



## LINKED OPEN DATA FOR CULTURAL HERITAGE INSTITUTIONS

BUILD NARRATIVES THROUGH CONNECTING ARTIFACTS

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[PDF VERSION](#), [CONTINUOUS HTML](#), [FULL VERSION \(134 SLIDES\)](#)

FULBRIGHT CONFERENCE 'MUSEUM EXHIBITS AND STANDARDS: A LOOK AHEAD', 2016-11-28, SOFIA, BULGARIA

# ABOUT ONTOTEXT

16  
YEARS

100% SEM.TECH. FOCUS

350+ EMPLOYEES

Sofia R&D

- Semantic graph database engine combined with Content management solutions
- Interlinking text and data to unveil meaning
- Delivering unmatched search and exploration

- Global team, local sales & accounts support
- R&D Center at Sofia, Bulgaria
- Serving BBC, FT, Wiley, Oxford UP, IET, ...
- SaaS infrastructure on Amazon and on premise

Offices: New York

Sofia

London

Frankfurt

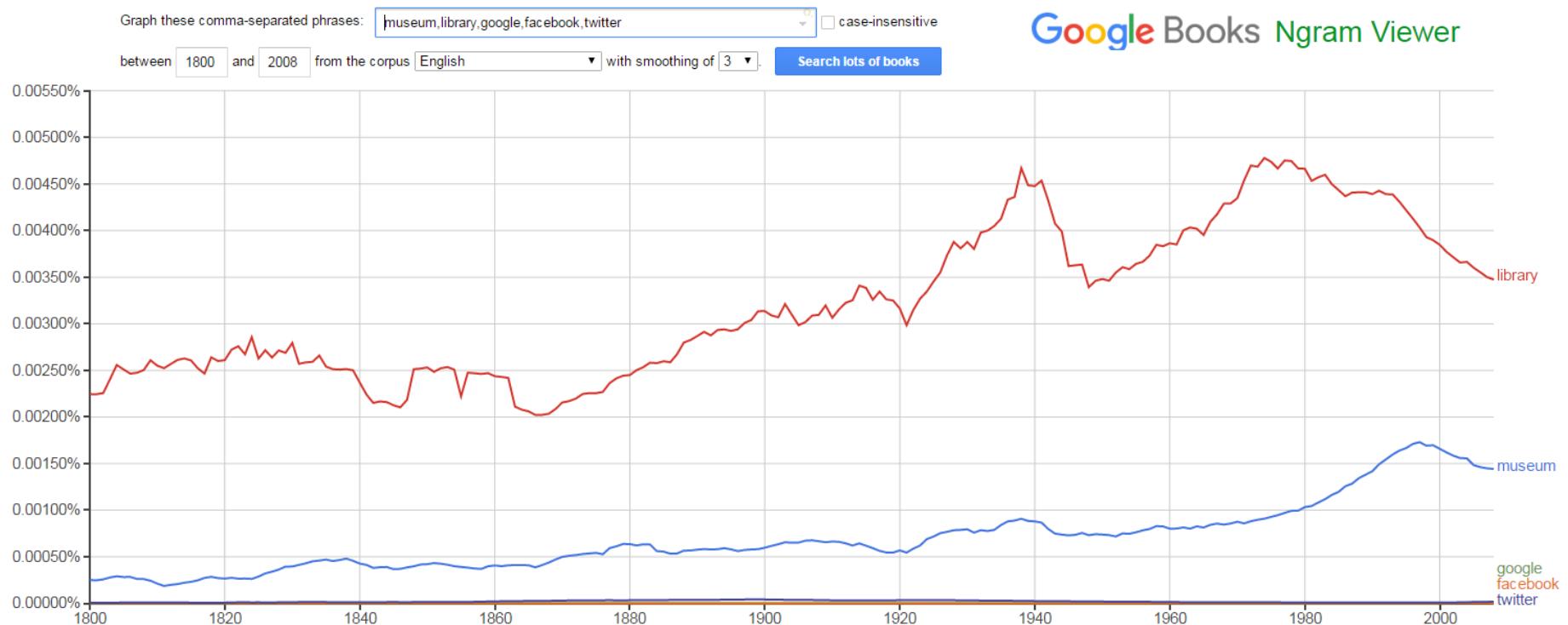
# GLAM VS INTERNET

## GLAM, CH, DH?

- **Cultural Heritage (CH):** the sum of our non-economic heritage
  - Obvious implications to economically significant sectors, eg tourism
  - Some say it's the source of all creativity, would you agree?
  - Includes old and new (eg digitally-born), material and immaterial, tangible and intangible, permanent and temporal (eg interactive installations)
- **Galleries, Libraries, Archives, Museums (GLAM):** sisterhood of institutions that care for our CH, each with its own perspective and priorities
- **Digital Humanities (DH):** the use of computers in the humanities.
  - Eg some UK universities with DH programs: @KingsDH @UCLDH @DH\_OU @CamDigHum

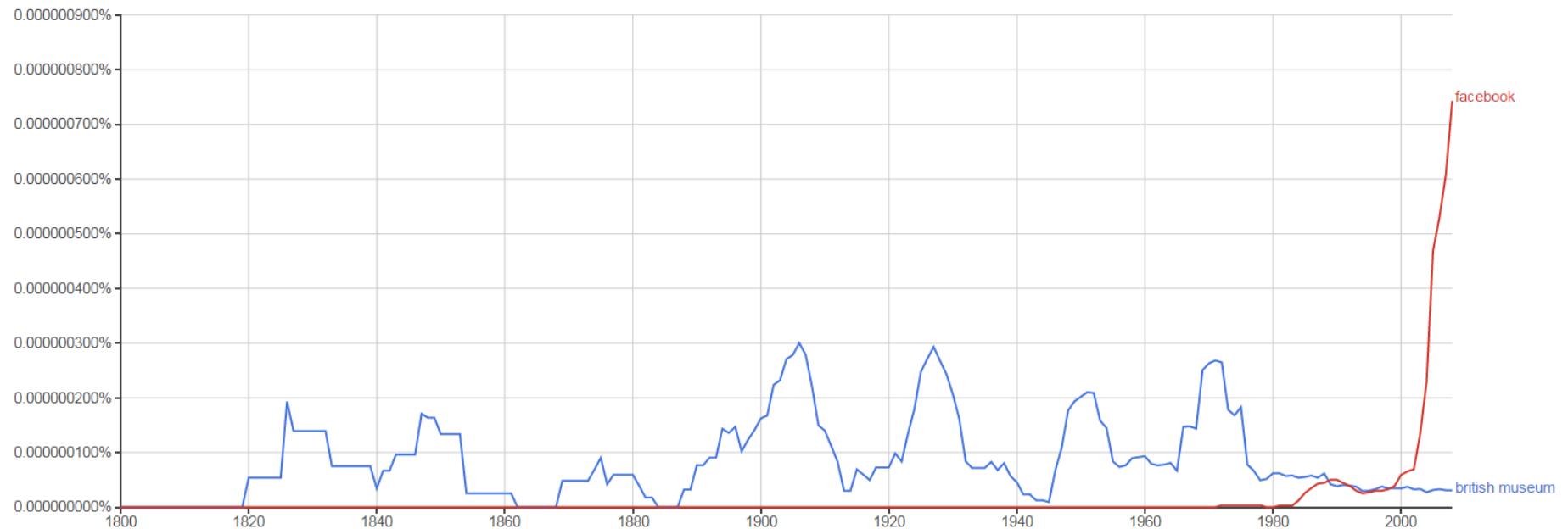
# GOOGLE NGRAMS: PHRASES IN BOOKS

Search for "library, museum" vs "Google, Facebook, Twitter" in books: the web sites are negligible



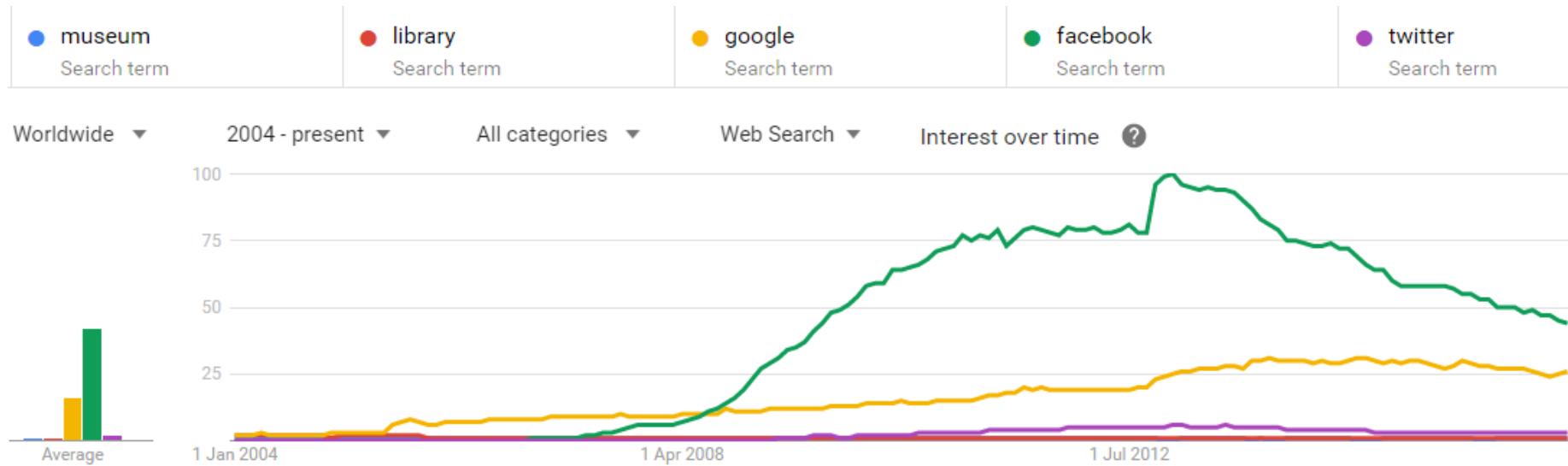
# GOOGLE NGRAMS: TWO SPECIFIC ORGS

Compare two specific orgs: "Facebook" is more popular in recent books, compared to "British Museum" over time



# GOOGLE TRENDS: SEARCH POPULARITY

Web searches over the last 12 years: "Facebook, Google" are much more popular than "library, museum"



