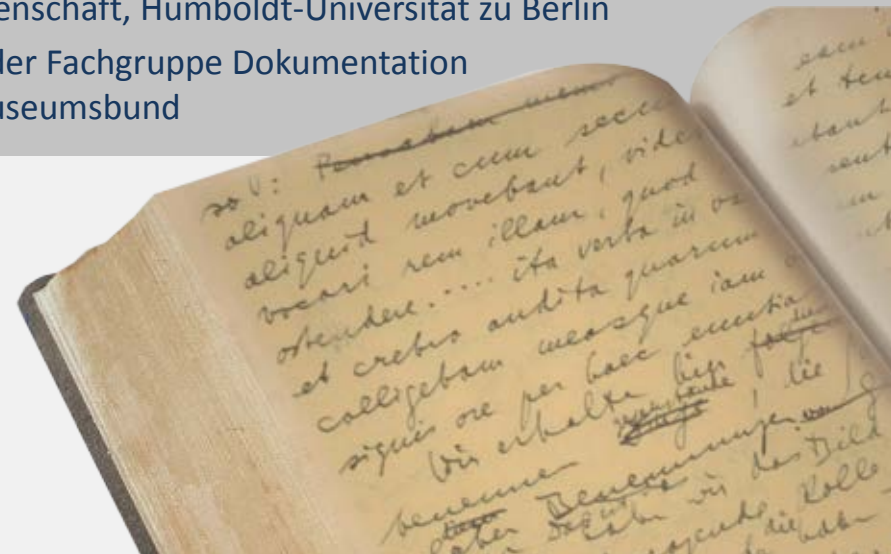


# Manuskripte für Europeana und neue Tools für Geisteswissenschaftler: Das DM2E-Projekt

Evelyn Dröge

Institut für Bibliotheks- und Informationswissenschaft, Humboldt-Universität zu Berlin  
Vortrag auf der Herbsttagung 2013 der Fachgruppe Dokumentation  
im Deutschen Museumsbund

Mit Input von Kai Eckert, Steffen Henricke, Julia Iwanowa, Sam Leon, Christian Morbidoni, Vivien Petras, Violeta Trkulja und anderen aus dem DM2E-Projekt.



# Digitised Manuscripts to Europeana

11 Projektpartner aus ganz Europa.  
Koordination: IBI, Humboldt-Universität.

## Projektziele:

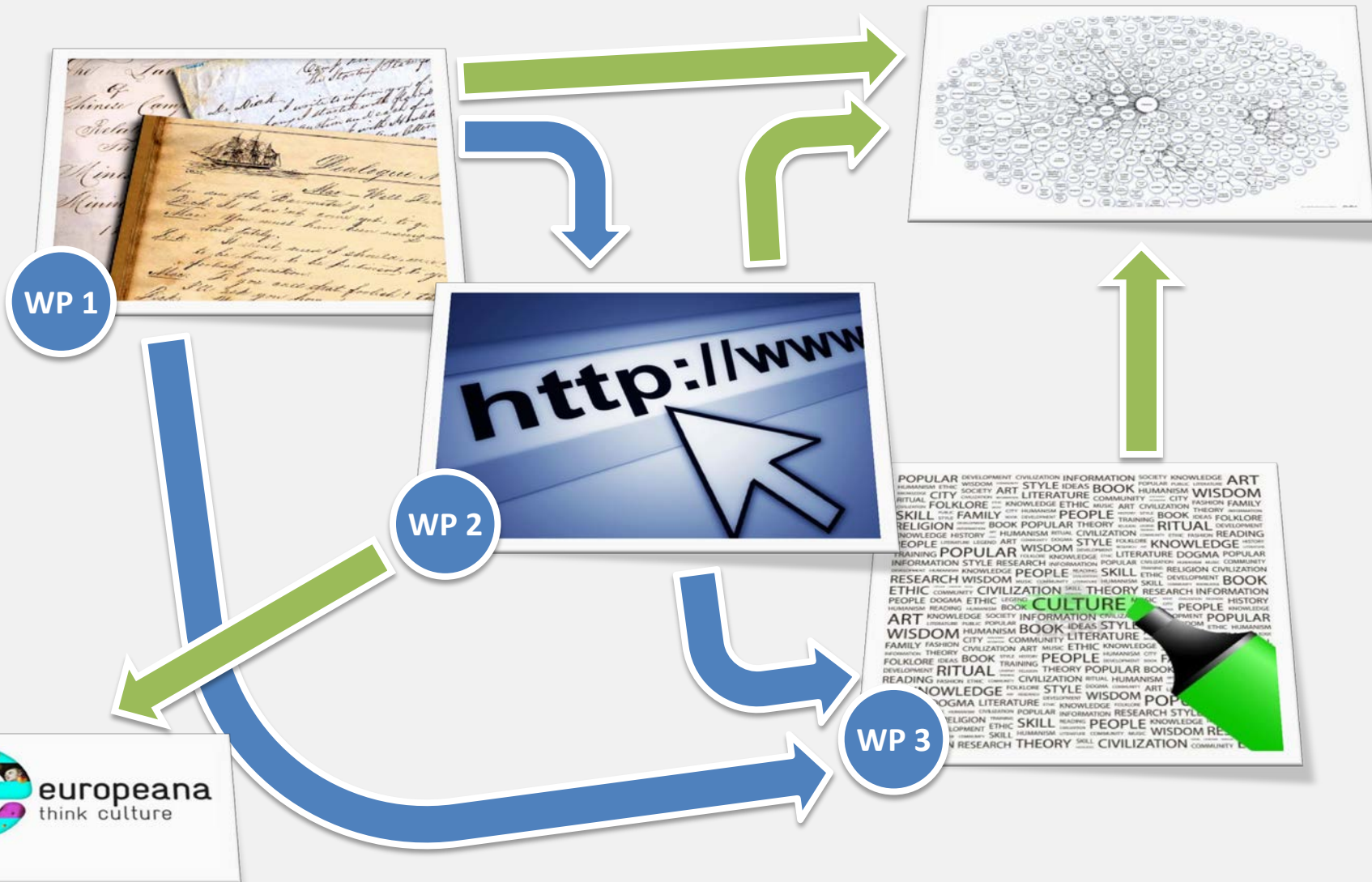
- Lieferung von Manuskripten (z.B. Wittgensteins Nachlass) nach Europeana
- Datenlieferung nach Europeana zu erleichtern
- Einbindung der Digital Humanities Community (OpenGLAM)
- Erstellung von innovativen Tools für Geisteswissenschaftler

## Bisher erarbeitet:


- OmNom: Tool für die Lieferung von Daten nach Europeana
- Pundit: Tool für die Erstellung semantischer Annotationen
- DM2E-Modell: Spezialisierung des EDM für Manuskripte
- Scholarly Domain Model: Repräsentation von geisteswissenschaftlicher Arbeitsweise



# Projektaufbau




Home My Europeana Choose a language ▾

 europeana  
think culture

Search ▾  Search Help


**Get the latest news first!**  
Europeana eNews showcases fantastic collections and keeps you up-to-date with news, events and competitions - in English and French.  
[Subscribe](#)

From the blog 

**BÖLCSÖDE NYILT MEG**  
A múltégy 1. 1815-é. é. sz. évtől való emlékek.  
Teljesen díjmentesen vehetnek fel a Hofbibliothek 1-3. emeletén a múltégy 1-3. évtől való emlékek felvételére. A gondoskodás a múltégy 1-3. évtől való emlékek felvételére. A múltégy 1-3. évtől való emlékek felvételére. A múltégy 1-3. évtől való emlékek felvételére.

