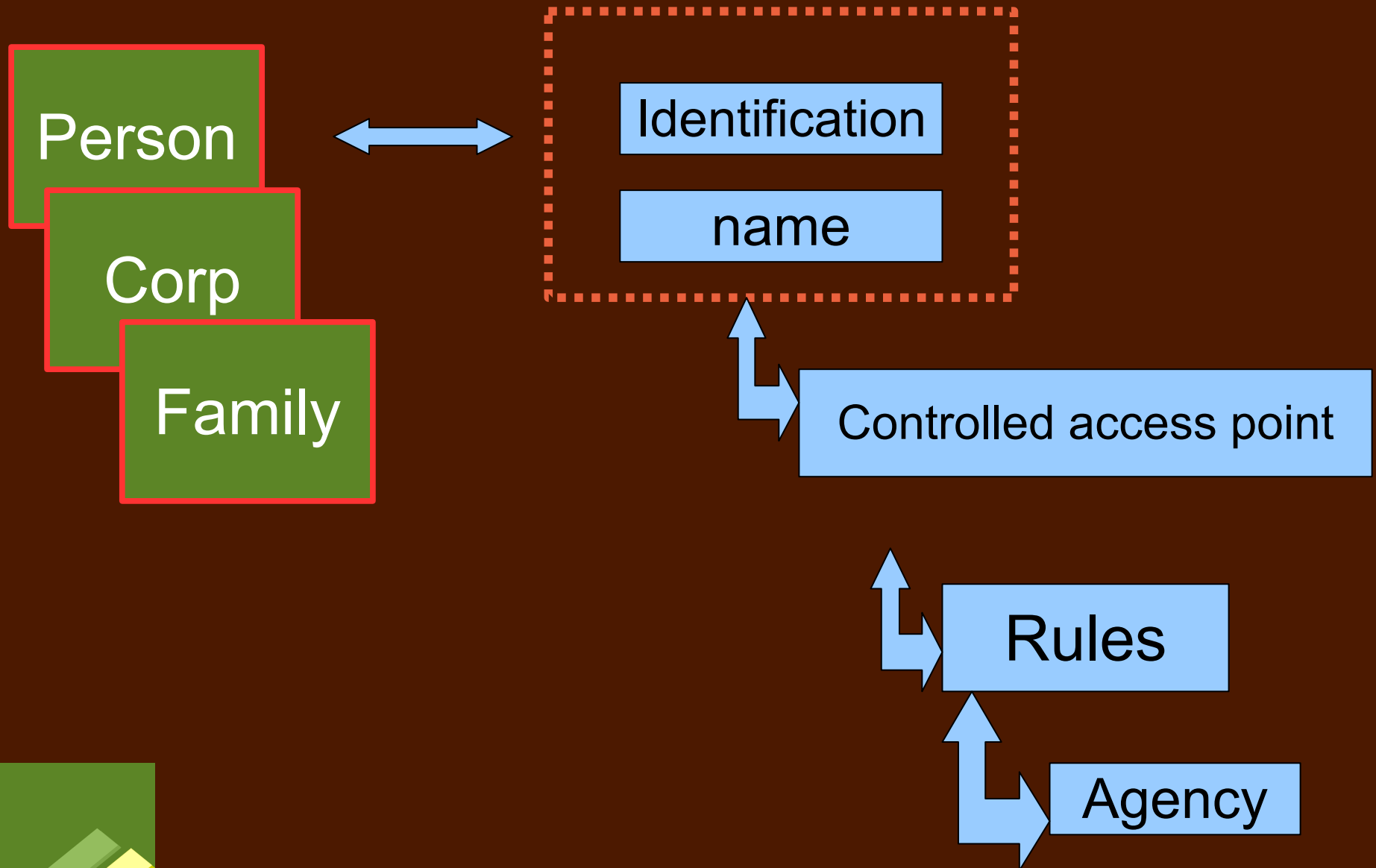


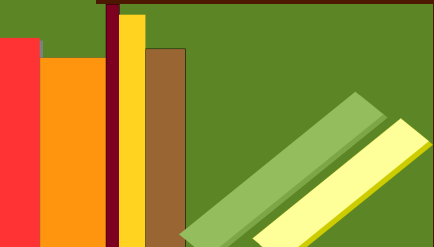
Person

Corp

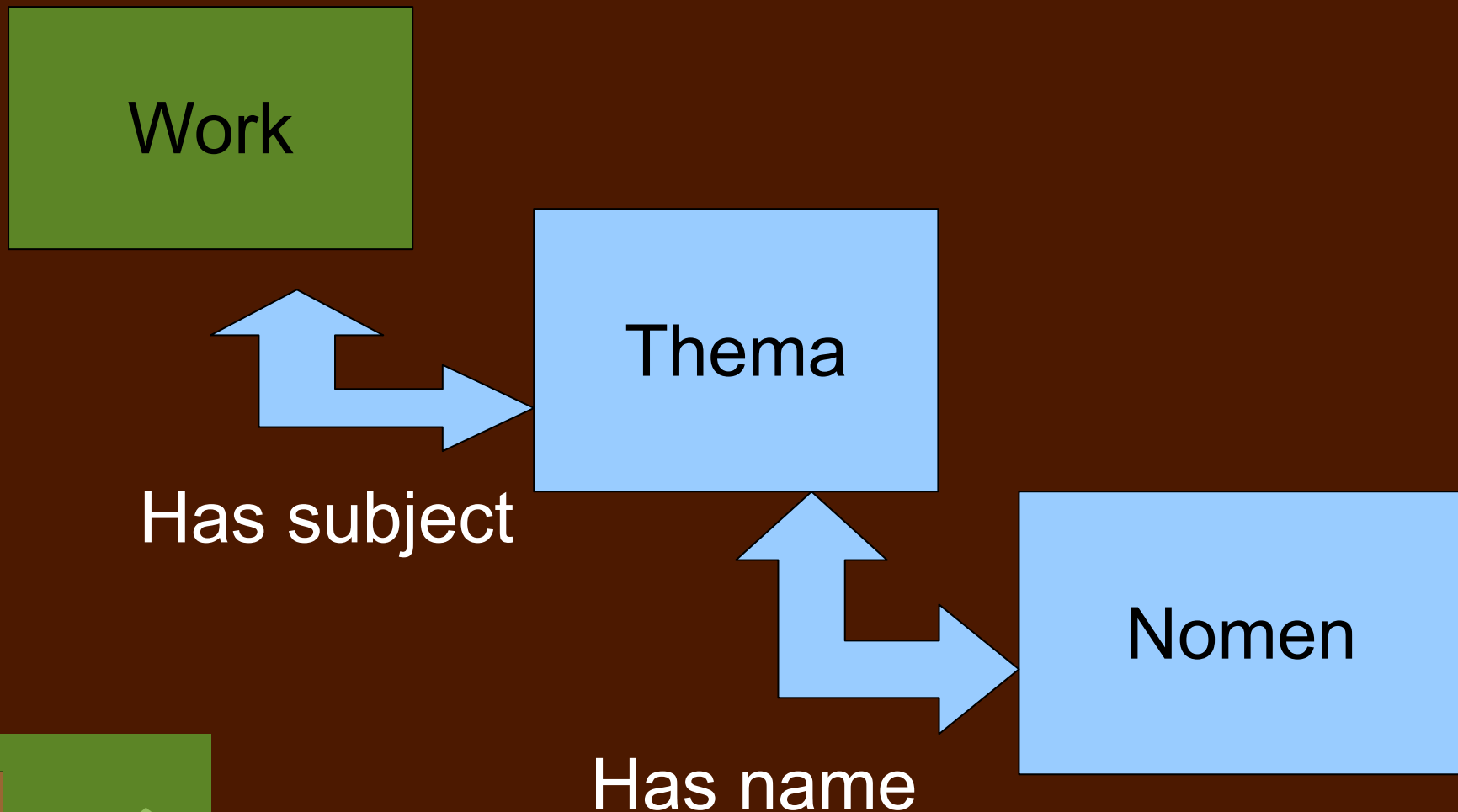
Family

# FR for Authority Data





# FR for Subject Authority Data (FRSAD)



# Some issues - RDA

- Not well understood
- Untested, mostly unimplemented
- ✂ Adheres strictly to FRBR (which may be undergoing changes)
- Every RDA element is valid only as a single FRBR entity.