# HOW TO SURVIVE IN THE INTERNET AGE?

Since ancient times GLAMs have been the centers of knowledge and wisdom

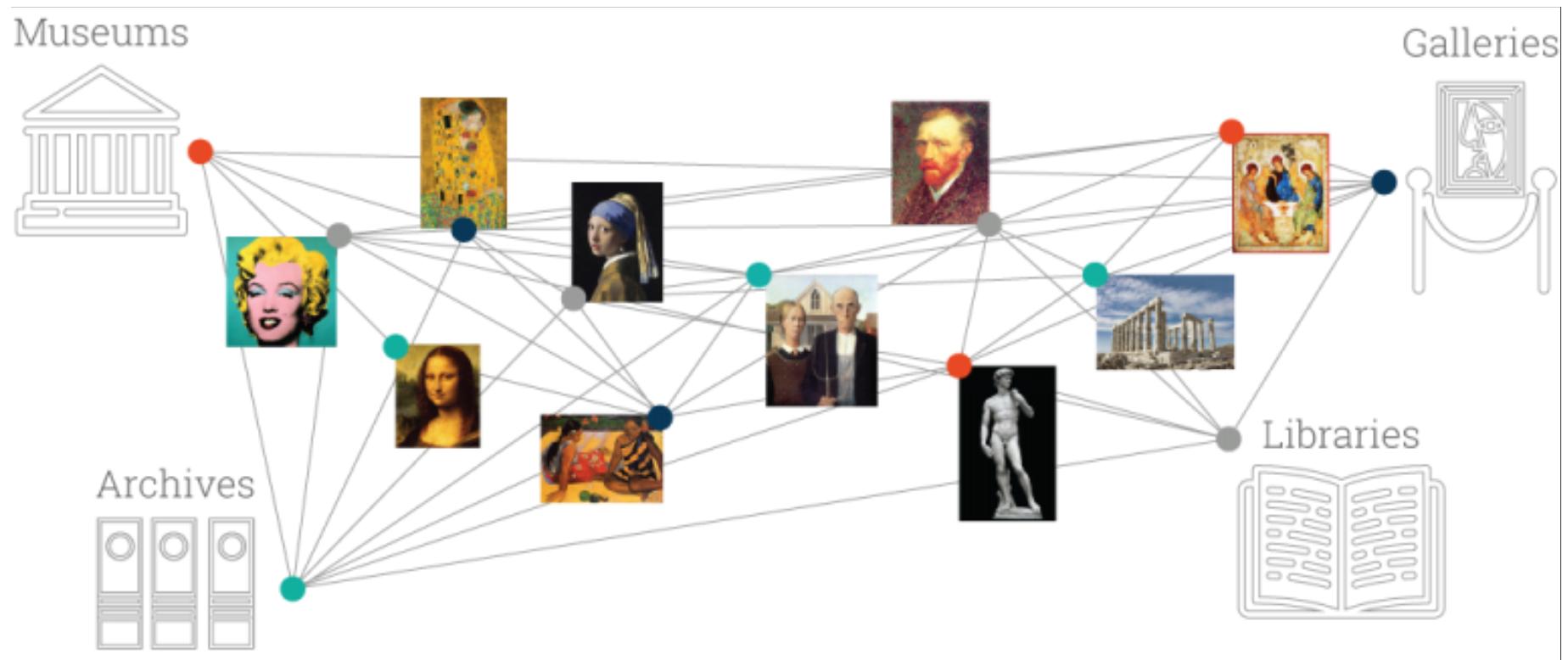
- Aren't Google, Wikipedia, Facebook, Twitter and smart-phone apps becoming the new centers of research and culture (or at least popular culture)?
- Will GLAMs fall victims to teenagers with smartphones browsing Facebook? If the library's attitude is "Come search in our OPAC" then **certainly yes**
- How to preserve the role of GLAMs into the new millennium?

To survive, GLAMs must adopt the internet as their default modus operandi

- Web 1.0: presentation
- Web 2.0: interaction
- Web 3.0 (semantic web): data linking, enriching/disambiguating text using NLP/IE approaches

# WHY LINKED OPEN DATA (LOD) IS IMPORTANT

- Culture is naturally cross-institutional, cross-border, multilingual, and interlinked
- LOD allows making connections between (and making sense of) the multitude of digitized cultural artifacts available on the net
- LOD enables large-scale Digital Humanities research, collaboration and aggregation; technological renewal of CH institutions



# GLAM CONTENT STANDARDS

GLAM data is complex and varied

- Exception is the rule
- Many metadata format variations
- Data comes from a variety of systems

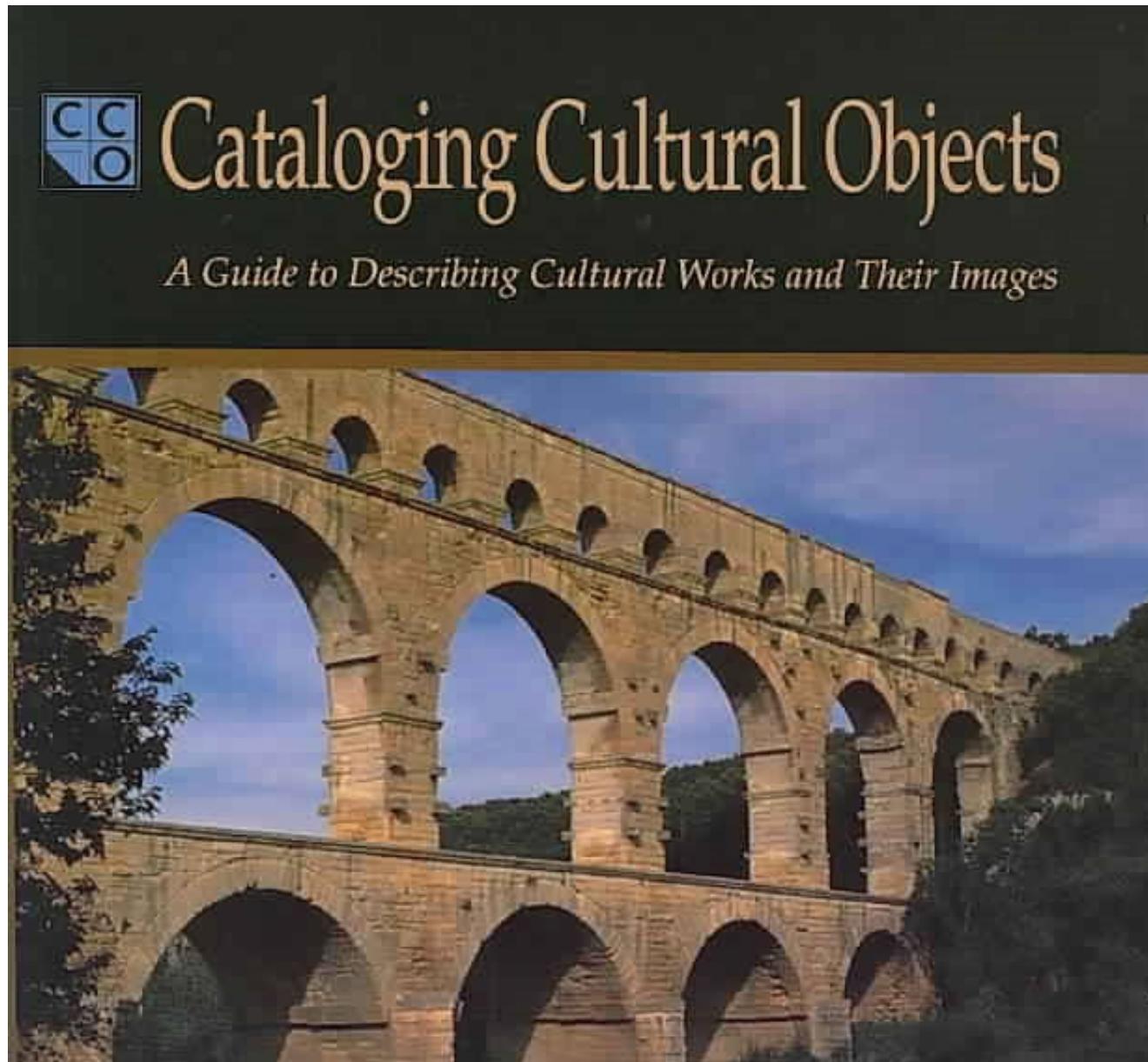
Thus professional organizations have found it useful to define **content standards**

- Describe what data to capture (and sometimes how to go about it)
- Before formalizing how to express it in machine-readable form

Examples are extremely useful for data modelers to decide how to map the data

# MUSEUM CONTENT STANDARDS

Cataloging Cultural Objects: content standard for art, architecture, museums





## UK Museum Collections Management Standard

- Defines procedures for museums to follow, and the attendant data
- Covers 21 procedures: Pre-entry, Object entry, Loans in, Acquisition, Inventory control, Location and movement control, Transport, Cataloguing, Object condition checking and technical assessment, Conservation and collections care, Risk management, Insurance and indemnity management, Valuation control, Audit, Rights management, Use of collections, Object exit, Loans out, Loss and damage, Deaccession and disposal, Retrospective documentation
- Addresses accreditation

# ARCHIVAL CONTENT STANDARDS

- ISAD(G): archival materials
- ISAAR(CPF): agents (corporations, people, families)
- ISDF: functions (eg Secretary of some society)
- ISDIAH: archival holding institutions

Image by D.Pitti, 2015

<u>Standard</u>	<u>Edition</u>	<u>Development Dates</u>	<u>Publication Date</u>
Principles		(1988) 1989-1992	1992
ISAD	1 <sup>st</sup>	1990-1993	1994
ISAAR	1 <sup>st</sup>	1993-1995	1996
ISAD	2 <sup>nd</sup>	1996-2000	1999
ISAAR	2 <sup>nd</sup>	2000-2004	2004
ISDF	1 <sup>st</sup>	2005-2007	2007
ISDIAH	1 <sup>st</sup>	2005-2008	2008

# LIBRARY CONTENT STANDARDS

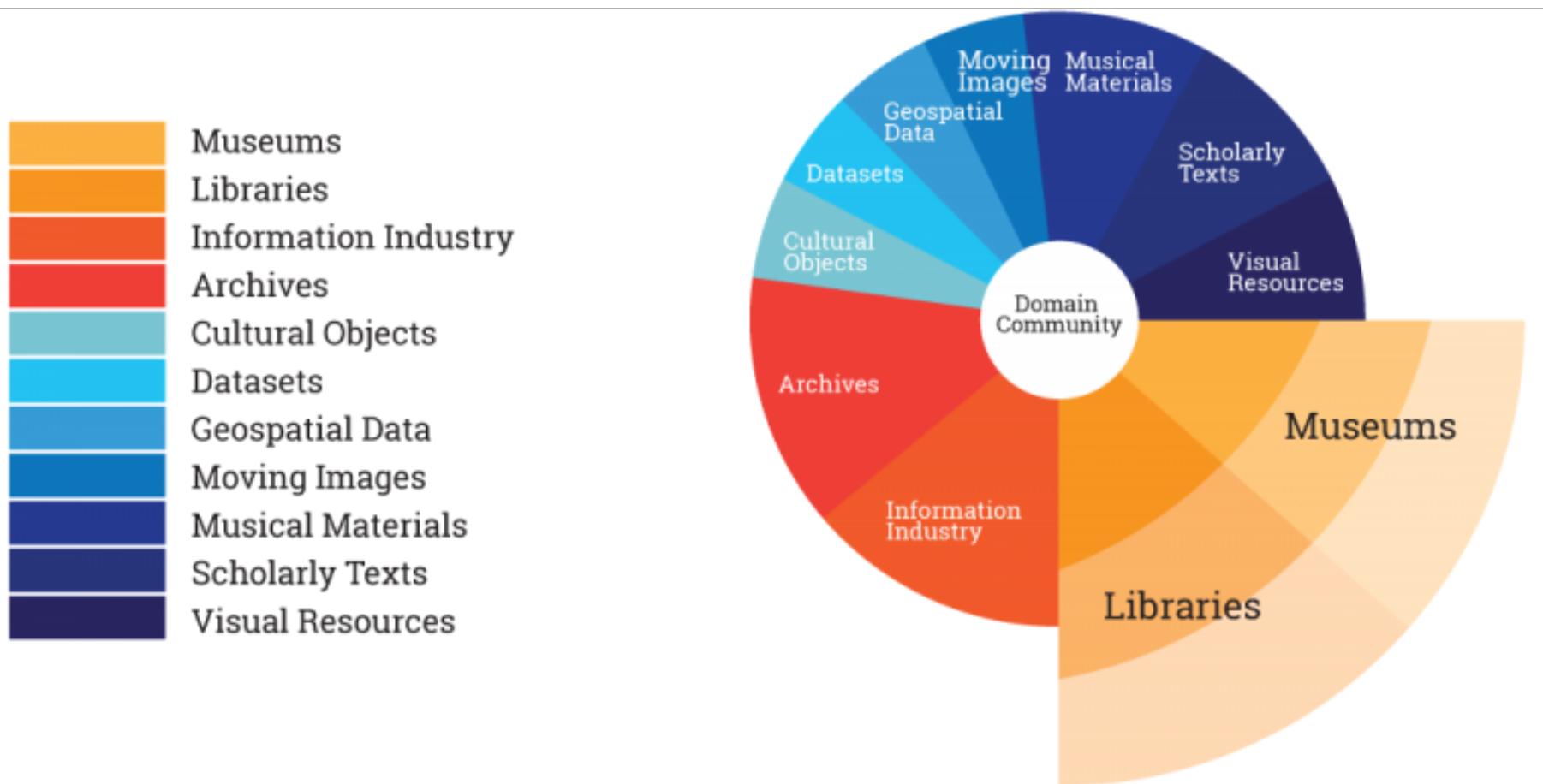
- AACR2 (Anglo-American Cataloging Rules 2)
- International Standard Bibliographic Description (ISBD)
- Resource Description and Access (RDA)