**Hungarian announcements from the First World War**

In 1915, the Hofbibliothek (or Imperial Library; today known as the Austrian National Library) began to create its war collection. Since it had good links with the library of the Hungarian National Museum, it is not very surprising that the ...



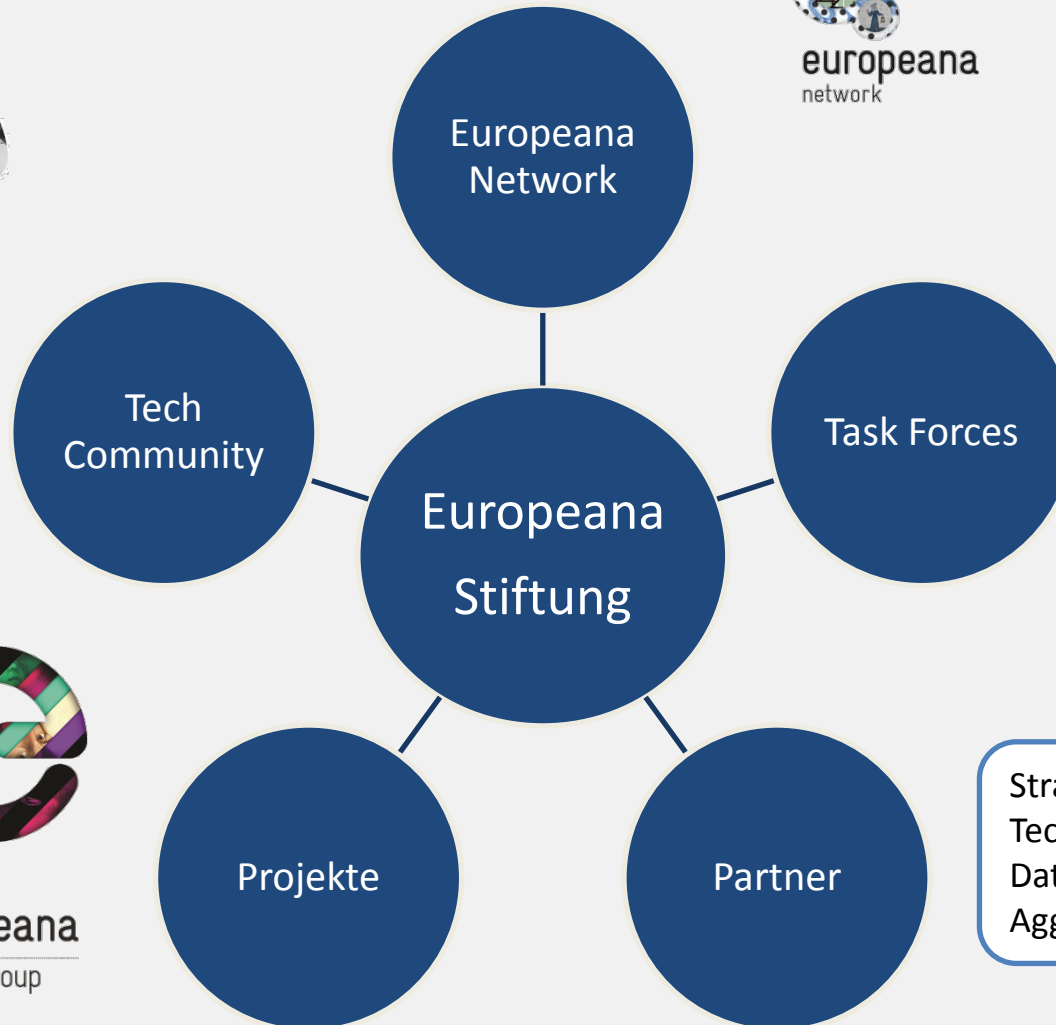
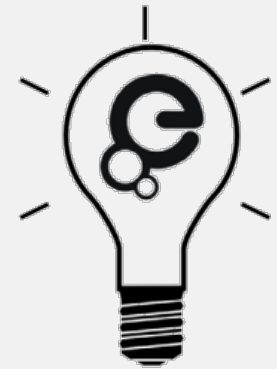
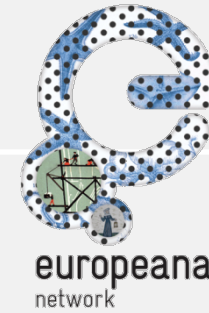
**Maestro Verdi – most performed composer ever**

Giuseppe Verdi (born 200 years ago today – 10 October 1813) was one of the world's greatest ever composers. His 25 operas, such as Aida and La Traviata, are famed the world over and his works are thought to be ...