# RDA Properties

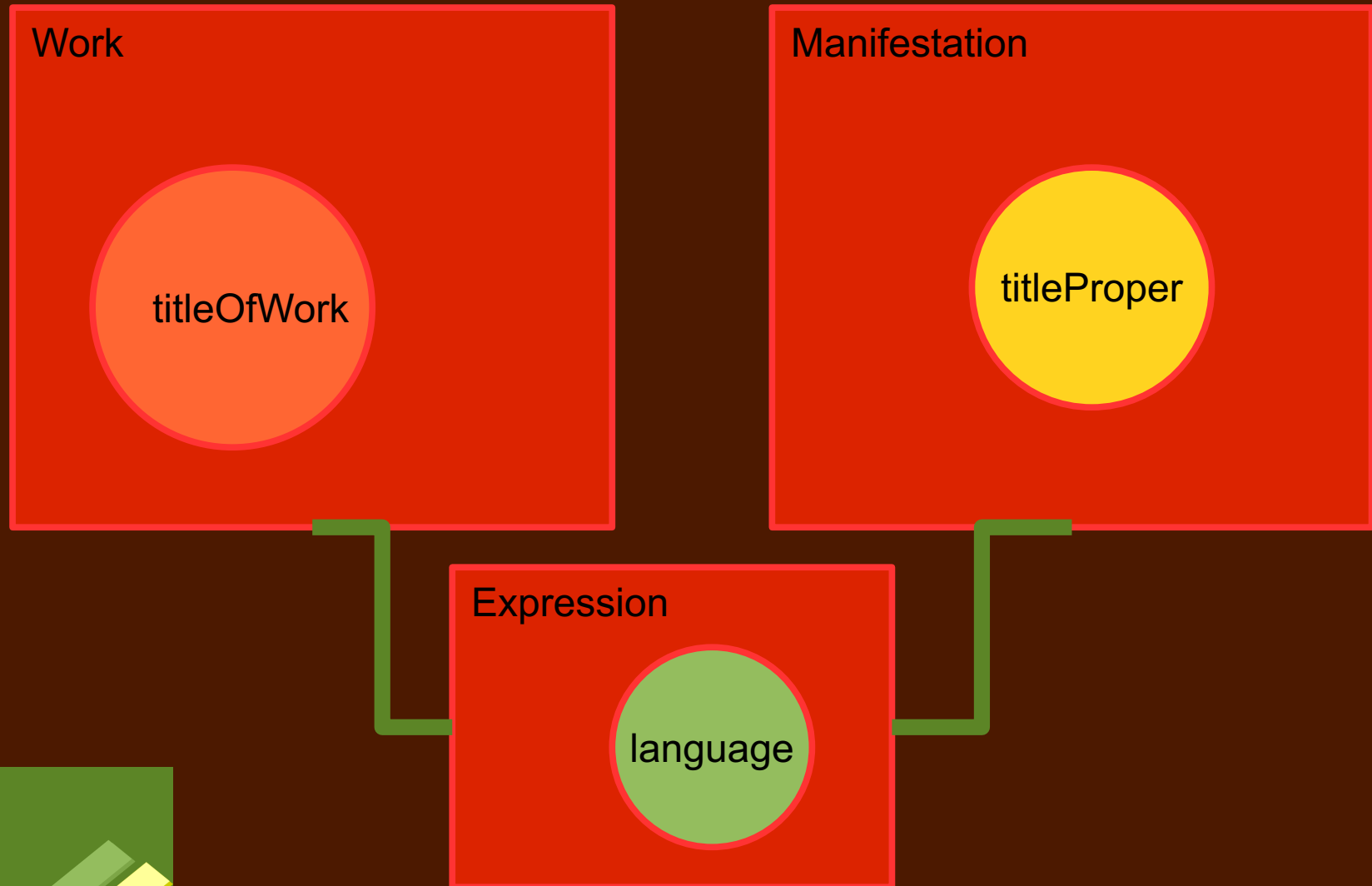
Work

titleOfWork

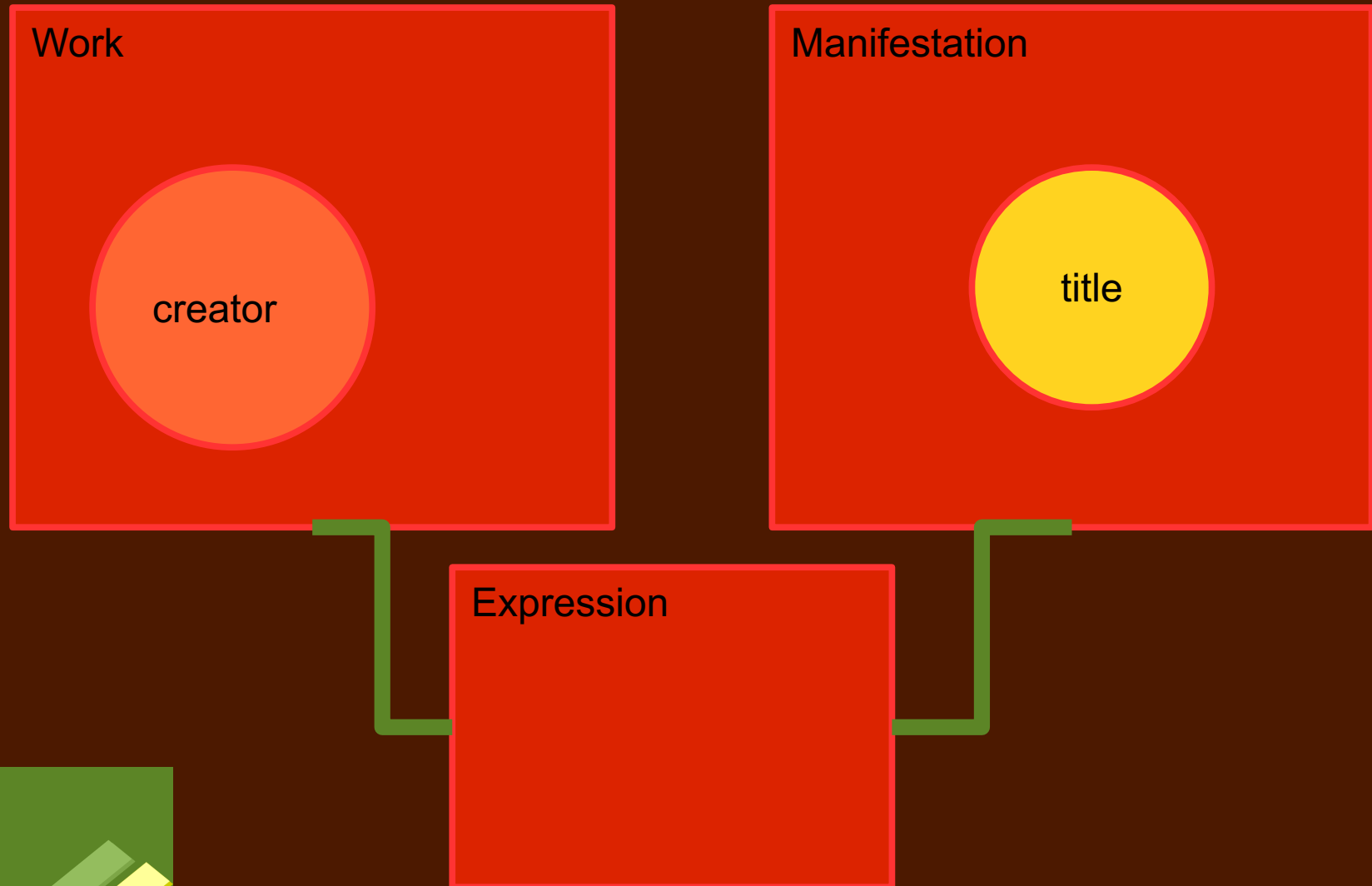
Manifestation

titleProper

# RDA Properties



# RDA Properties





## Welcome to The Registry!

This is the home page for the Open Metadata Registry (formerly the NSDL Registry), a [JES & Co.](#) project.

