

# Versioning vocabularies in a linked data world

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Presented to Linked Data in Libraries: Let's make it  
happen!,

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# Overview

❖ 30 mins



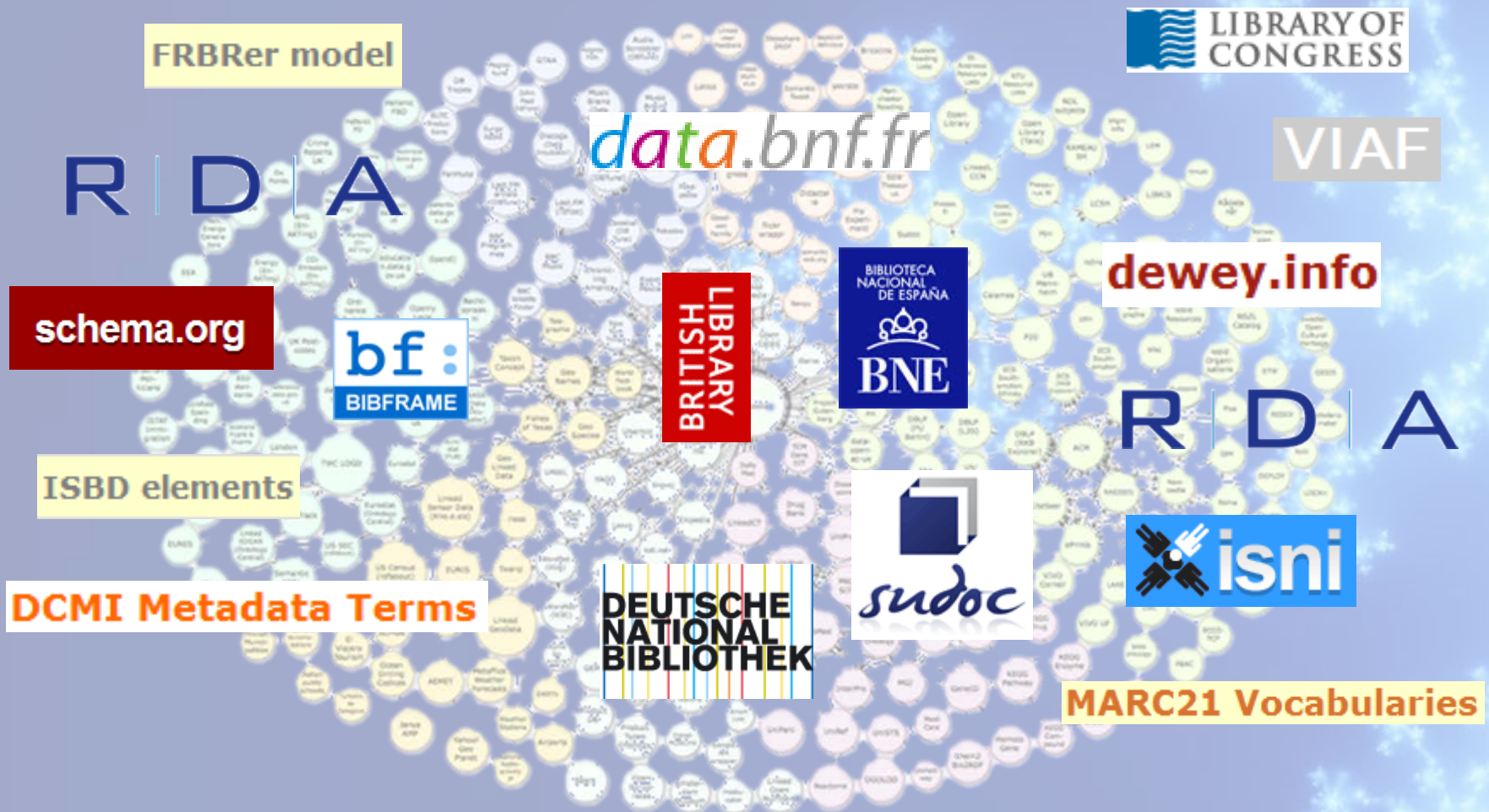
# Linked Data (RDF) Vocabularies

Element sets



Value vocabularies

Datasets



# Synchronization?


# What version?



# Semantic versions: the “other” case

Value vocabulary: “Things”