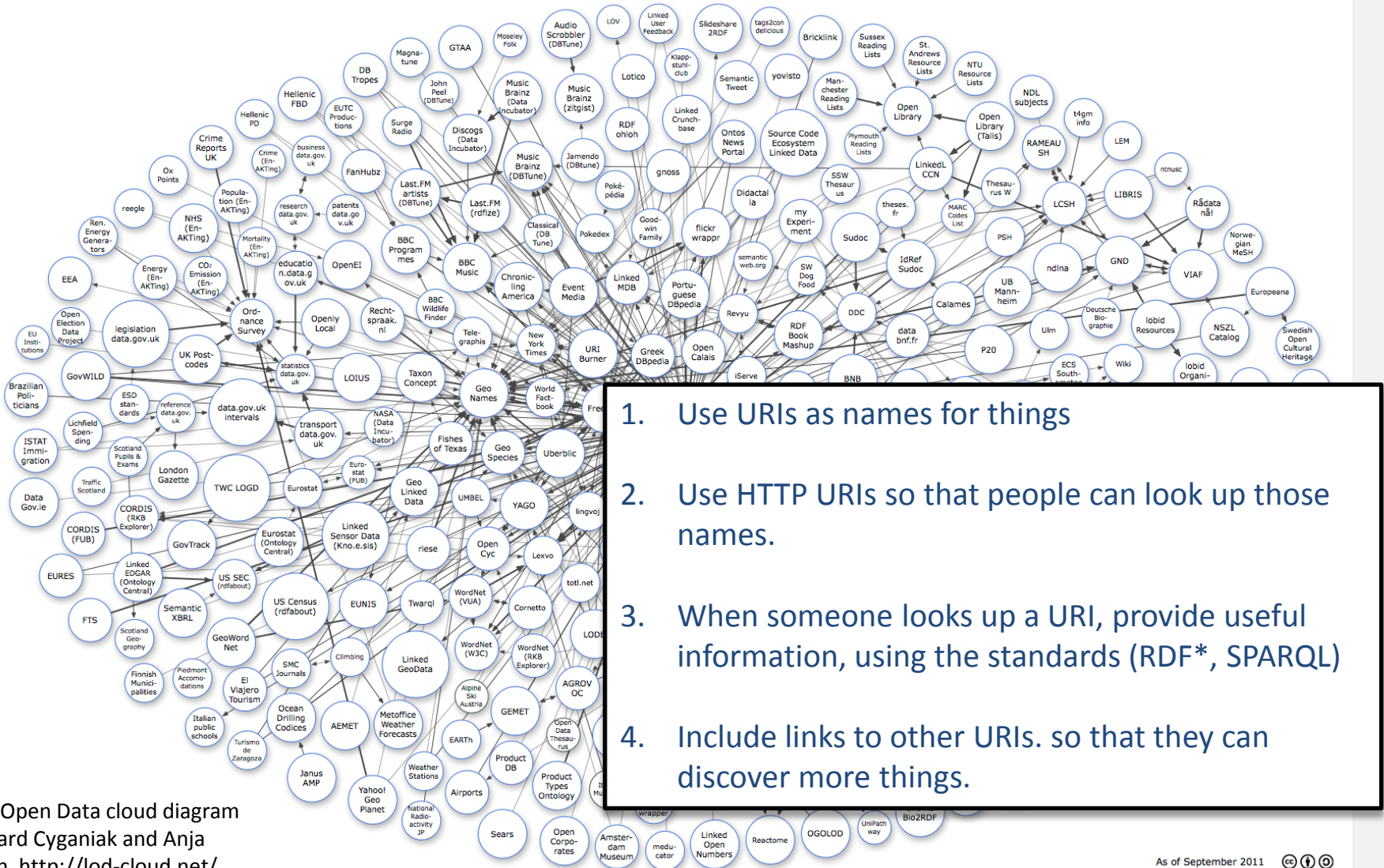
*“A digital library that is a single, direct and multi-lingual access point to the European cultural heritage.”*

Europäisches Parlament  
27. September 2007

# Das Europeana Ökosystem



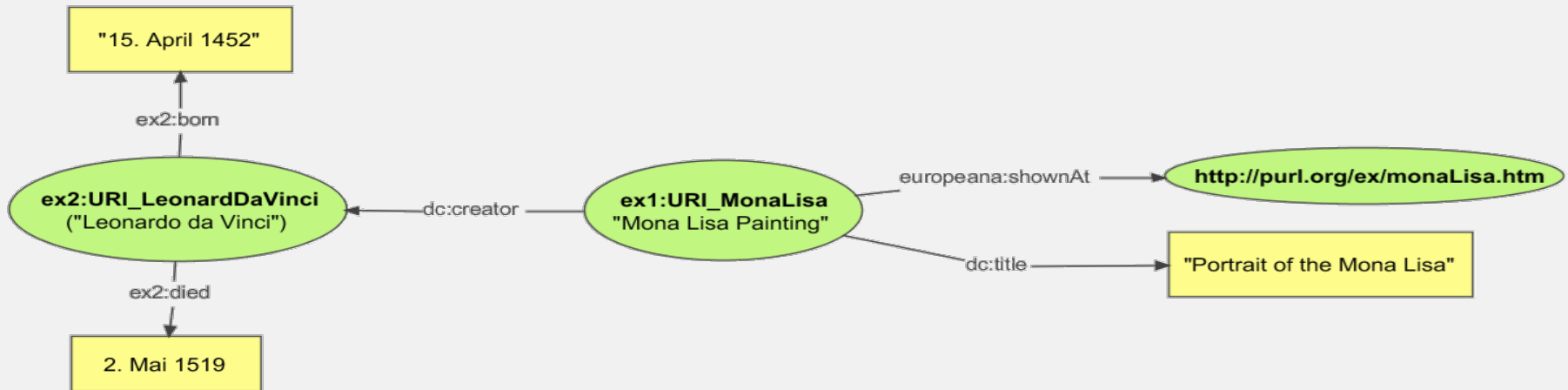
Strategische oder  
Technologiepartner,  
Datenlieferanten &  
Aggregatoren



1. Use URIs as names for things
2. Use HTTP URIs so that people can look up those names.
3. When someone looks up a URI, provide useful information, using the standards (RDF\*, SPARQL)
4. Include links to other URIs. so that they can discover more things.

Linking Open Data cloud diagram by Richard Cyganiak and Anja Jentzsch. <http://lod-cloud.net/>

- Resource Description Framework (RDF)
  - Modellierung von Informationen als Statements in Form von Tripeln (Subjekt – Prädikat – Objekt)
  - Ressourcen über URIs eindeutig referenzierbar
  - Verlinkungen auf Statements anderer



# Das EDM und seine Spezialisierungen

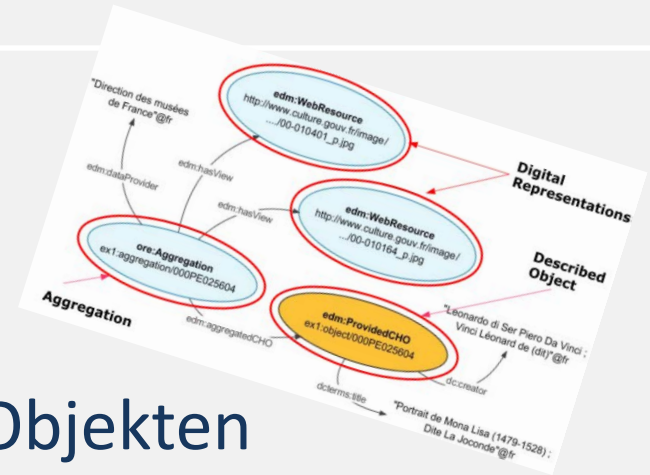
Das EDM (Europeana Data Model)...