The Metadata Registry provides services to developers and consumers of controlled vocabularies and is one of the first production deployments of the [RDF-based Semantic Web Community's Simple Knowledge Organization System](#) (SKOS)

### How to begin (UPDATED!)

[Step-by-step illustrated instructions...](#)

## Play in the [Metadata Registry Sandbox](#)

If you just want to experiment and play around a bit, go on over to the [Metadata Registry Sandbox](#). The code is exactly the same but it's using a non-production database. (Please be careful not to kick any sand out of the box) NOTE: The [sandbox](#) has its own domain now. If you had bookmarked the [beta](#) site thinking that it was the sandbox (and we did say that), it will shortly be a real beta site again complete with broken code, wacky ideas, and disappearing data. Please change your sandbox bookmarks to point to the [Metadata Registry Sandbox](#). Any of the sandcastles that you had built in the [beta](#), back when you thought it was the [sandbox](#), are still there.

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**Registry News** ...from the [Registry Blogrss 2.0](#) [rss 1.0](#) [atom 1.0](#) 

**Latest Activity** [atom 1.0](#) 

[Announcing the New Open Metadata Registry](#)

[FRAD model -- is descriptive](#)



# <http://metadataregistry.org>

- **RDA** – properties, relationships, controlled values; still provisional
- **FRBRer** - completed
- **FRAD** – in progress
- **ISBD** – in review

## Vocabulary: Show detail for RDA Content Type

Detail	Concepts	History	Versions	Maintainers
--------	----------	---------	----------	-------------

Preferred Label ?	URI ?	Status	Updated ?
cartographic dataset	.../termList/RDAContentType/1001	New-Proposed	2010-03-16 5
cartographic image	.../termList/RDAContentType/1002	New-Proposed	2009-11-11 8
cartographic moving image	.../termList/RDAContentType/1003	New-Proposed	2009-05-24 9
cartographic tactile image	.../termList/RDAContentType/1004	New-Proposed	2009-05-24 9
cartographic tactile three-dimensional form	.../termList/RDAContentType/1005	New-Proposed	2009-05-24 9
cartographic three-dimensional form	.../termList/RDAContentType/1006	New-Proposed	2009-05-24 1
computer dataset	.../termList/RDAContentType/1007	New-Proposed	2010-03-16 5
computer program	.../termList/RDAContentType/1008	New-Proposed	2009-01-23 1
notated movement	.../termList/RDAContentType/1009	New-Proposed	2010-03-16 5
notated music	.../termList/RDAContentType/1010	New-Proposed	2010-03-16 6
performed music	.../termList/RDAContentType/1011	New-Proposed	2009-05-24 1
sounds	.../termList/RDAContentType/1012	New-Proposed	2009-05-24 1
spoken word	.../termList/RDAContentType/1013	New-Proposed	2009-09-15 7
still image	.../termList/RDAContentType/1014	New-Proposed	2009-05-24 1
tactile image	.../termList/RDAContentType/1015	New-Proposed	2009-05-24 1
tactile notated music	.../termList/RDAContentType/1016	New-Proposed	2009-05-05 1
tactile notated movement	.../termList/RDAContentType/1017	New-Proposed	2009-05-24 1
tactile text	.../termList/RDAContentType/1018	New-Proposed	2010-03-16 6
tactile three-dimensional form	.../termList/RDAContentType/1019	New-Proposed	2009-05-24 1
text	.../termList/RDAContentType/1020	New-Proposed	2010-03-16 6



## Vocabulary: RDA Content Type

### Concepts: spoken word

Detail

Properties

History

#### Detail

Preferred Label: spoken word

Language: English

URI: <http://RDVocab.info/termList/RDAContentType/1013>

Top Concept?:

Status: New-Proposed

#### Properties

scope note	Includes recorded readings, recitations, speeches, interviews, oral histories, etc., computer-generated speech, etc.	English	New-Proposed
scope note	Umfasst aufgezeichnete Lesungen, Rezitationen, Reden, Interviews, mündliche Überlieferungen usw. und maschinell erzeugte Sprache.	German	New-Proposed
preferred label	spoken word	English	New-Proposed
preferred label	gesprochenes Wort	German	New-Proposed
definition	Content expressed through language in an audible form.	English	New-Proposed
definition	Inhalt, der durch Sprache in einer hörbaren Form ausgedrückt wird.	German	New-Proposed