Extremely detailed and comprehensive (see RDA later). But sometimes pay more attention where to put the commas than to:

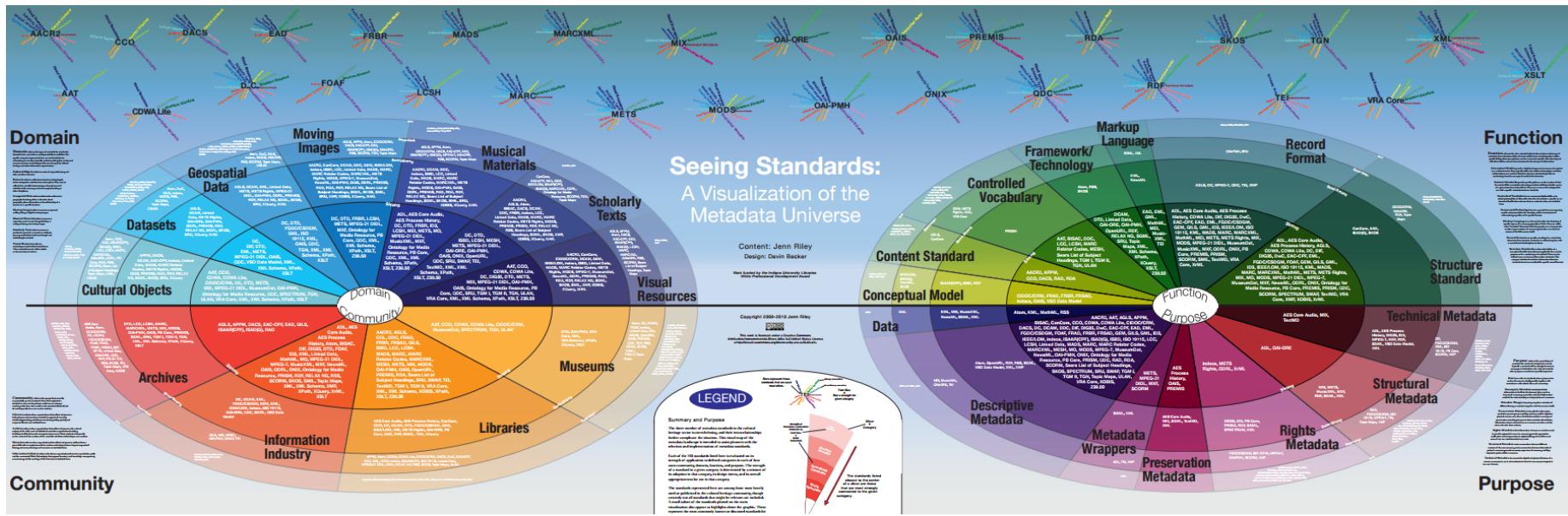
- Data sharing
- Global availability of resources
- Sharing the cataloging burden

# GLAM METADATA SCHEMAS

How many of the standards listed in [Seeing Standards: A Visualization of the Metadata Universe](#) apply to your work? (by Jenn Riley, Associate Dean for Digital Initiatives at McGill University Library)



# SEEING STANDARDS (2)



# GLAM ONTOLOGIES

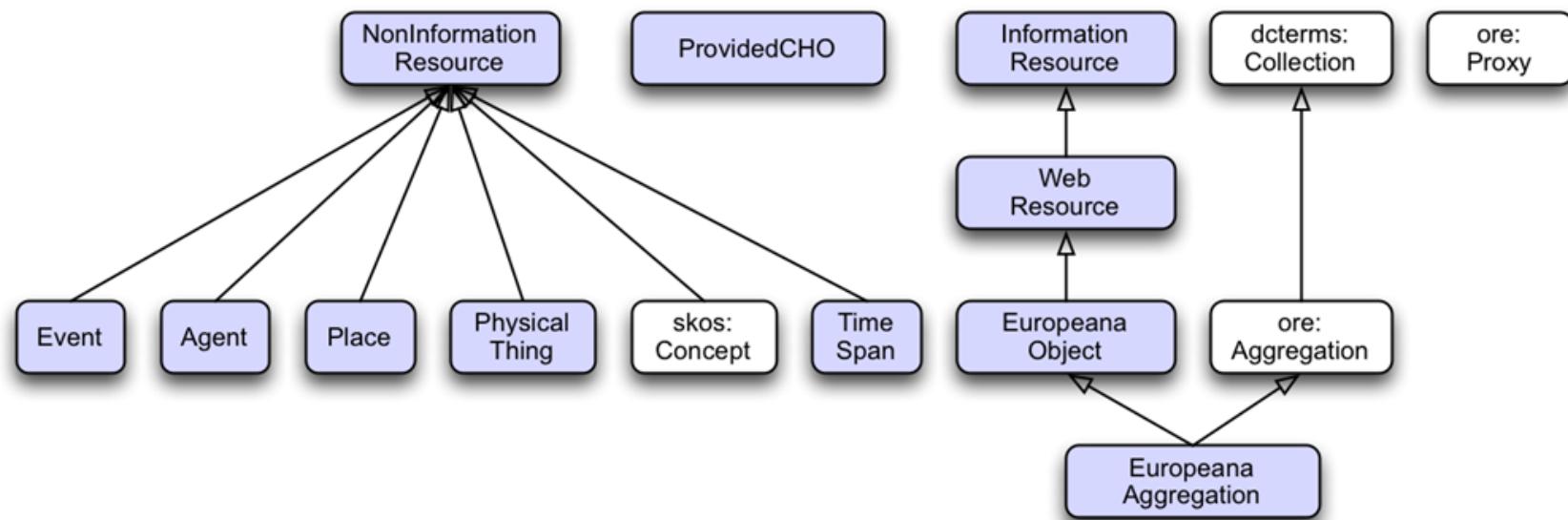
Why do they call conversion to RDF "lifting" and back to some other format "lowering"?

- RDF is a simple abstracted data model
- Doesn't have nesting biases like XML: whether a sub-element is nested or referenced by ID. Has less syntactic idiosyncrasies
- (RDF/XML is awful, but there is Turtle for readability, or JSONLD for programmer convenience)
- The model is self-describing in a distributed way: if a class/property is looked up, should return description and info

# EUROPEANA DATA MODEL

Model used by the Europeana aggregator (53M objects), and adopted by Digital Public Library of America (DPLA) Based on:

- OAI ORE (Open Archives Initiative Object Reuse & Exchange): organizing object metadata and digital representations (WebResources)
- Dublin Core: descriptive metadata
- SKOS (Simple Knowledge Organization System): conceptual objects (concepts, agents, etc)
- CIDOC-CRM inspired: events, some relations between objects



# EDM SEMANTIC GRAPH

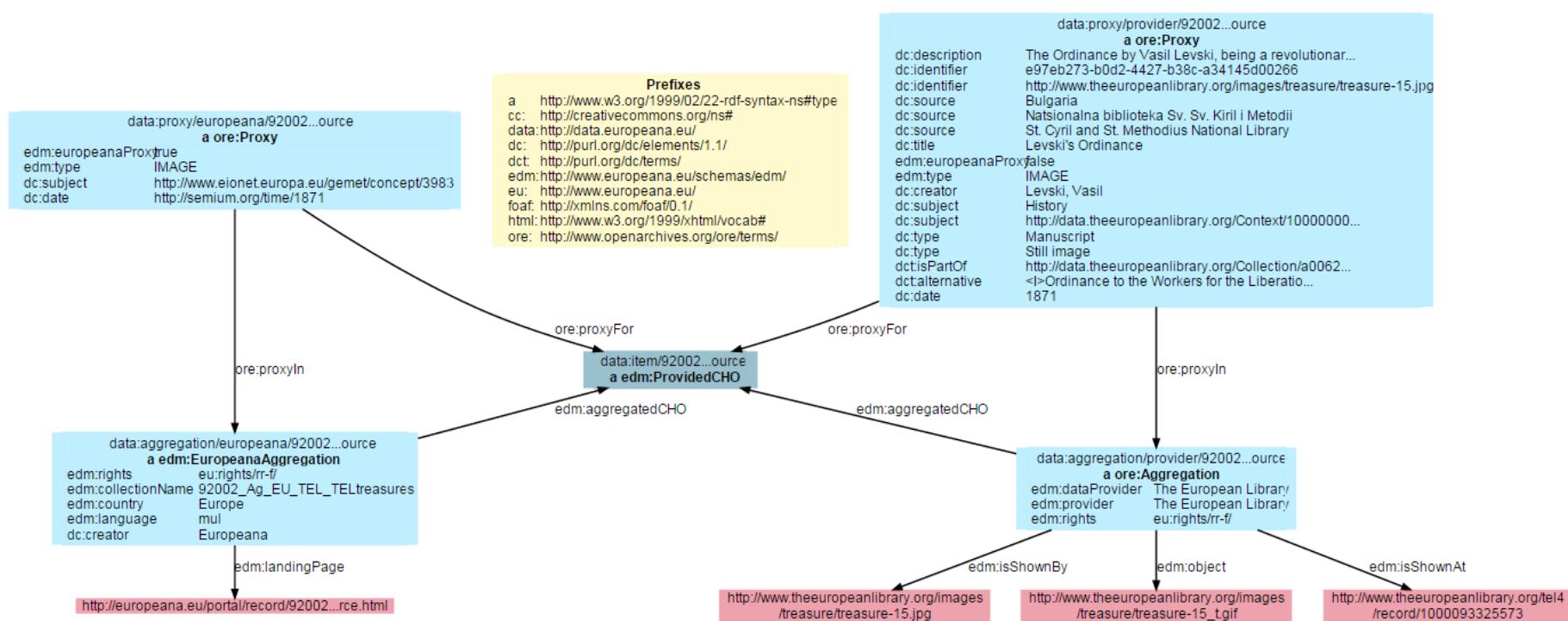


## Levski's Ordinance

[Download as ▾](#)

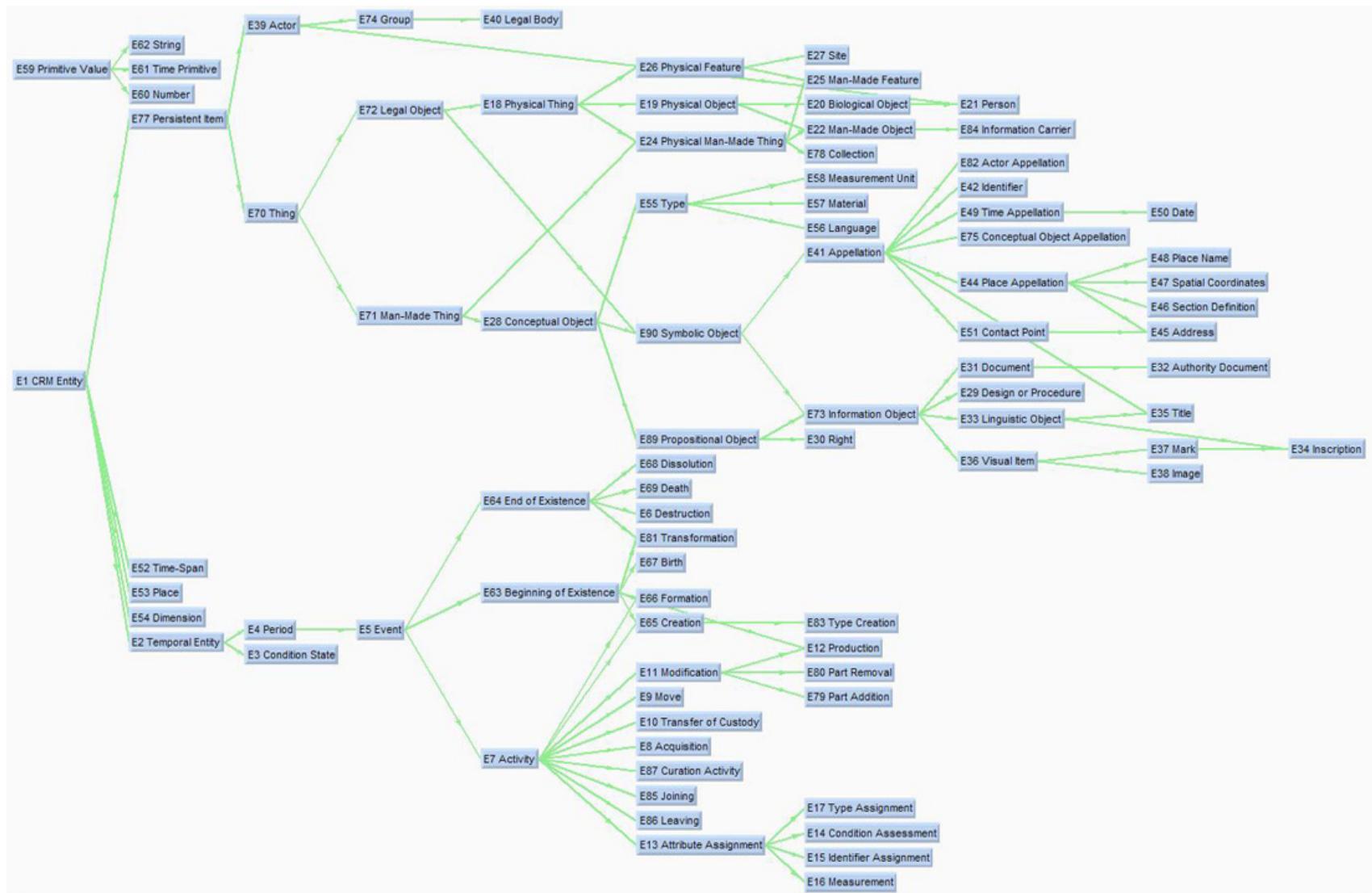
Source: [http://data.europeana.eu/item/92002/BibliographicResource\\_1000093325573\\_source](http://data.europeana.eu/item/92002/BibliographicResource_1000093325573_source)