... vereint diverse Standards und Vokabulare

... ermöglicht die Repräsentation von Objekten aus Büchereien, Archiven und Museen

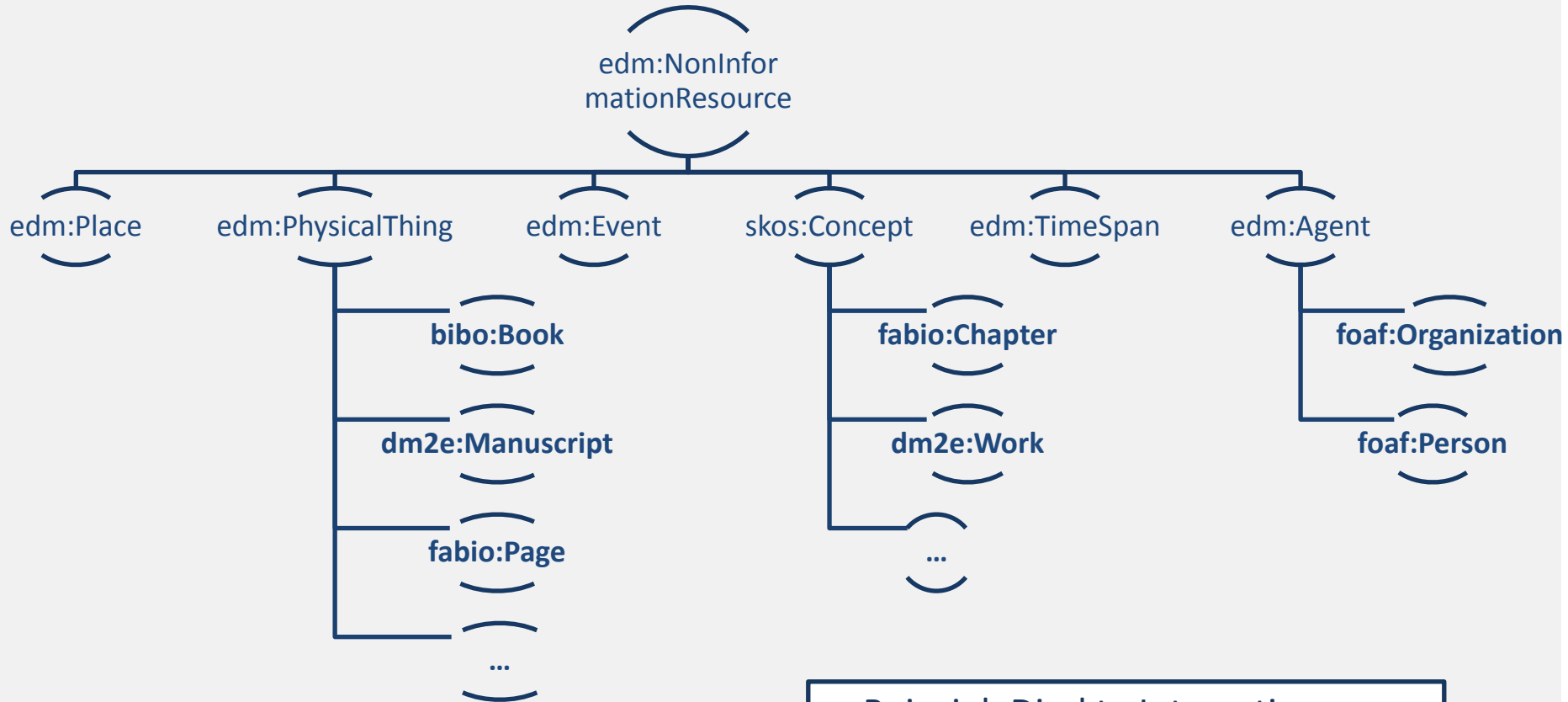
... ist so generisch wie möglich gehalten

... kann für unterschiedliche Domänen spezialisiert werden





# DM2E-Modell: Klassenspezialisierungen



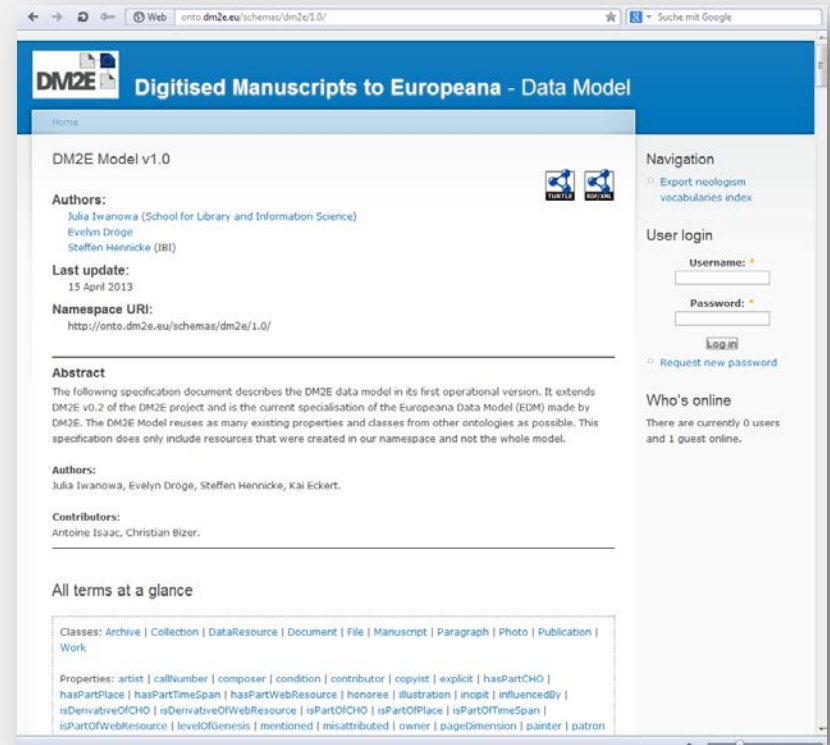
Beispiel: Direkte Integration von Klassen in den EDM-Aufbau