*Time*



	Label	Definition
	A	A thing that is old.
	B	A thing that is borrowed.
	C	A thing that is blue.
Version 1	Other	A thing that is not an A, a B, or a C.
	D	A thing that is new.
Version 2	Other	A thing that is not an A, a B, a C, or a D.

Version 1 and Version 2 have different meanings

Version 1 and 2 datasets have different semantics

Applications have inconsistent or incoherent results

open metadata registry

sign in / register | at

schema.org

LIBRARY OF CONGRESS

ASK A LIBRARIAN | DIGITAL C

The Library of Congress > Linked Data Service > MARC Relators

Vocabulary: Show detail

Detail | Concepts

Changed at ▼	Concept URI
2013-08-14 13:05	.../isbd/terms/c
2013-08-14 13:05	.../isbd/terms/c
2013-08-14 13:05	.../isbd/terms/c
2013-08-14 13:0	
2013-08-14 13:0	
2013-08-14 13:04	.../isbd/terms/c
2013-08-14 13:03	.../isbd/terms/c

Releases

This page lists sch

Release

BIBFRAME.ORG

Select List View »

All the views are different displays derived from the master rdf file (<http://bibframe.org/vocab.rdf>), which is available for download. A broad-brush view of the

<http://dewey.info/class/641/2009/08/about.fr.rdf>

1.8 (2014-07-28)

Added WebSite type; broadened isPartOf property.

Editorial Notes

- > Changed MARC def

Change Notes

- 2013-05-15: modified
- > 1970-01-01: new

Many versions of version control!

Dated URI  
Last date only

Access to old versions?

Fine granularity at transaction level    Dated release number  
No demand for *version* aggregation    Lack of change data

# Semantic versioning ([semver.org/](http://semver.org/))

3-tier numbering system: major.minor.patch

**X . X . X**

**Major:** breaks backwards semantic compatibility

**Minor:** change in semantics of any property of any element

**Patch:** no change in semantics of any element



RDARegistry / **RDA-Vocabularies**

## RDA element sets

Latest release


v2.0.0


09c20ce

### Version 2.0

 **jonhipps** released this on 29 Apr · **18 commits** to master since this release

Change Log soon...

 Source code (zip)

 Source code (tar.gz)

Older versions remain available


v1.0.5


1e740b5

### v1.0.5

 **jonhipps** released this on 26 Feb · **19 commits** to master since this release

Added turtle. Fixed a number of typos in all element sets except Classes.