Description: The Ordinance by Vasil Levski, being a revolutionary code in its essence, is a great achievement of the democratic thought that constitutes not only the ideology of the Bulgarian liberation movement but the era of the liberating revolutions as a whole. Though it bears specific Bulgarian characteristics and circumstances, this document is unique by itself in the history of the liberating struggles in the XIX c. with its logistic and systematic construction, the consistent democracy not opposed to the opportunity for the people's revolutionary will to be imposed with good organization and violence, even. In the Ordinance Levski draws the outlines of the future free democratic society, of the "sacred and fair republic", of the "people's government" based on the Renaissance and the enlightened political thought. On the first page of the document the political philosophy of the author is stated determining the motives and aims of the new revolutionary organization with the main slogan been that tyranny and lack of humanity should be replaced by democratic republic. The basic principles governing the future state will be: the equality of all citizens; the equality of all nationalities; civil and political rights; the rule of law; independence of all authorities.



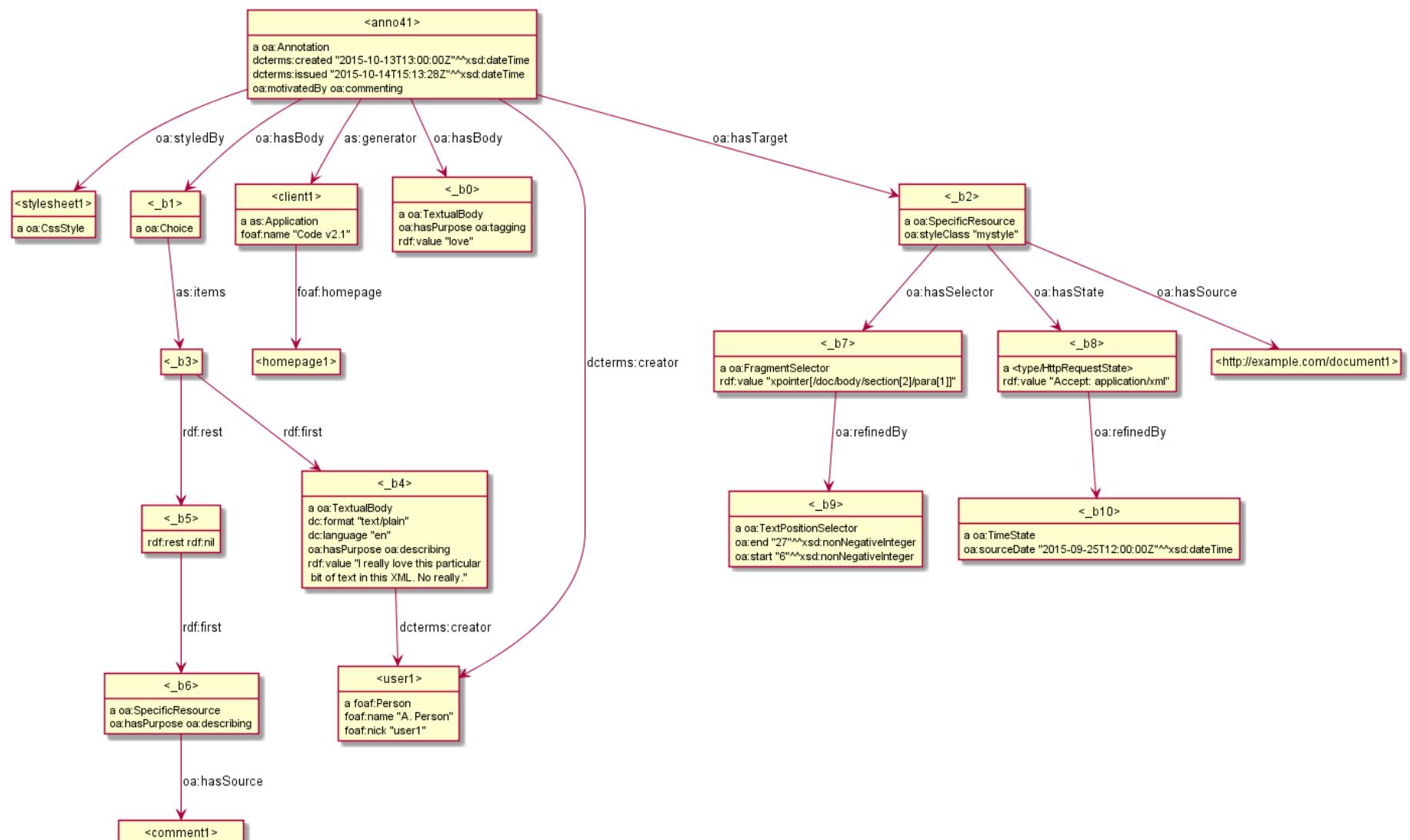
# CIDOC CRM

**CIDOC CRM**: comprehensive reference model used for history, historic events, archaeology, museum data, etc by CIDOC (ICOM documentation committee). Standardized as ISO 21127:2014, still evolving. About 85 classes, fundamental branches: Persistent (endurant) vs Temporal (perdurant), Physical vs Conceptual



# WEB ANNOTATION (OPEN ANNOTATION, OA)

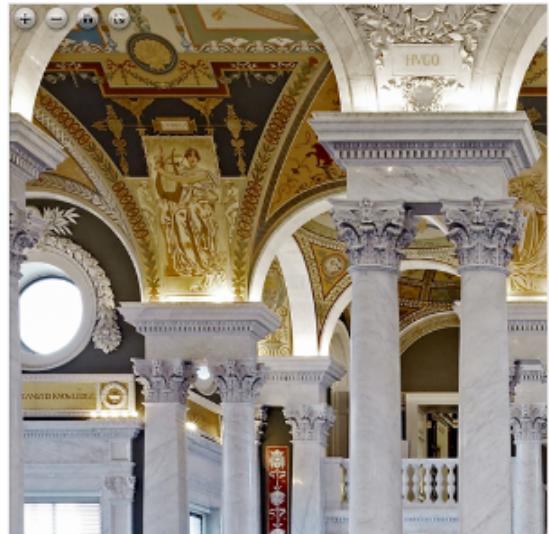
W3C TR: mark, annotate, relate any web resources, eg: Webpage and bookmark, Image and region over it, Document and translation, Paragraph and commentary. Diagram of Complete Example from spec (using my rdfpuml)



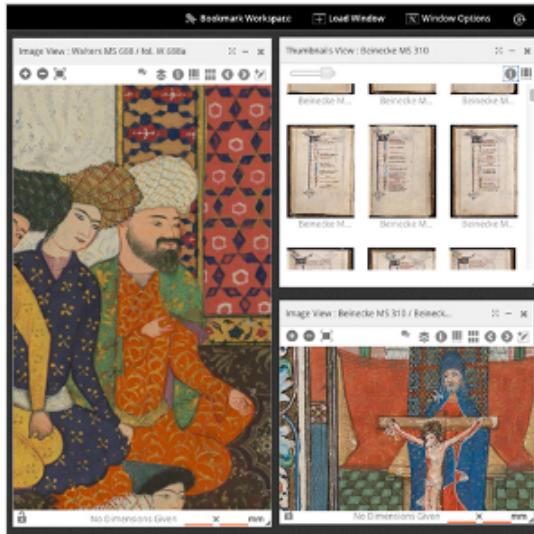
# INTERNATIONAL IMAGE INTEROP FRAMEWORK (IIIF)

Standard API for DeepZoom (hi-res) images. Supported by many servers and viewers.  
<http://iiif.io>

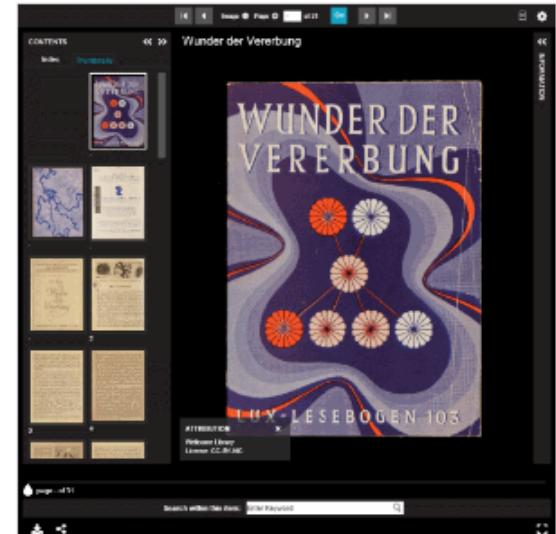
## IIIF Showcase



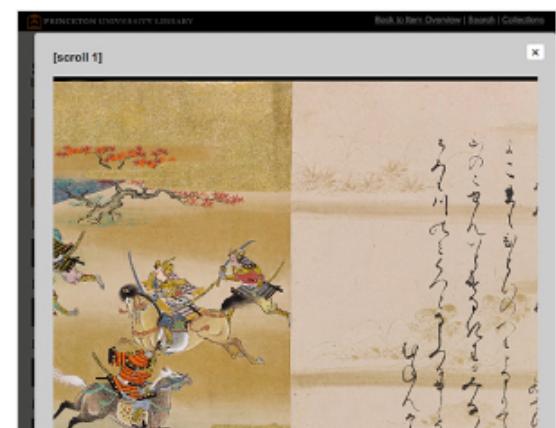
OpenSeadragon



Mirador Viewer



Universal Viewer



# LIBRARY ONTOLOGIES

## War of the Bibliographic Ontologies?

- **BIBO**: used for a long time, pragmaic
- **FRBRer**: pragmatic realization of FRBR, but little uptake (not rich enough?)
- **FRBRoo**: based on CIDOC CRM, perhaps too complex
- **Fabio, Cito, Doco** and friends: modern, includes new features (eg citation intent)
- **BibFrame**: sponsored by LoC, but **soundly criticized** for modeling mistakes
- **RDAregistry.info**: basic FRBR classes, numerous properties for all kinds of things.  
Used for 100M records at TEL
- **SchemaBibEx** (<http://bib.schema.org>): steps on a clean model sponsored by the big 4 search engines (Google, MS Bing, Yahoo, Yandex.ru). Developed by OCLC. May end up being used for 300M records at WorldCat.

# ARCHIVAL ONTOLOGIES

3 attempts to represent EAD as RDF, but IMHO neither is very good.