# Das DM2E-Modell

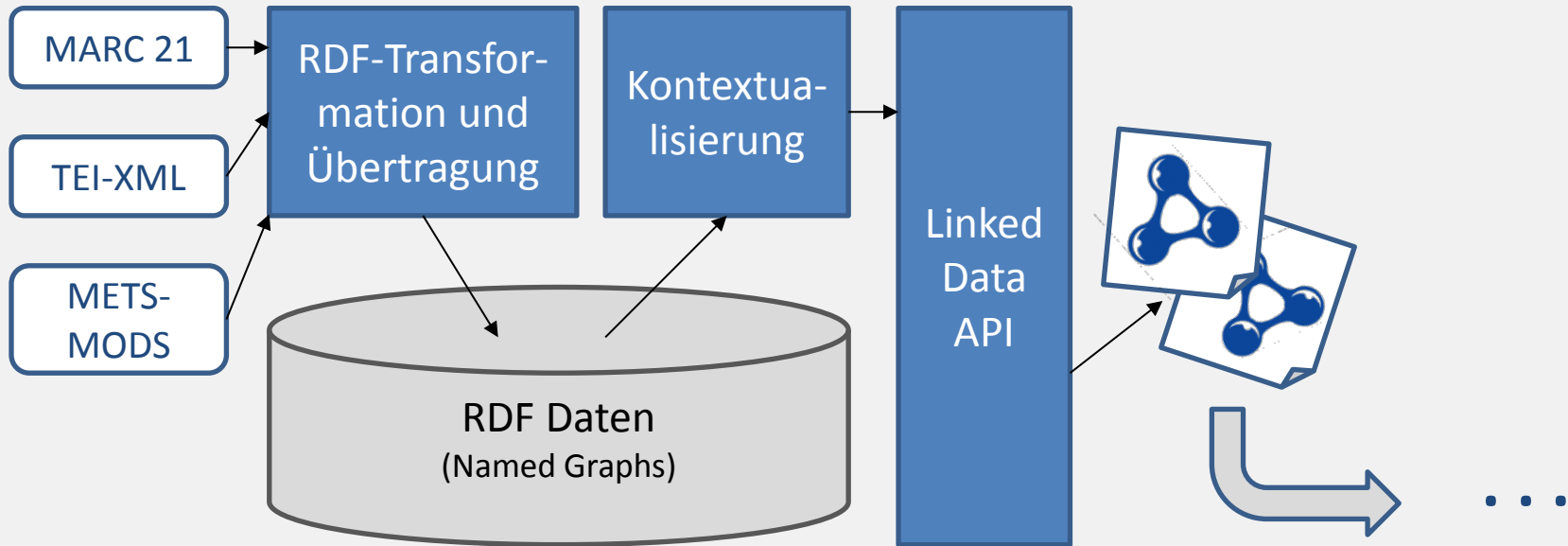
- Namespaces:
  - dm2e: `<http://onto.dm2e.eu/schemas/dm2e/1.0/>` .
  - dm2edata: `<http://data.dm2e.eu/data/>` .
- Nachnutzung externer Ressourcen:
  - Bibliographic Ontology (Bibo), FRBR-aligned Bibliographic Ontology (FaBiO), Publishing Roles Ontology, VIVO Ontology, VoID
- Wie werden sie nachgenutzt?
  - Neue Property: dm2e:scopeNote
  - Originaldefinitionen der nachgenutzten Terme
- Modellierung analog zu EDM (OAI-ORE)
  - Umfangreiche Verwendung von Properties statt Klassen  
Beispiel: 52 neue Properties für `edm:ProvidedCHO`
  - Nach Möglichkeit direkte Nachnutzung externer Ressourcen

## DM2E-Modell: Eine Spezialisierung des EDM für Manuskripte.

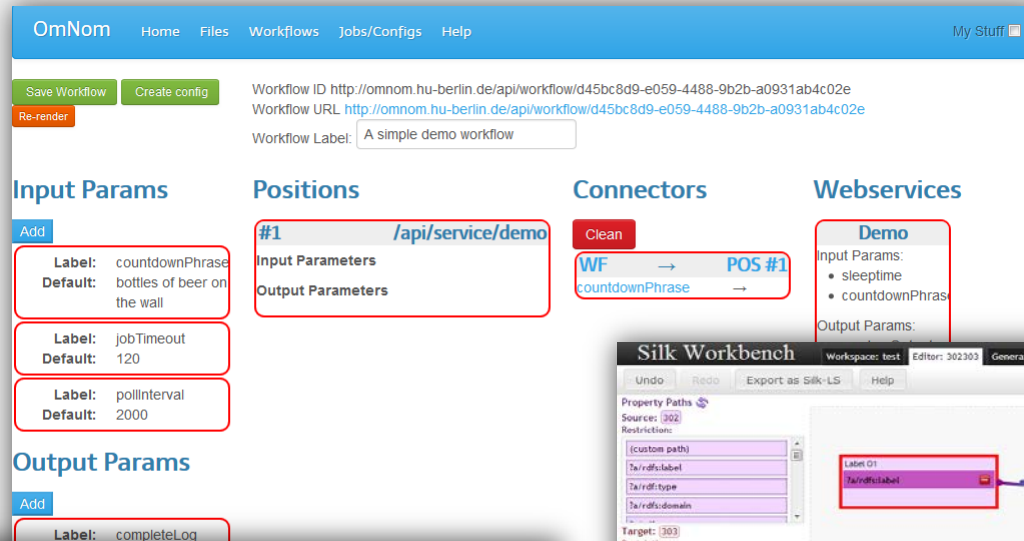
- Stabile Version: 1.0
  - Online: [onto.dm2e.eu/dm2e](http://onto.dm2e.eu/dm2e)
- Modelldokumentation:  
<http://dm2e.eu/document/>
  - Modellbeschreibung (pdf)
  - OWL-Datei
- Weiterentwicklungen in Modellversion 1.1



# Aufbau der Mapping-Infrastruktur



# Der Weg nach Europeana über OmNom



OmNom Home Files Workflows Jobs/Configs Help My Stuff

Save Workflow Create config Re-render

Workflow ID <http://omnom.hu-berlin.de/api/workflow/d45bc8d9-e059-4488-9b2b-a0931ab4c02e>  
Workflow URL <http://omnom.hu-berlin.de/api/workflow/d45bc8d9-e059-4488-9b2b-a0931ab4c02e>  
Workflow Label: A simple demo workflow

**Input Params**

- Label: countdownPhrase  
Default: bottles of beer on the wall
- Label: jobTimeout  
Default: 120
- Label: pollInterval  
Default: 2000

**Output Params**

- Label: completeLog

**Positions**

#1 /api/service/demo

Input Parameters  
Output Parameters

**Connectors**

Clean

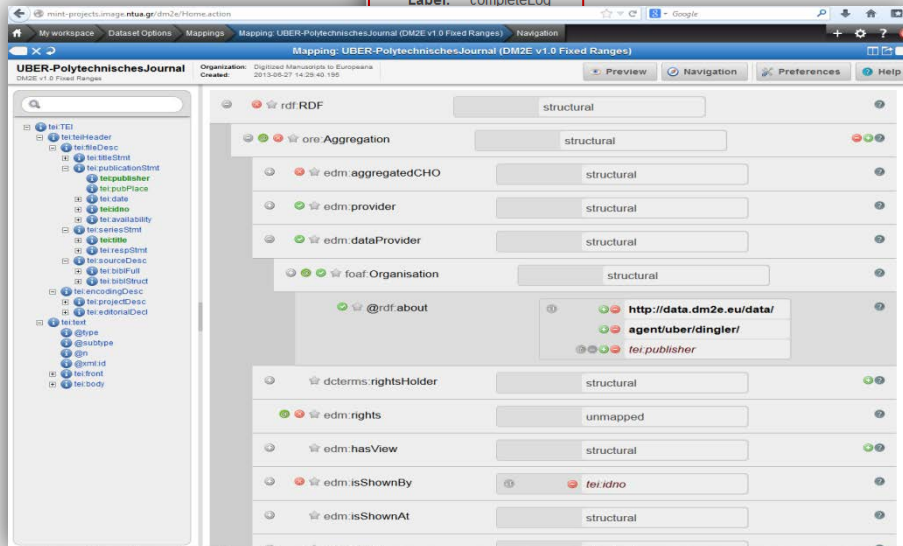
WF → POS #1  
countdownPhrase →

**Webservices**

Demo

Input Params:  
• sleeptime  
• countdownPhras

Output Params:



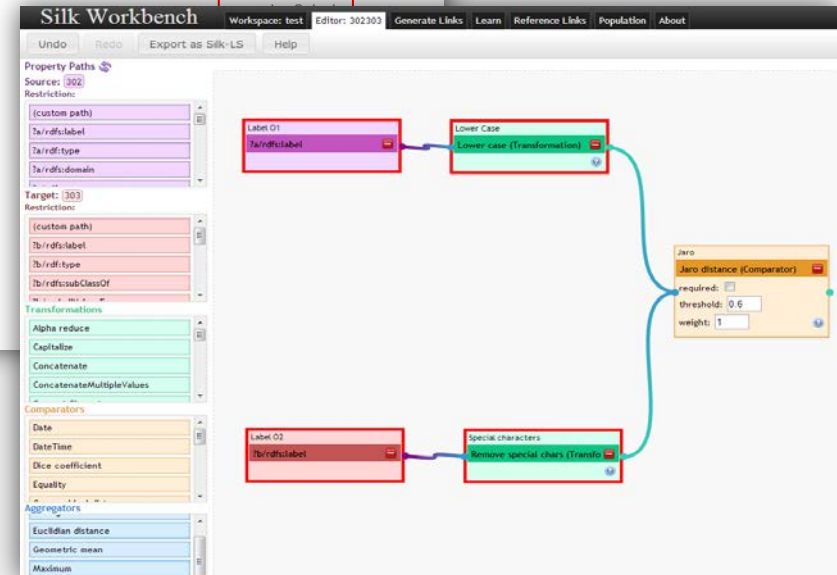
my-workspace Datasets Options Mappings Mapping: UBER-PolytechnischesJournal (DM2E v1.0 Fixed Ranges) Navigation

UBER-PolytechnischesJournal Organization: Digitalisat-Museum für Europeana Created: 2013-05-27 14:29:40.155

rdf RDF structural

oro Aggregation structural

- edm aggregatedCHO structural
- edm provider structural
- edm dataProvider structural
- foaf Organisation structural
- http://data.dm2e.eu/data/ agent/uber/dingler/ tei publisher
- dcterms:rightsHolder structural
- edm:rights unmapped
- edm:hasView structural
- edm:isShownBy tei:tdno structural
- edm:isShownAt structural



Silk Workbench Workspace: test Editor: 302303 Generate Links Learn Reference Links Population About

Undo Redo Export as Silk-LS Help

Property Paths

Source: [302]  
Restriction:  
[custom path]  
/a/rdf:label  
/a/rdf:type  
/a/rdf:domain

Target: [303]  
Restriction:  
[custom path]  
/b/rdf:label  
/b/rdf:type  
/b/rdf:subclassOf

Transformations

- Alpha reduce
- Capitalize
- Concatenate
- ConcatenateMultipleValues

Comparators

- Date
- Date Time
- Dice coefficient
- Equality

Aggregators

- Euclidian distance
- Geometric mean
- Maximum

Workflow diagram showing data flow from Source to Target through transformations and comparators.

# Das Ergebnis: Linked Data

## Ms-114\_17r



URI of this Resource Map: [http://lelystad.informatik.uni-mannheim.de:8080/data/resourcemap/oib/wittgenstein-repo/Ms-114\\_17r](http://lelystad.informatik.uni-mannheim.de:8080/data/resourcemap/oib/wittgenstein-repo/Ms-114_17r)

### Ms-114\_17r

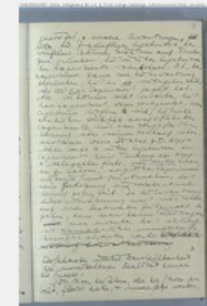
URI: [http://lelystad.informatik.uni-mannheim.de:8080/data/resource/oib/wittgenstein-repo/Ms-114\\_17r](http://lelystad.informatik.uni-mannheim.de:8080/data/resource/oib/wittgenstein-repo/Ms-114_17r)

Property	Value
is <a href="http://www.europeana.eu/schemas/edm/aggregatedCHO">http://www.europeana.eu/schemas/edm/aggregatedCHO</a> of	<ul style="list-style-type: none"><li>&lt;<a href="http://lelystad.informatik.uni-mannheim.de:8080/data/aggregation/oib/wittgenstein-repo/Ms-114_17r">http://lelystad.informatik.uni-mannheim.de:8080/data/aggregation/oib/wittgenstein-repo/Ms-114_17r</a>&gt;</li></ul>
Description	<ul style="list-style-type: none"><li>Page pagename_Ms-114_17r pageref_Ms-114_37 from Wittgenstein Nachlass MS 114: Ms-114.xml - A machine-readable transcription [Work in progress]</li></ul>
Identifier	<ul style="list-style-type: none"><li>Ms-114_17r</li></ul>
is <a href="http://www.europeana.eu/schemas/edm/isNextInSequence">http://www.europeana.eu/schemas/edm/isNextInSequence</a> of	<ul style="list-style-type: none"><li>&lt;<a href="http://lelystad.informatik.uni-mannheim.de:8080/data/resource/oib/wittgenstein-repo/Ms-114_16v">http://lelystad.informatik.uni-mannheim.de:8080/data/resource/oib/wittgenstein-repo/Ms-114_16v</a>&gt;</li></ul>
<a href="http://www.europeana.eu/schemas/edm/isNextInSequence">http://www.europeana.eu/schemas/edm/isNextInSequence</a>	<ul style="list-style-type: none"><li>&lt;<a href="http://lelystad.informatik.uni-mannheim.de:8080/data/resource/oib/wittgenstein-repo/Ms-114_17v">http://lelystad.informatik.uni-mannheim.de:8080/data/resource/oib/wittgenstein-repo/Ms-114_17v</a>&gt;</li></ul>
Is Part Of	<ul style="list-style-type: none"><li>&lt;<a href="http://lelystad.informatik.uni-mannheim.de:8080/data/resource/oib/wittgenstein-repo/Ms-114">http://lelystad.informatik.uni-mannheim.de:8080/data/resource/oib/wittgenstein-repo/Ms-114</a>&gt;</li></ul>
Language	<ul style="list-style-type: none"><li>ger</li></ul>
Same As	<ul style="list-style-type: none"><li>&lt;<a href="http://dm2e.eu/resource/oib/wittgenstein-repo/Ms-114_17r">http://dm2e.eu/resource/oib/wittgenstein-repo/Ms-114_17r</a>&gt;</li></ul>
<a href="http://www.europeana.eu/schemas/edm/type">http://www.europeana.eu/schemas/edm/type</a>	<ul style="list-style-type: none"><li>TEXT</li></ul>
Type	<ul style="list-style-type: none"><li>TEXT</li></ul>
Type	<ul style="list-style-type: none"><li><a href="http://www.europeana.eu/schemas/edm/ProvidedCHO">http://www.europeana.eu/schemas/edm/ProvidedCHO</a></li></ul>