List

Get RDF

#### Browse...

[Resource Owners](#)[Vocabularies](#)[Element Sets](#)[SPARQL](#)

Feedback

– <rdf:RDF>

<!-- NOTICE: This is a single-concept fragment -->

<!-- Scheme: RDA Content Type -->

– <skos:ConceptScheme rdf:about="http://RDVocab.info/termList/RDAContentType">

<dc:title>RDA Content Type</dc:title>

</skos:ConceptScheme>

<!-- Concept: spoken word -->

– <skos:Concept rdf:about="http://RDVocab.info/termList/RDAContentType/1013" xml:lang="en">

<skos:inScheme rdf:resource="http://RDVocab.info/termList/RDAContentType"/>

<skos:status rdf:resource="http://metadataregistry.org/uri/RegStatus/1002"/>

<skos:prefLabel xml:lang="en">spoken word</skos:prefLabel>

– <skos:definition xml:lang="en">

Content expressed through language in an audible form.

</skos:definition>

– <skos:scopeNote xml:lang="en">

Includes recorded readings, recitations, speeches, interviews, oral histories, etc., computer-generated speech, etc.

</skos:scopeNote>

<skos:prefLabel xml:lang="de">gesprochenes Wort</skos:prefLabel>

– <skos:scopeNote xml:lang="de">

Umfasst aufgezeichnete Lesungen, Rezitationen, Reden, Interviews, mündliche Überlieferungen usw. und maschinell erzeugte Sprache.

</skos:scopeNote>

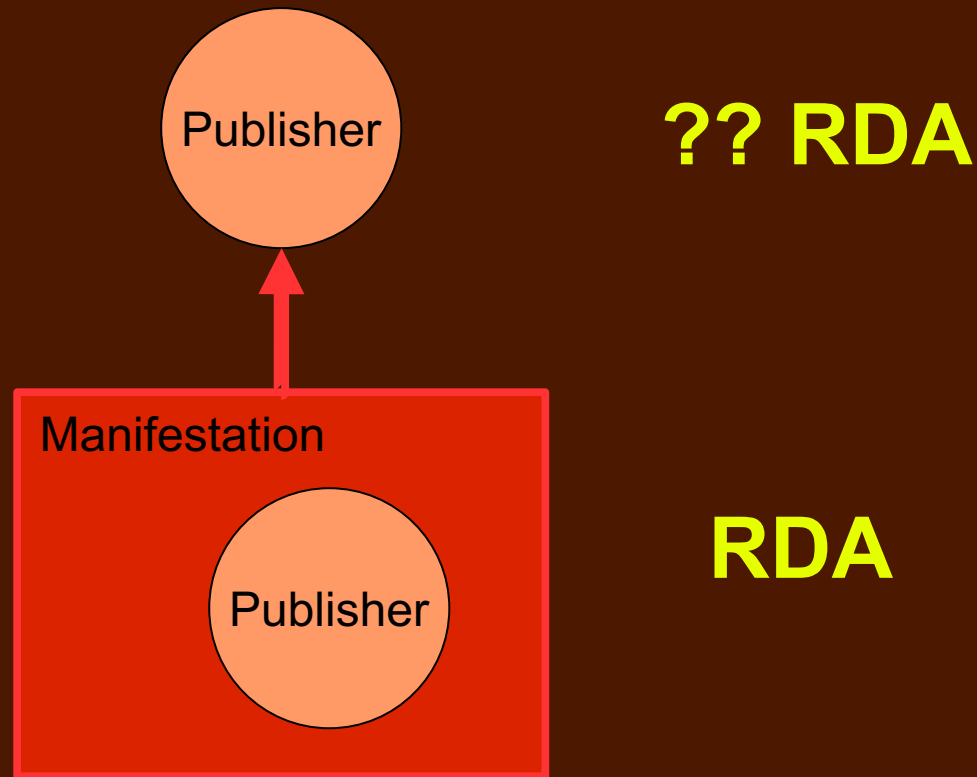
– <skos:definition xml:lang="de">

Inhalt, der durch Sprache in einer hörbaren Form ausgedrückt wird.