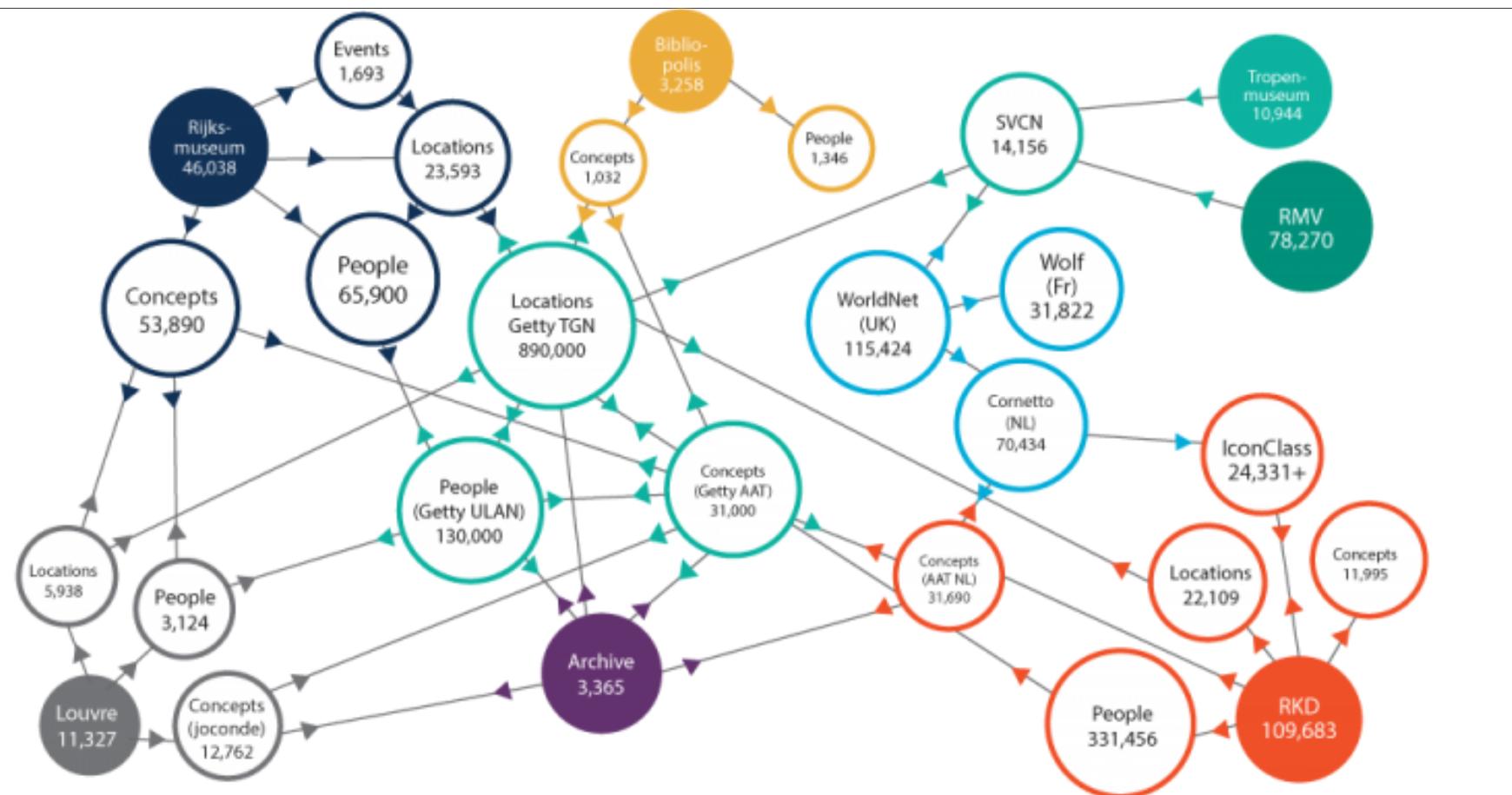
- Eg "The Semantic Mapping of Archival Metadata to the CIDOC CRM Ontology" (Journal of Archival Organization, 9:174–207, 2011) proposes to represent the EAD levels hierarchy (from Fonds down to Items) as **five** parallel CRM hierarchies

Records in Context (RiC): new upcoming semantic standard by ICA

- Addresses the scope of EAD, EAC, EAG in one framework. Inspired by national standards, FRBR (FRBR-LRM), CIDOC CRM
- [Progress report](#) (2015), [Mlist for comments](#)
- [Conceptual Model](#) 1.0 (Sep 2016): Document key components of archival description, properties of each, relations between them
- Ontology: after finalizing the Conceptual Model, Expressed in OWL, will include semantic mapping to similar concepts developed by related communities

# GLAM LOD DATASETS (LODLAM)

- Some established thesauri and gazetteers as LOD, some are interconnected: DBpedia; Wikidata, VIAF, FAST, ULAN; GeoNames, Pleiades, TGN; LCSH, AAT, IconClass, Joconde, SVCN, Wordnet, etc.
  - Not shown: large collection LODs like: Europeana (EDM), British Museum (CIDOC CRM), YCBA (CIDOC CRM), Rijksmuseum (EDM)
  - (Diagram based on work by M.Hildebrand)



# WIKIDATA

Tons of info on everything, including GLAMs, artists, artworks, etc. Eg [Frans Hals on Reasonator](#)

## Frans Hals (Q167654)

佛兰斯·哈尔斯 | 弗兰茨·哈尔斯 | Hals | Frans Hals d.ä. | Frans (I) Hals | Franz hals | Франц Хальс | Халс Ф. | Гальс Франс | Франц Халс | Халс Франс | Франс Хальс | Франс Халс | Франс Гальс | Гальс, Франс | Хальс | Franz Hals | Галс Франс | האלס פראנס | פראנס האלס | פראנס האלס | Halss | Frans hals | ჰალსი | Halsi Fransi | Fransas Halsas | Frans Halls | Franc Walls | Frankhalls | Frank Hals | Frans Hal | Frank Halls | Franks Hals | Frank Hall | Frans Khal's | Franc Hals | T. Hals | Francesco Half | Franck Halls | Frans Hall | Frans I Hals | Frans, I Hals | Franc Halls | Frans Halst | Fr. Hale | Franck Hals |

Painter from the Northern Netherlands

**Frans Hals** was a Dutch-Belgian painter.

He was born in 1582 in Antwerp to [Franchois Fransz. Hals van Mechelen](#) and [Adriaentje van Geertenryck](#).

His field of work included [portrait](#) and [portrait painting](#). He was a member of [Haarlem schutterij](#) and [Haarlem Guild of St. Luke](#).

He married [Anneke Hermansz](#) and [Lysbeth Reyniers](#). His children include [Adriaentje Hals](#), [Harmen Hals](#), [Frans Hals Junior](#), [Jan Hals](#), [Reynier Hals](#), and [Nicolaes Hals](#).

He died on August 26, 1666 in [Haarlem](#). He was buried at [Grote Kerk](#).



### Relatives

#### Parents

**father** ♂ [Franchois Fransz. Hals van Mechelen](#)

**mother** ♀ [Adriaentje van Geertenryck](#)

#### Children

**child** ♂ [Harmen Hals](#)

♂ [Frans Hals Junior](#)

♂ [Jan Hals](#)

♂ [Reynier Hals](#)

♂ [Nicolaes Hals](#)

♀ [Adriaentje Hals](#)

#### Siblings

**brother** ♂ [Dirck Hals](#)

#### Other

**spouse** ♀ [Anneke Hermansz](#)

♀ [Lysbeth Reyniers](#)

See the full family tree: [inline/new page](#)

### External sources

Art UK artist [hals-frans-c-](#)  
[158115851666](#)

Biografisch Portaal [12491083](#)

BnF [14959052q](#)

British Museum  
person-institution [30424](#)

CANTIC-ID [a10984884](#)

CERL [cnp00551574](#)

Commons Creator  
page [Frans Hals](#)

DBNL author [hals001](#)

ECARTICO person [3474](#)

FAST-ID [28684](#)

Find a Grave grave [9789652](#)

Freebase [/m/och5l](#)

GND [118545221](#)

ISNI [0000 0001 1453](#)

225X

J. Paul Getty [2025](#)

## SUM OF ALL PAINTINGS

[Wikidata Project Sum of All Paintings](#). Data used for works by painter across collections (catalogue raisonné). Eg [Frans Hals](#)

### Wikidata Skim

[Do another query](#)

[Get this query as JSON](#)

[Next page »](#)



[Malle Babbe](#)

Painting of a Haarlem woman by Frans Hals



[The Merry Drinker](#)

painting by Frans Hals



[Willem van Heythuysen  
posing with a sword](#)

painting by Frans Hals



[Laughing Cavalier](#)

Painting of a gentleman by Frans Hals,  
probably Tielemans Roosterman



CROTON

Excellent image search. Shows links to WD, Wikimedia Commons, original website. Eg  
[Frans Hals on Crotos](#)

# VIAF

Virtual International Authority File: 20 national libraries, 10 other contributors including Getty ULAN and Wikidata. Eg coreferencing cluster of Spinoza:

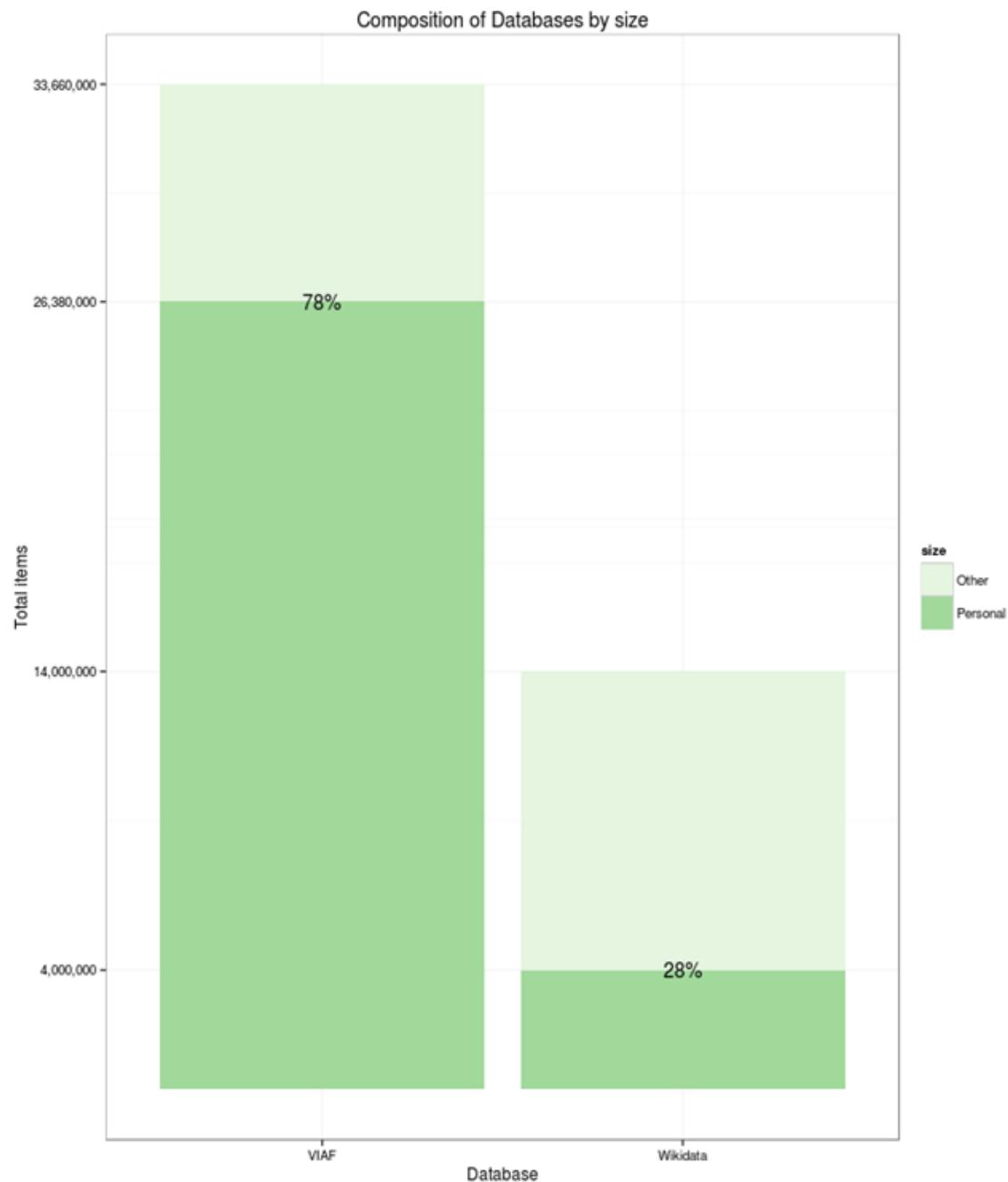
Preferred Forms

- [100 †a Spinoza, Baruch, †d 1632-1677](#)
- [100 †a Spinoza, Benedictus ‡q de †d 1632-1677](#)
- [100 †a Spinoza, Benedictus de, †d 1632-1677](#)
- [100 †a СПИНОЗА, БАРУХ, †d 1632-1677](#)
- [100 †a שפנזה, ברוך בן מיכאל, †d 1632-1677](#)
- [100 †a Spinoza, Baruch, †d 1632-1677](#)
- [100 †a Spinoza, Benedictus de](#)
- [200 †a Spinoza †b Baruch †f 1632-1677](#)
- [100 †a سپینوزا، بندیکت دو، †d 1632-1677](#)
- [100 †a Spinoza, Benedictus de, †d 1632-1677](#)