### Ms-114\_17r

URI: [http://lelystad.informatik.uni-mannheim.de:8080/data/aggregation/oib/wittgenstein-repo/Ms-114\\_17r](http://lelystad.informatik.uni-mannheim.de:8080/data/aggregation/oib/wittgenstein-repo/Ms-114_17r)

Property	Value
<a href="http://www.europeana.eu/schemas/edm/aggregatedCHO">http://www.europeana.eu/schemas/edm/aggregatedCHO</a>	<ul style="list-style-type: none"><li>&lt;<a href="http://lelystad.informatik.uni-mannheim.de:8080/data/resource/oib/wittgenstein-repo/Ms-114_17r">http://lelystad.informatik.uni-mannheim.de:8080/data/resource/oib/wittgenstein-repo/Ms-114_17r</a>&gt;</li></ul>
<a href="http://www.europeana.eu/schemas/edm/dataProvider">http://www.europeana.eu/schemas/edm/dataProvider</a>	<ul style="list-style-type: none"><li>Wittgenstein Archives at the University of Bergen (WAB)</li></ul>
<a href="http://www.europeana.eu/schemas/edm/hasView">http://www.europeana.eu/schemas/edm/hasView</a>	<ul style="list-style-type: none"><li>&lt;<a href="http://wab.uib.no/cost-a32_fax/114/Ms-114_17r.jpg">http://wab.uib.no/cost-a32_fax/114/Ms-114_17r.jpg</a>&gt;</li></ul>
<a href="http://www.europeana.eu/schemas/edm/isShownAt">http://www.europeana.eu/schemas/edm/isShownAt</a>	<ul style="list-style-type: none"><li>&lt;<a href="http://wab.uib.no/cost-a32_fax/114/Ms-114_17r.jpg">http://wab.uib.no/cost-a32_fax/114/Ms-114_17r.jpg</a>&gt;</li></ul>
<a href="http://www.europeana.eu/schemas/edm/provider">http://www.europeana.eu/schemas/edm/provider</a>	<ul style="list-style-type: none"><li>Wittgenstein Archives at the University of Bergen (WAB)</li></ul>
Rights	<ul style="list-style-type: none"><li>Copyright holders: The Master and Fellows of Trinity College, Cambridge; Oxford University Press, Oxford; University of Bergen, Bergen. Released under the Creative Commons General Public License Attribution, Non-Commercial, Share-Alike version 3 (CCPL BY-NC-SA).</li></ul>
<a href="http://www.europeana.eu/schemas/edm/rights">http://www.europeana.eu/schemas/edm/rights</a>	<ul style="list-style-type: none"><li>&lt;<a href="http://creativecommons.org/licenses/by-nc/3.0/">http://creativecommons.org/licenses/by-nc/3.0/</a>&gt;</li></ul>
Same As	<ul style="list-style-type: none"><li>&lt;<a href="http://dm2e.eu/aggregation/oib/wittgenstein-repo/Ms-114_17r">http://dm2e.eu/aggregation/oib/wittgenstein-repo/Ms-114_17r</a>&gt;</li></ul>
Type	<ul style="list-style-type: none"><li>Aggregation</li></ul>



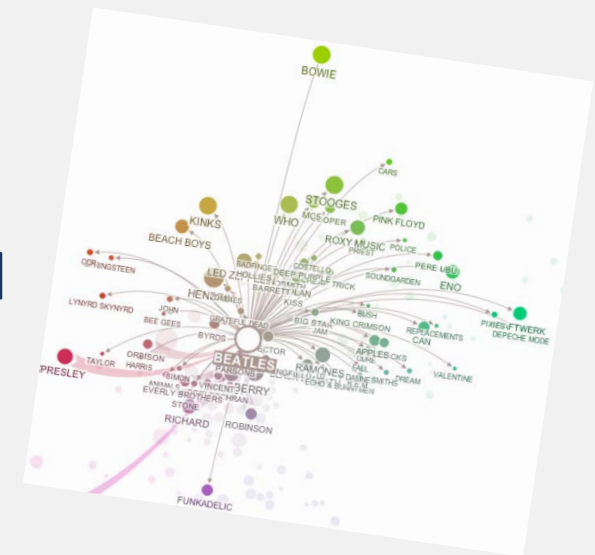
This page shows information obtained from the SPARQL endpoint at <http://lelystad.informatik.uni-mannheim.de:8080/openrdf-sesame/repositories/dm2etest>.