</skos:definition>

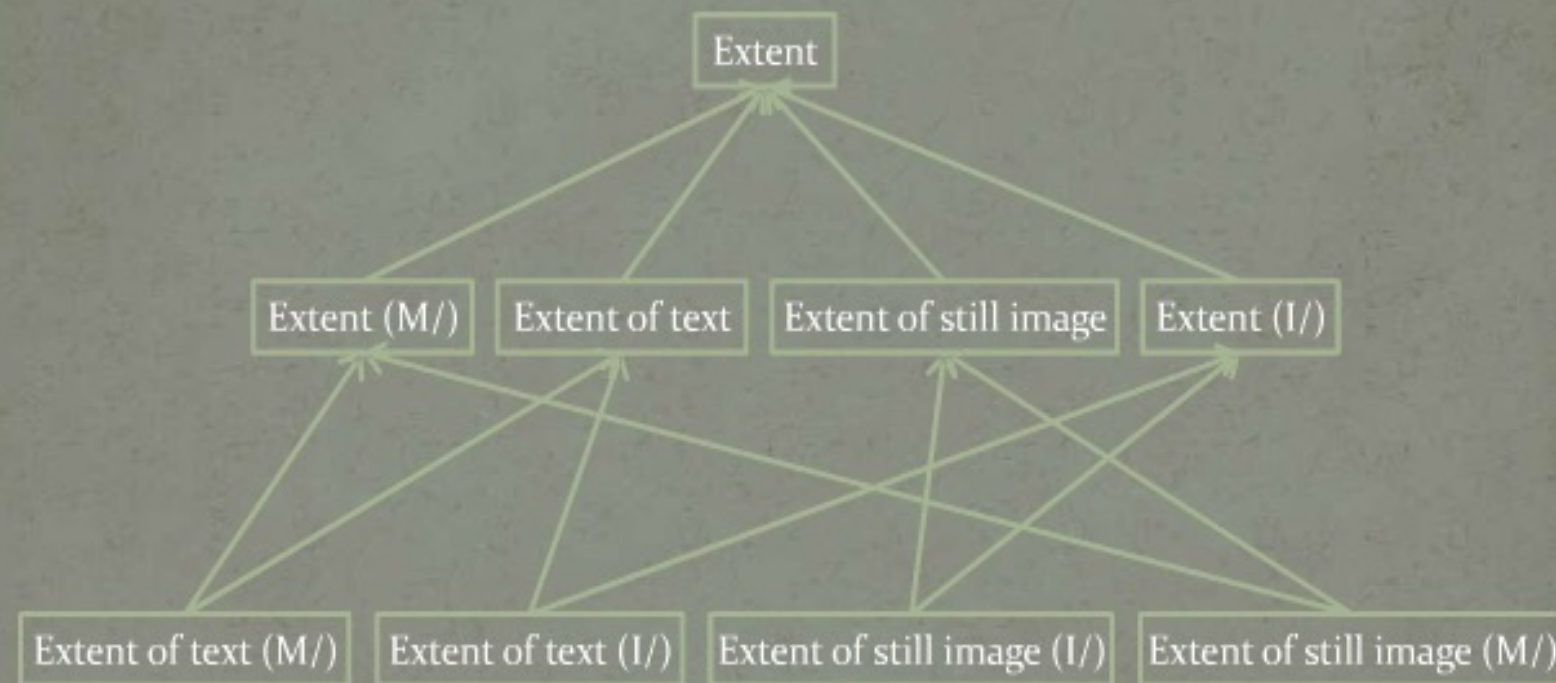
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# RDA Generalized Properties