National Library of Israel (Hebrew)

J9Uheb|000187093

# VIAF VS WIKIDATA (2015)



# LODLAM PROJECTS

GLAM and DH projects present a bewildering variety, eg

- Publishing Vocabularies/Thesauri as LOD
- Publishing Museum collections and National Bibliographies as LOD
- Enrichment of GLAM metadata with relevant thesauri, semantic and faceted search
- Study of artistic influence over time and space
- Literary traditions, parallel editions
- Poetic repertories
- Studying manuscripts, stematology (manuscript derivation)
- Historiography
- Studying charters, prosopography ("micro biographies"). "Prosopography is Greek for Facebook", [SNAP:DRGN project](#), 2015

Research functions and sometimes integrated into Virtual Research Environments

## MELLON 'SPACE' PROJECTS

The Andrew Mellon Foundation funds many projects in CH and DH, and a few software projects, including:

- **CollectionSpace**: museum collection management
- **ArchiveSpace**: archive management
- **ResearchSpace**: semantic integration based on CIDOC CRM, search, data & image annotation, data basket, etc
- **ConservationSpace**: line of business application for conservation specialists

# RESEARCHSPACE

Executed by the British Museum. Ontotext developed the first prototype (2010-2013). Semantic Search

The screenshot shows the ResearchSpace interface with a search bar at the top. The search query is: "Find all objects with images from London England and made of paper". The results section below shows 29 results, with the first five items listed:

29 Results

The results are presented in a grid format with three columns: thumbnail, title, and description. Each result includes a checkbox to the right.

Object Type	Creator	Places	Created
1 box 1 broadside 7 calligraphy 1 document 4 invitation 3 leaflet	0 Middle East and North Africa Modern Art 1 Mughal Style 1 Osman Waqialla 1 Syed Tajammul Hussain 6 The British Museum 1 Thomas Arne	1 Asia 1 South Asia 1 India pre-1947 28 Europe 28 British Isles 28 England	1 (missing this field) 1 1827-1858 :: 1 1859 ::

**Object Type:**

- 1 box
- 1 broadside
- 7 calligraphy
- 1 document
- 4 invitation
- 3 leaflet

**Creator:**

- 0 Middle East and North Africa Modern Art
- 1 Mughal Style
- 1 Osman Waqialla
- 1 Syed Tajammul Hussain
- 6 The British Museum
- 1 Thomas Arne

**Places:**

- 1 Asia
- 1 South Asia
- 1 India pre-1947
- 28 Europe
- 28 British Isles
- 28 England

**Created:**

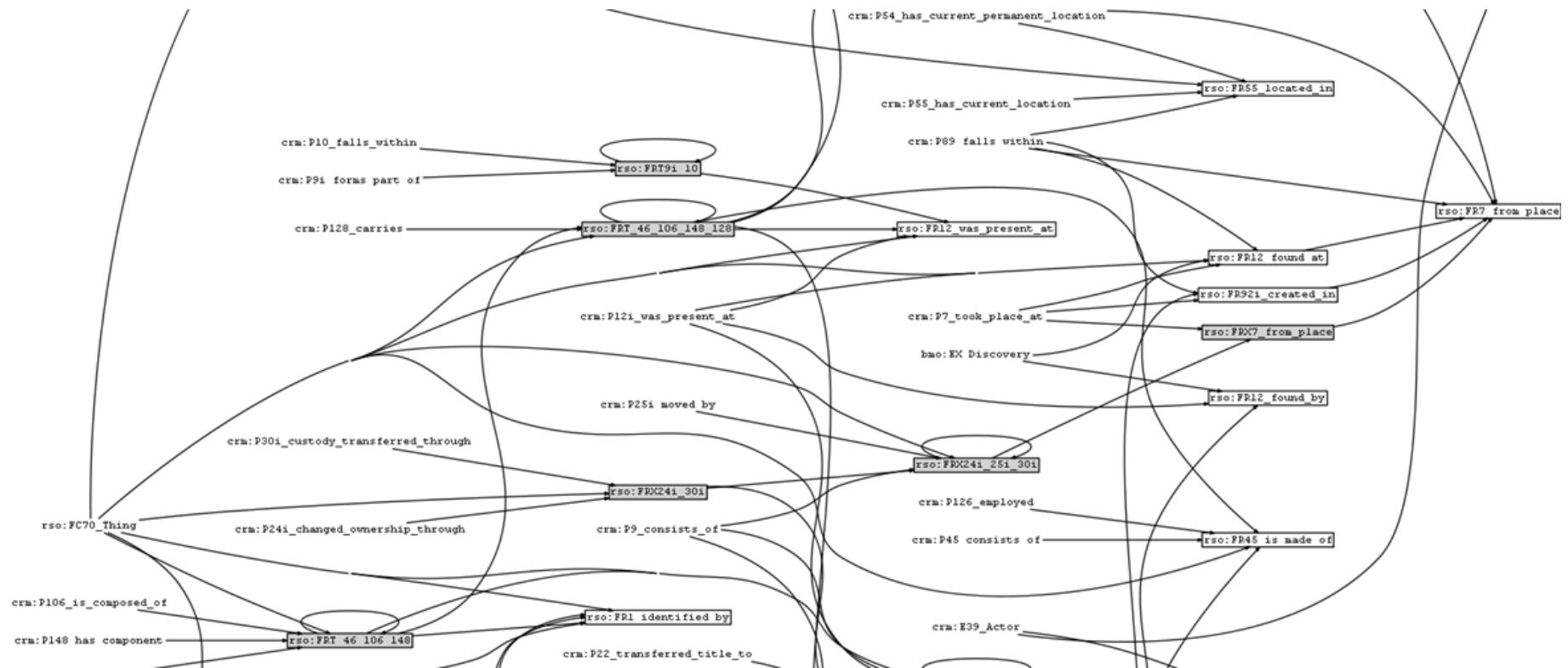
- 1 (missing this field)
- 1 1827-1858 ::
- 1 1859 ::

**Results:**

- RFM1619 Calligraphic composition. Silkscreen print...**  
calligraphy; print: RFM1619 Calligraphic composition. Silkscreen print...; Created: Ahmed Moustafa; Middle East and North Africa Modern Art. London England; Material: paper; Technique: screenprint
- RFM1620 Print. Calligraphy. Silkscreen print...**  
calligraphy; print: RFM1620 Print. Calligraphy. Silkscreen print.; Created: Ahmed Moustafa; Middle East and North Africa Modern Art. London England, 1977 ::; Material: paper; Technique: screenprint
- RFM1621 Print. Calligraphy. Silkscreen print...**  
calligraphy; print: RFM1621 Print. Calligraphy. Silkscreen print.; Created: Ahmed Moustafa; Middle East and North Africa Modern Art. London England, 1978 ::; Material: paper; Technique: screenprint
- RFM1622 Print. Calligraphy. Silkscreen print...**  
calligraphy; print: RFM1622 Print. Calligraphy. Silkscreen print.; Created: Ahmed Moustafa; Middle East and North Africa Modern Art. London England, 1983 ::; Material: paper; Technique: screenprint
- RFM2064 Arabic calligraphy; ink and gold on vellum...**  
calligraphy; RFM2064 Arabic calligraphy; ink and gold on vellum...; Created: Osman Waqialla; Middle East and North Africa Modern Art. London England, 1980 :: Material: paper

## RESEARCHSPACE SEARCH: IMPLEMENTATION

120 GraphDB rules, weaved using Literate Programming approach. Inference dependencies between props (text=input, gray=intermediate, white=output)



# BRITISH MUSEUM (BM) AND YCBA LOD

- GraphDB runs the BM SPARQL endpoint. One of the biggest CH RDF collections (917M triples)
  - As part of RS, developed mapping of BM data (2M objects) with BM, using CIDOC CRM
  - This mapping was followed by the Yale Center for British Art (YCBA)
  - [Mapping Documentation](#): very comprehensive but is monolithic and has imprecisions. Includes the (in)famous diagram

## The Conceptual Reference Model Revealed

Quality contextual data for research and engagement: A British Museum case study

Dominic Oldman, Joshan Mahmud, Vladimir Alexiev

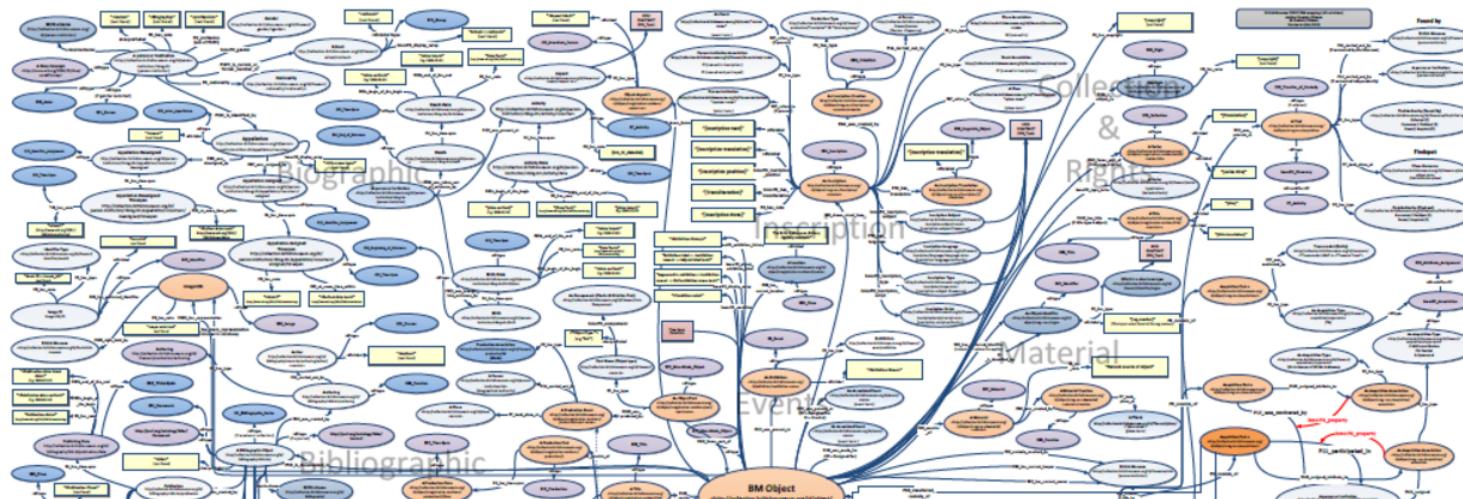
Version: Draft: 0.98, July 2013 (Confidential & Private – Limited Distribution for Discussion)

Contents: 359p

- 169: Main body, including discussion, illustrations and mapping diagrams
  - 7p: Association Codes (see details at [BM Association Mapping v2](#))
  - 49p: Example Object Graph
  - 134p: RDFer configuration files (i.e. mapping implementation)