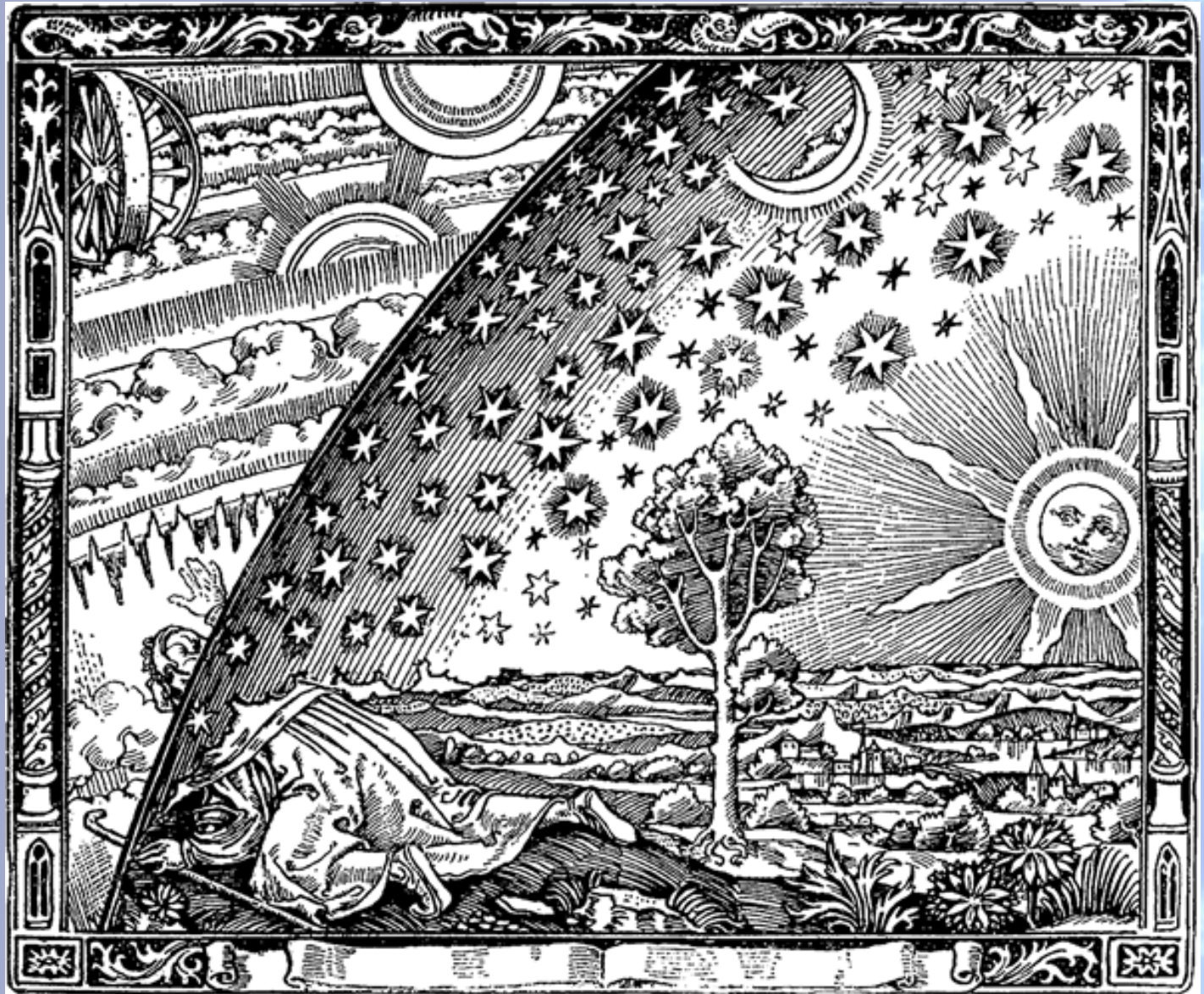
 Source code (zip)

 Source code (tar.gz)



# Local applications; global data

Maintaining  
local order  
in  
global chaos



# Smart semantic clouds

- ❖ Smooth interaction between app and vocab
  - ❖ Transparent to the user crowd
    - ❖ Until major change requires validation of context
- ❖ Distributed version control (Git, etc.)
- ❖ Vocabulary managers trusted to comply with (simple) semantic versioning
  - ❖ And encouraged to provide details of semantic breakage between major versions
- ❖ App developers encouraged to provide backwards compatibility with version ranges



# Concluding questions

- ❖ What conditions categorize major/minor semantic changes?
- ❖ Can dataset semantics be versioned?
  - ❖ Beyond data dumps ...
  - ❖ Inherited element set and value vocabulary versions?
- ❖ Impact of syntactic or structural breakage?
  - ❖ E.g. change from RDFS to OWL versions of an element set
- ❖ Is it time to get serious about linked data management?

# Thank you!

- ❖ Linking Open Data cloud diagram, by Richard Cyganiak and Anja Jentzsch. <http://lod-cloud.net/>
- ❖ Flammarion engraving: artist unknown
- ❖ We are here