# RDA properties

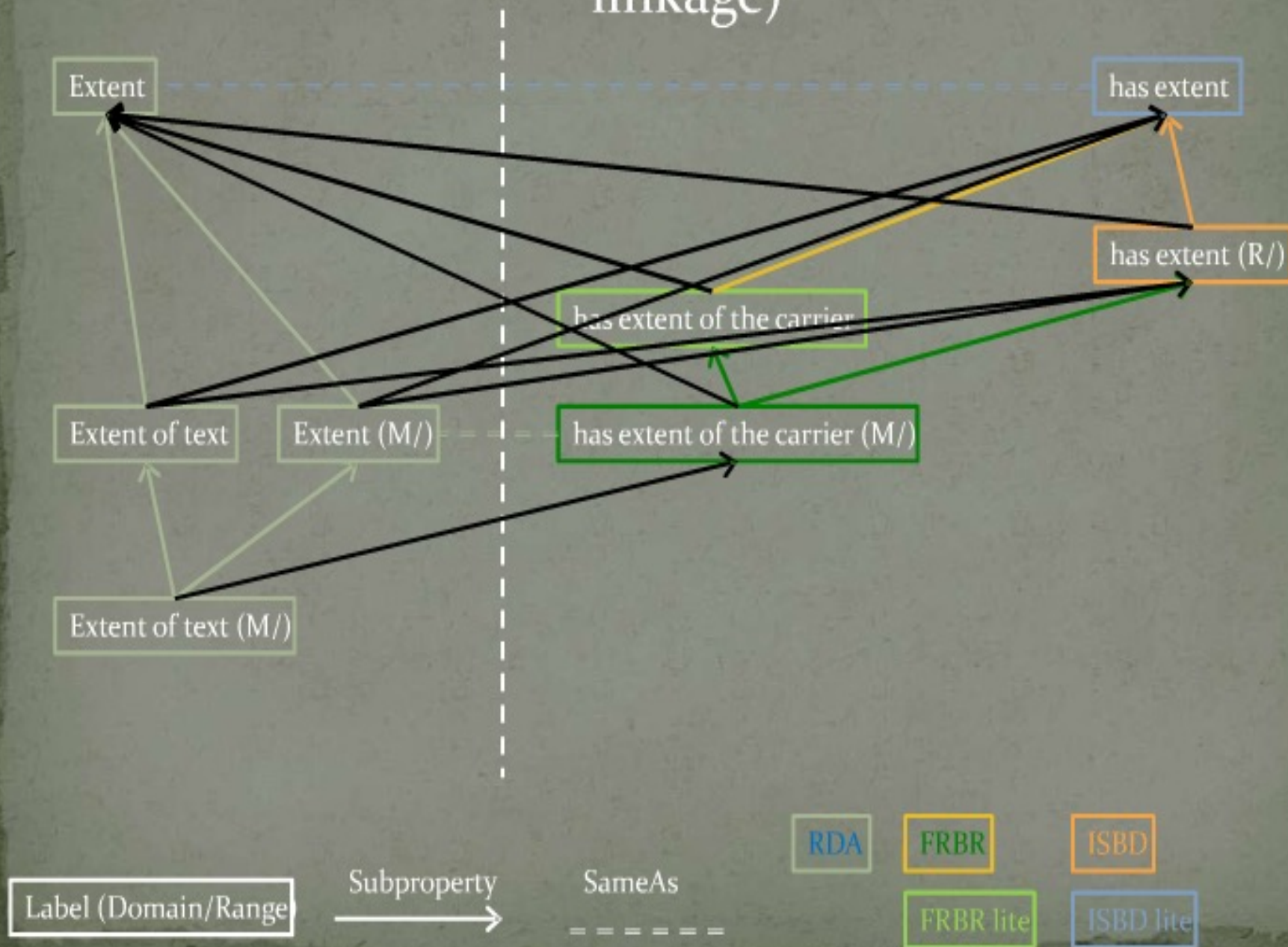


Label (Domain/Range)

Subproperty



# RDA/IFLA properties (maximum linkage)





# To Do

- Test FRBR and RDA in a linked data environment
- Simplify where possible
- Create links between library data and non-library metadata
- Encourage use of library data outside of libraries
- Encourage use of non-library data inside libraries.



# Thank you!

<http://kcoyle.net>  
[kcoyle@kcoyle.net](mailto:kcoyle@kcoyle.net)