## Overall Picture

mapping manual-diagram.pdf, mapping manual-diagram.png (Page 9 of 359)



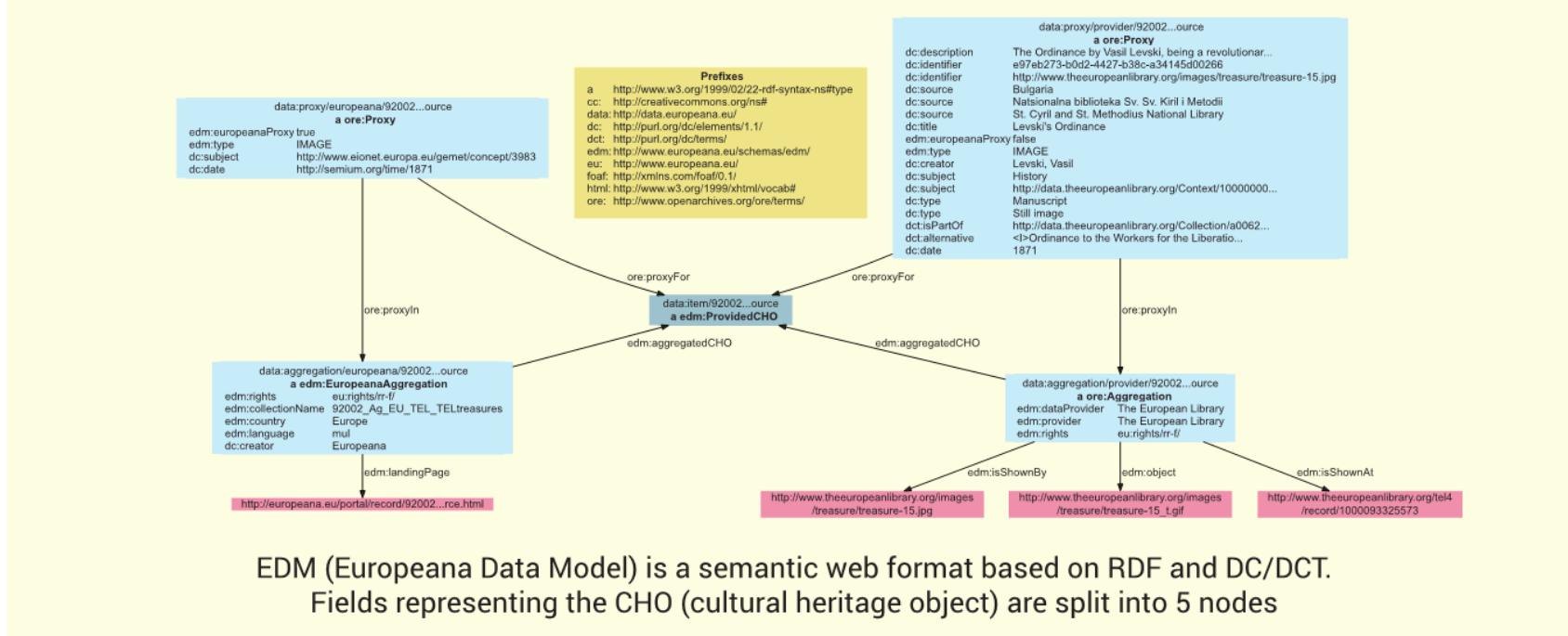
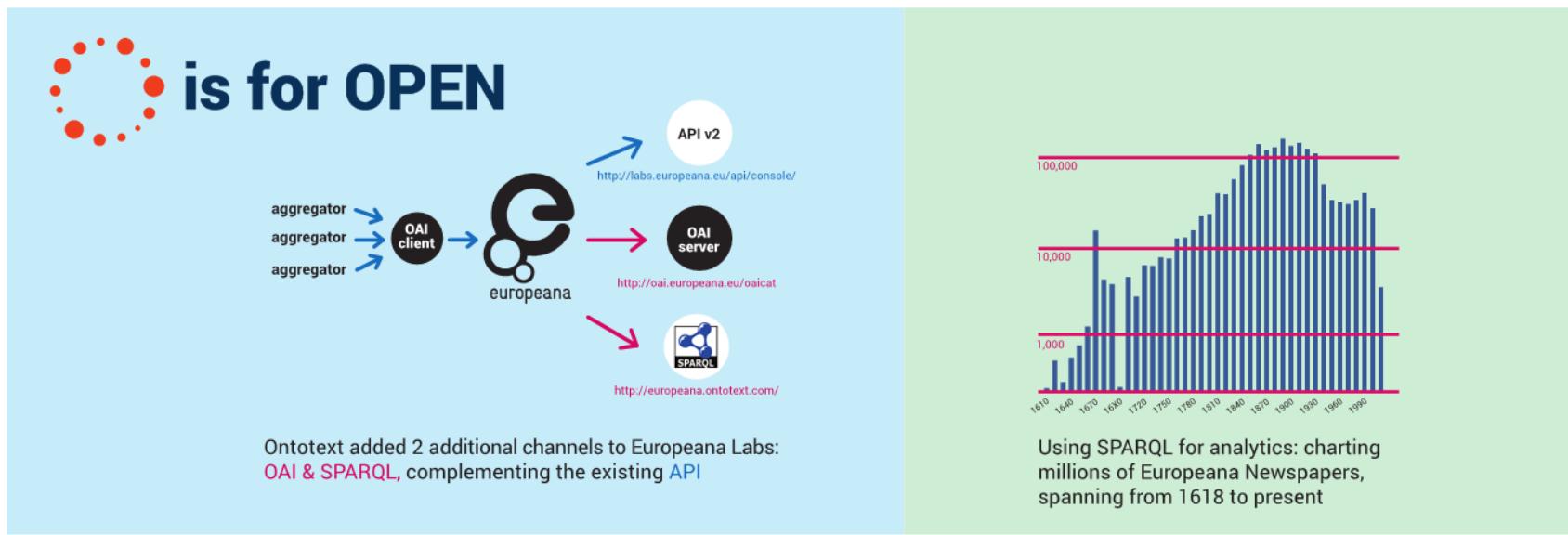
# CONSERVATIONSPACE

Executed by a consortium led by US National Gallery of Art. Developed by Sirma ITT (Ontotext sibling). Based on Ontotext GraphDB (semantic metadata), Alfresco (document management), Smart Documents (Sirma product).

The screenshot displays the ConservationSpace application interface. At the top, there is a navigation bar with icons for Home, Search, Create, and User Profile. The main content area shows a dashboard for a painting treatment case. The left sidebar contains a tree view of the project structure under 'Major In-house Treat' for 'Madame Stumpf a'. The central area shows a painting titled '(Painting) Madame Stumpf and Her Daughter' with its creation and modification details. Below the title are tabs for Content, Images, Documents, and Relations. The 'Images' tab is selected, showing four thumbnail images: 'The hand of Madame Stumpf.png', 'The face of madame Stumpf.png', 'The daughter's face.png', and 'Subscription.png'. A section titled 'Annotated image' shows the original painting with several annotations: a yellow square highlighting a detail on the left, a red circle labeled 'b' pointing to the right side, and a blue circle labeled '2' pointing to the bottom left. A color palette and annotation tools are visible above the annotated image. To the right of the image are sections for Special Permissions, Inherited Permissions, Management Permissions, Version History (with a history entry for 'irisess.png' by maria.todorova), Annotations (with filter options), Comments (with entries from Albert Marshall and Roya Mahnat), and Properties (with fields for Type, Title, Description, Name, Mimetype, and Size).

# EUROPEANA LOD AND OAI PMH

Ontotext created and hosted the Europeana SPARQL and OAI PMH services



# EUROPEANA FOOD AND DRINK

Food & Drink content, semantically enriched (place and FD topic). [EFD Semantic App](#): open data, SPARQL endpoint, open source (Github). Uses GraphDB and ElasticSearch enterprise connector



The screenshot shows the Europeana Food and Drink website. At the top left is the Europeana logo with a stylized fork and knife icon. Below it is the text "europeana food and drink". A navigation bar includes links for "ABOUT", "FOOD TRAILS", "BOOKS", "PICTURE LIBRARY", "GAMES", "CAKE EXHIBITION", "EDUCATION", and "Get involved!". A prominent yellow banner across the middle of the page reads "SEMANTIC DEMONSTRATOR". Below the banner is a collage of various fruits like raspberries, strawberries, and blueberries, along with a bowl of cereal. To the right of the banner is a "made with europeana" logo featuring a stylized 'e' and the text "made with europeana". The main content area contains descriptive text about the semantic demonstrator and its application to cultural heritage objects.

The [Semantic demonstrator](#) demonstrates the use of semantic technologies for classification and discovery of Europeana objects related to Food and Drink; it aims to provide semantic enrichment, i.e. extract references to Food and Drink topics from free text in object metadata to strengthen the relevance of database search results on the theme of Food and Drink.

The application does this by applying a Europeana Food and Drink Classification scheme to Cultural Heritage Objects, such as those stored in [Europeana](#) to yield more precise groupings, relationships and categorisations for database items.

[Click here to visit the Semantic Demonstrator](#)

- Showcases enrichment, faceted semantic search
- [Demo](#), [Data](#), [SPARQL](#). [Homepage](#), [Description](#), [Deliverable](#)



# TASTY BULGARIAN RECIPES

Eg 150 with beer, including pancakes!



## Europeana Food & Drink

The Semantic Demonstrator shows the use of semantic technologies for classification and discovery of Europeana objects related to Food and Drink. [Detailed description](#), [data](#), [SPARQL endpoint](#).

Selected filters: FD: Beer ✕ Data provider: Bulgariana ✕

Food and Drink

- + Agriculture 148
- + Beverages 149
- + Cuisine 149
- + Eating behaviors 149
- + Food and drink by country 108
- + Food and drink preparation 149
- + Food and drink terminology 138
- + Food culture 149
- + Food decorations 30
- + Food industry 148
- + Food politics 143

Places

- + Europe 149

Type (resource)

Language

Data provider

- Bulgariana 149

Results per page: 24 ▾

Results 49 - 72 of 149

◀ Page 3 ▾ of 7 ▶



Бирени палачинки  
Разбийте яйцата, прибавете постепенно брашното и бирата до получаване на гладка смес. Продължете да бийте и добавете



Панирано пиле с бира  
Пилето се сварява предварително. Приготвя се специална паста за паниране. За целта се отделят белтъците от



Пилешки сърца с бира на фурна  
Смесете бирата, меда, пресована чесън, зехтина, малко сол и черен пипер на вкус и розмарина и



Свински бут във фолио на фурна  
Разбийте всички продукти за маринатата, добре облейте месото, след като сте го пробили на няколко