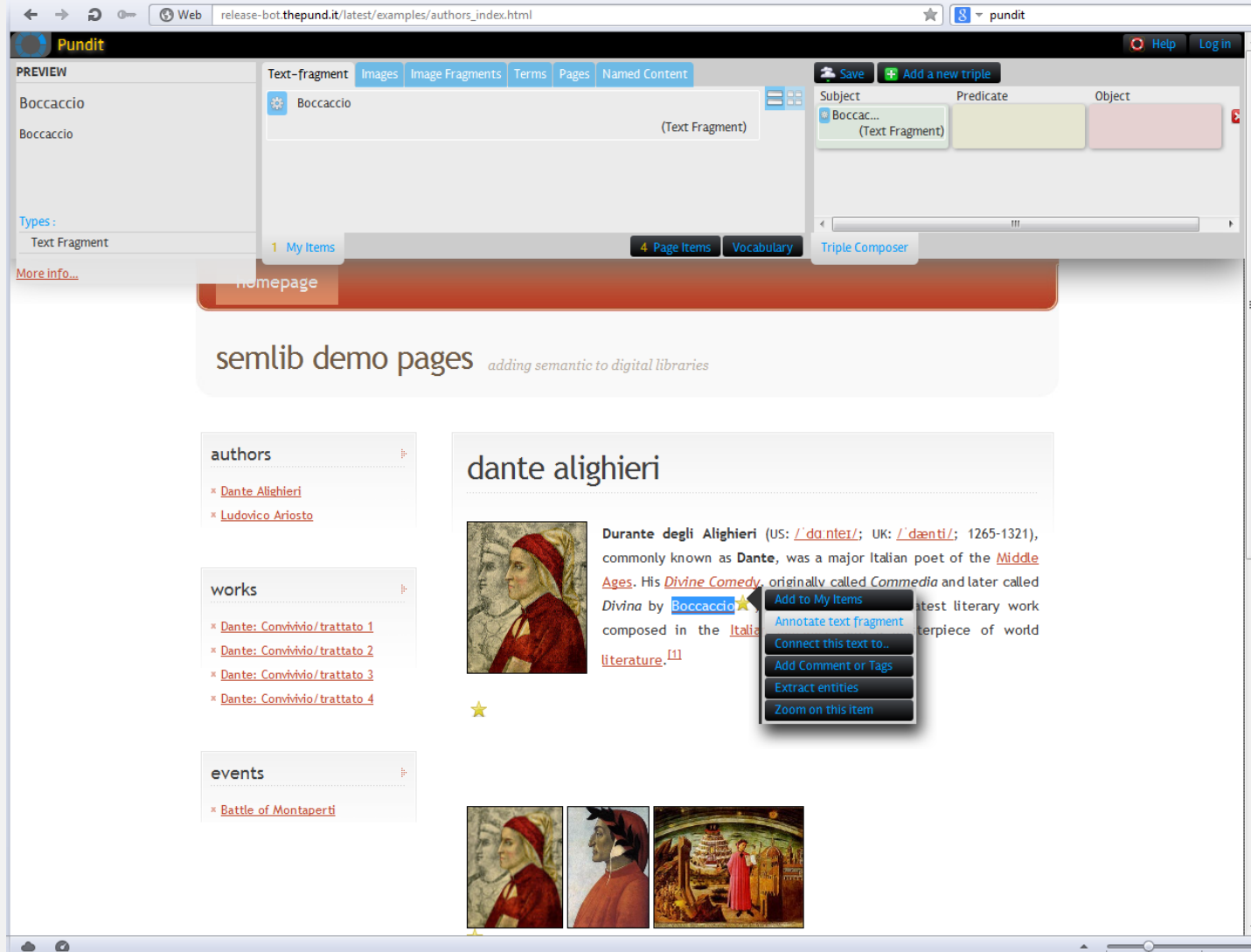
 As Turtle |  As RDF/XML |  Browse in Disco |  Browse in Graphite Browser

# Der nächste Schritt: Pundit

Pundit: Ein web-basiertes Annotationssystem  
<http://www.thepund.it>

- Annotationen von Websites oder Bildern
  - Einteilung in nutzerspezifische Fragmente
  - Annotationen in Form von RDF-Tripeln
- Ergänzungen über andere Vokabulare
- Erstellung von Links zu anderen Dokumenten
- Bereitstellung der RDF-Daten über API
- Visualisierung der RDF-Daten über Edgemaps





The screenshot displays the Pundit web application interface. At the top, a browser window shows the URL `release-bot.thepund.it/latest/examples/authors_index.html`. The Pundit interface includes a navigation menu with options like 'Text-fragment', 'Images', and 'Image Fragments'. A 'Triple Composer' is active, showing a subject 'Boccaccio (Text Fragment)' and a predicate field. Below the browser, the main content area features a 'semilib demo pages' header and a profile for 'dante alighieri'. The profile includes a bio: 'Durante degli Alighieri (US: /ˈdɑːntei/; UK: /ˈdænti/; 1265-1321), commonly known as Dante, was a major Italian poet of the Middle Ages. His *Divine Comedy*, originally called *Commedia* and later called *Divina* by Boccaccio, is the most literary work composed in the Italian language.' A context menu is open over the word 'Boccaccio', offering actions like 'Add to My Items', 'Annotate text fragment', and 'Extract entities'. On the left, there are sections for 'authors' (listing Dante Alighieri and Ludovico Ariosto), 'works' (listing four treatises), and 'events' (listing the Battle of Montaperti).





- DM2E läuft bis Januar 2015
- Was geschieht im Moment?
  - Mapping der Providerdaten
  - Fertigstellung von DM2E-Modell Version 1.1
  - Nutzertests: OmNom und Pundit
  - Datenkontextualisierung



# Vielen Dank für Ihre Aufmerksamkeit!

Evelyn Dröge

Institut für Bibliotheks- und  
Informationswissenschaft

Humboldt-Universität zu Berlin

[www.ibi.hu-berlin.de](http://www.ibi.hu-berlin.de)

Digitised Manuscripts to Europeana

[www.dm2e.eu](http://www.dm2e.eu)

[evelyn.droege@ibi.hu-berlin.de](mailto:evelyn.droege@ibi.hu-berlin.de)



## Literatur

- Berners-Lee, T. (2006). Linked Data - Design Issues. W3C Website. <http://www.w3.org/DesignIssues/LinkedData>. [13.10.2013]
- Heath, T., & Bizer, C. (2011). Linked Data: Evolving the Web into a Global Data Space. Synthesis Lectures on the Semantic Web: Theory and Technology (Bd. 1). Morgan & Claypool.

## Bilder

- Oxygen480-actions-mail-mark-task.svg (Folie 2): <http://commons.wikimedia.org/wiki/File:Oxygen480-actions-mail-mark-task.svg>. Urheber: Nuno Pinheiro et al.
- Projektaufbau (Folie 3): Kai Eckert.
- Europeana Screenshot und Logos (Folien 4, 5 & 8): europeana.eu und Projektseiten.
- Linking Open Data cloud diagram (Folie 6): Richard Cyganiak and Anja Jentzsch. <http://lod-cloud.net/>.
- RDF-Graph (Folie 7): Sam Leon (erstellt mit VUE).
- DM2E-Tools, Logos & Screenshots (Folien 13, 14, 16): Konstantin Baierer, Kai Eckert, Sam Leon, Christian Morbidoni.
- Edgemaps Screenshot (Folie 15): <http://mariandoerk.de/edgemaps/>. Urheber: Marian Dörk.
- Footstep (Folie 17): <http://openclipart.org/detail/left-footprint-by-anonymous>.
- IBI (Folie 18): [http://commons.wikimedia.org/wiki/File:Berlin,\\_Mitte,\\_Dorotheenstrasse,\\_Handelskammer\\_Berlin\\_02.jpg](http://commons.wikimedia.org/wiki/File:Berlin,_Mitte,_Dorotheenstrasse,_Handelskammer_Berlin_02.jpg). Urheber: [Beek100](#).