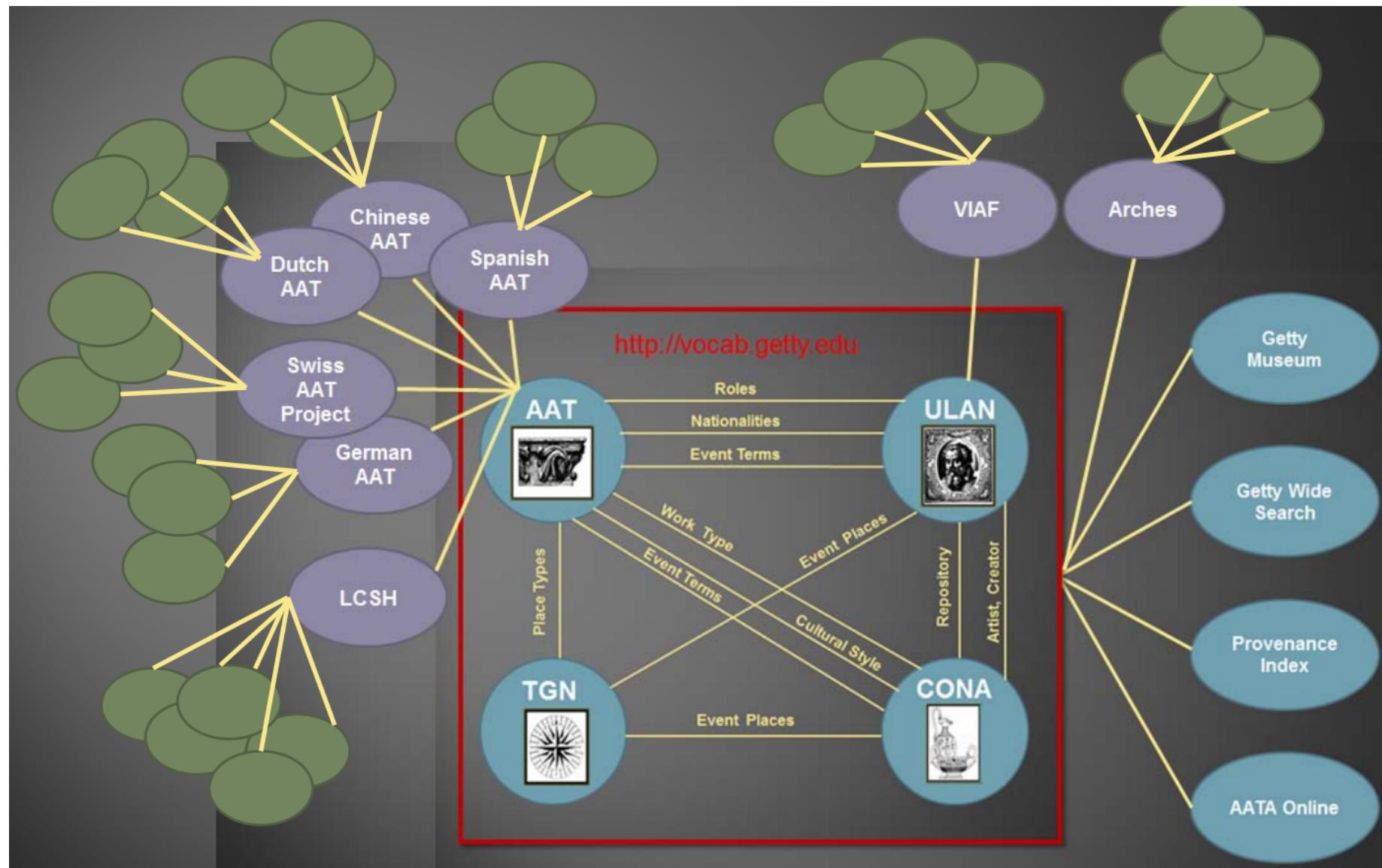






# GETTY VOCABULARY PROGRAM LOD

GVP well-known and respected in GLAM. Dependencies: AAT-TGN-ULAN-CONA.  
Center of LODLAM cloud? [GVP Training Materials](#) (Diagram by J.Cobb, 2014)



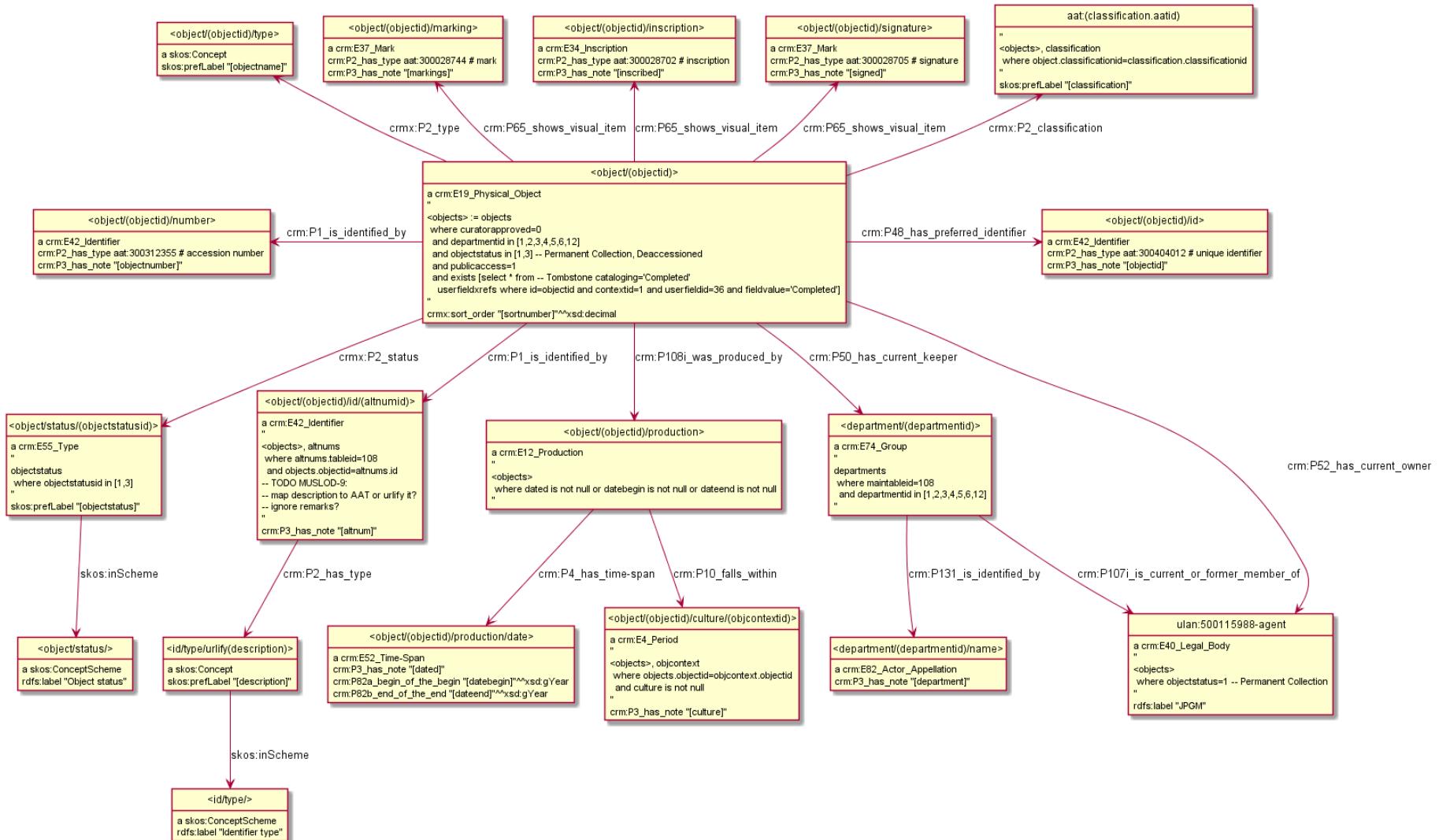
## GVP LOD RELEASES

AAT 2014-02, TGN 2014-08, ULAN 2015-03. Publicized in blog posts by J.Cuno, head of the Getty Trust



# J.P.GETTY MUSEUM

Working with JPGM on publishing LOD. Considering CIDOC CRM, maybe also simpler ontologies. Hoping to generate R2RML from instance examples like:



## J.P.GETTY MUSEUM AND WIKIDATA

Discussing making data for Wikidata. WD has 480 Getty paintings, but the Museum has 180k artworks. [WD query shown as image grid](#)

Run Clear 473 Results in 347 ms

Display Data updated 2 seconds ago 1:44:27 PM GMT+3, € 2016

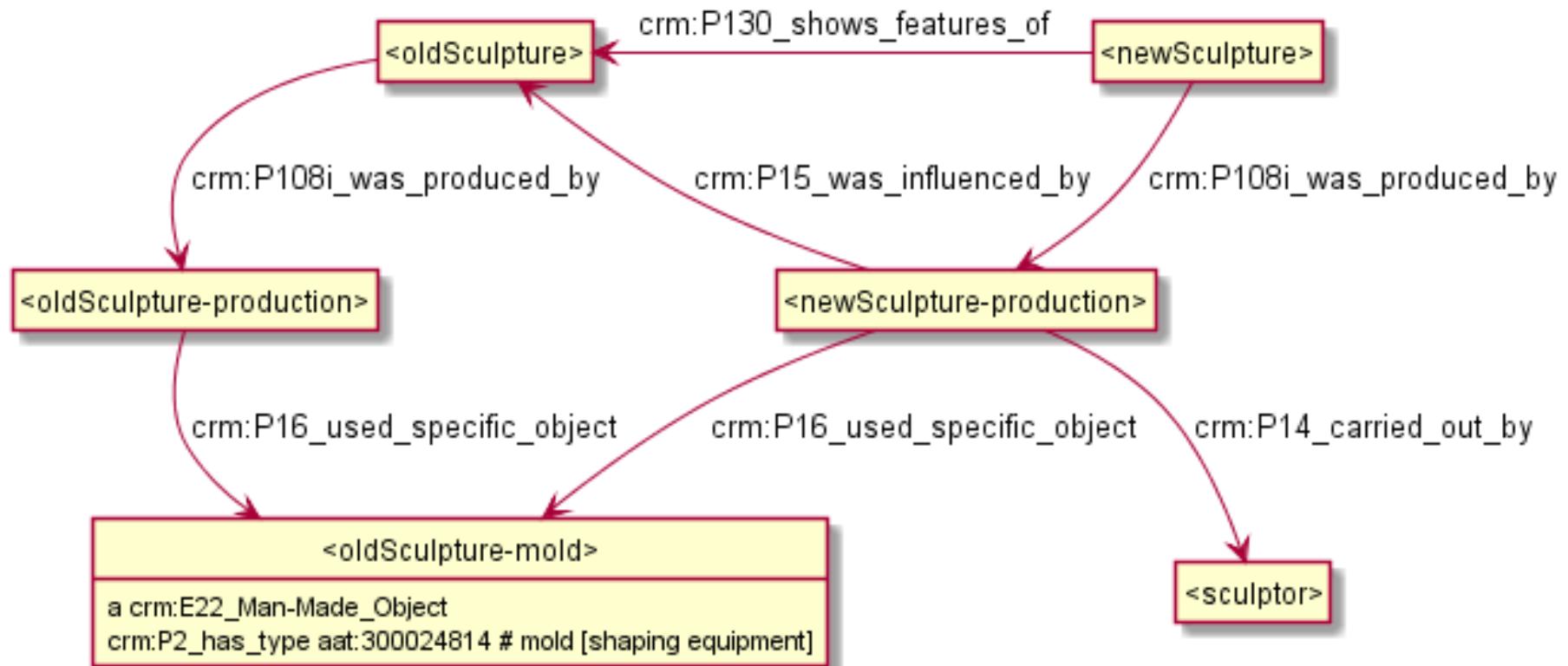
The grid displays ten different artworks from the J.P. Getty Museum's collection, each with a thumbnail image and descriptive text below it:

- Bouquet of Flowers in a Vase**  
common:Courbet, Gustave - Bouquet of Flowers in a Vase - Google Art Project.jpg  
Q wd:Q2017935
- Classical Landscape with Figures and Sculpture**  
common:Pierre-Henri de Valenciennes - Classical Landscape with Figures and Sculpture - 2004.145 - J. Paul Getty Museum.jpg  
Q wd:Q20180879
- The Madonna of Humility**  
common:After Robert Campin - The Madonna of Humility - 77.PB.26 - J. Paul Getty Museum.jpg  
Q wd:Q20179133
- Landscape with Ceres (Allegory of Earth)**  
common:Jan Brueghel the Younger, Hendrik van Balen - Landscape with Ceres (Allegory of Earth) - 71.PB.29 - J. Paul Getty Museum.jpg  
Q wd:Q20181625
- Aurora Taking Leave of Tithonus**  
common:Francesco Solimena - Aurora Taking Leave of Tithonus - 84.PA.65 - J. Paul Getty Museum.jpg  
Q wd:Q20178117
- John Whetstone of Kirklington**
- The Bird Catchers**  
common:François Boucher - The Bird Catchers - 71.PA.38 - J. Paul Getty Museum.jpg  
Q wd:Q20181666
- Statue of a Seated Figure**

# AMERICAN ART COLLABORATIVE

American Art Collaborative: 14 US art museums committed to establishing a critical mass of LOD on the semantic web. Consulting on CRM mapping.

- Work ongoing at <https://github.com/american-art>, eg see [NPG mapping issues](#)
- Eg possible mapping of "(sculpture) Cast after"



# QUESTIONS?

Thank you for your time!

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