

CIDOC 2017 Tbilisi, Georgia

Enriching Iconclass LOD with AAT concepts

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**RKD NETHERLANDS
INSTITUTE
FOR ART HISTORY**



RKD Collections

- Art documentation
- Library catalogue
- Archive inventories
- Datasets (web portal RKDexplore)
- Vocabularies:
RKDartists, Iconclass
and Dutch AAT

The screenshot shows the top navigation bar with 'Contact' and 'Producten en diensten' on the left, and 'Zoekhistorie' on the right. The main header features the RKD logo (RKD NEDERLANDS INSTITUUT VOOR KUNSTGESCHIEDENIS) and the 'explore' search bar with the text 'ZOEK IN ALLE DATABASES'. Below the search bar are several colorful buttons for different collections: RKDartists&, RKDimages, RKDportraits, RKDlibrary, RKDarchives, RKDcollect, and RKDcorp.

Over het RKD ▶

- 19de-eeuwse beeldhouwkunst in Nederland
- The Rembrandt Database – Lancering van 17 schilderijen
- Nieuwe editie RKD Bulletin 2014/1
- RKD start crowdfunding om laatste deel van een bijzonder archief te verwerven
- Het RKD en Pyke Koch Stichting bundelen krachten

Logos for various collections and projects are displayed in a grid:

- MONDRIAN.NL
- CODART Dutch and Flemish art in museums worldwide
- A&T nederlandsstalig
- NOA
- Iconologia
- The Rembrandt Database
- NEDERLANDSE FOTOGRAFEN VANAF 1839 www.fotografen.nl



Controlled Vocabularies RKD



RKDartists: biographical info 250.000 persons related to the arts



Dutch AAT: 42.000 generic concepts for heritage collections

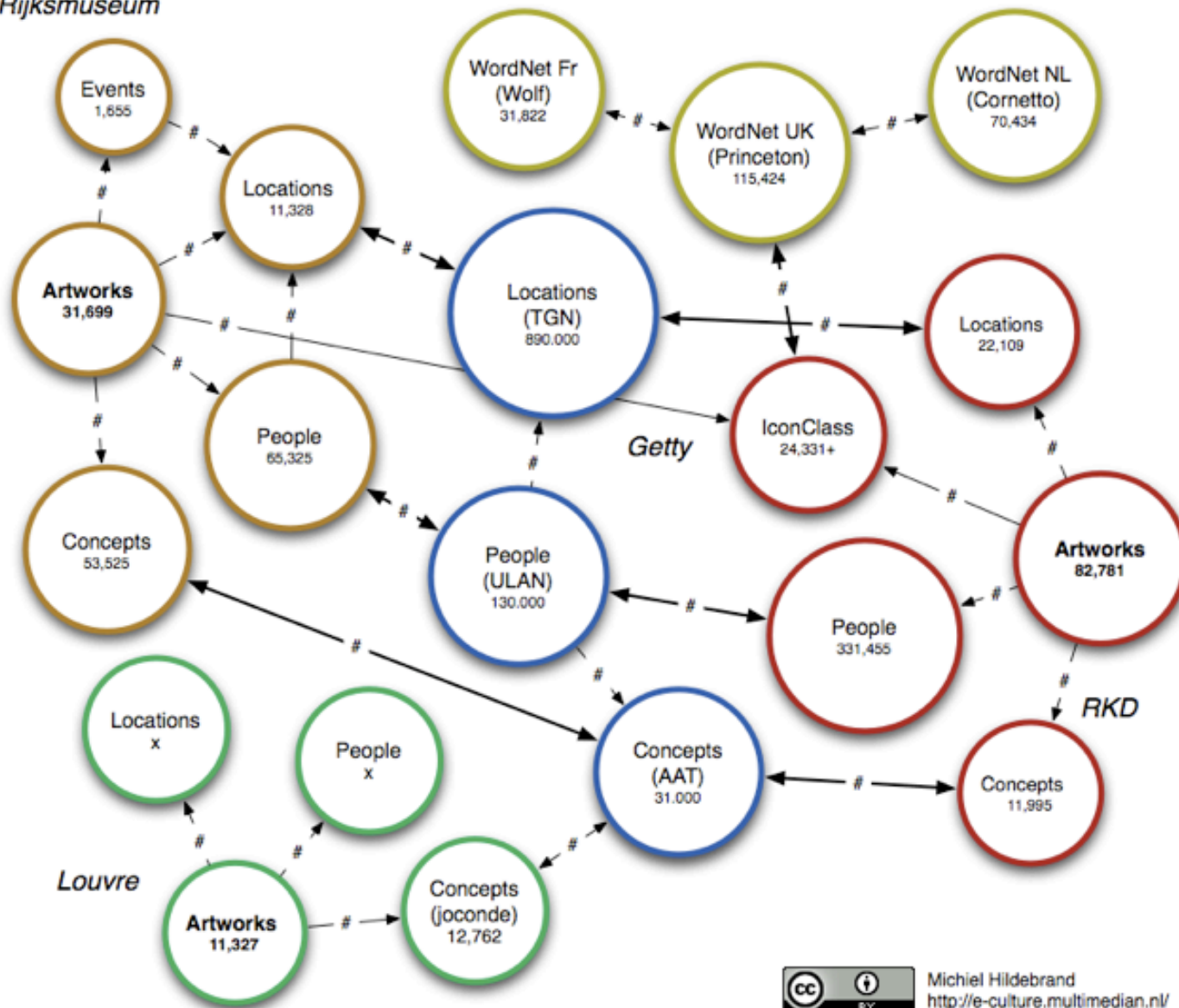


Iconclass: 28.000 classifications for art subjects



- SEMANTIC WEB AND CULTURAL HERITAGE

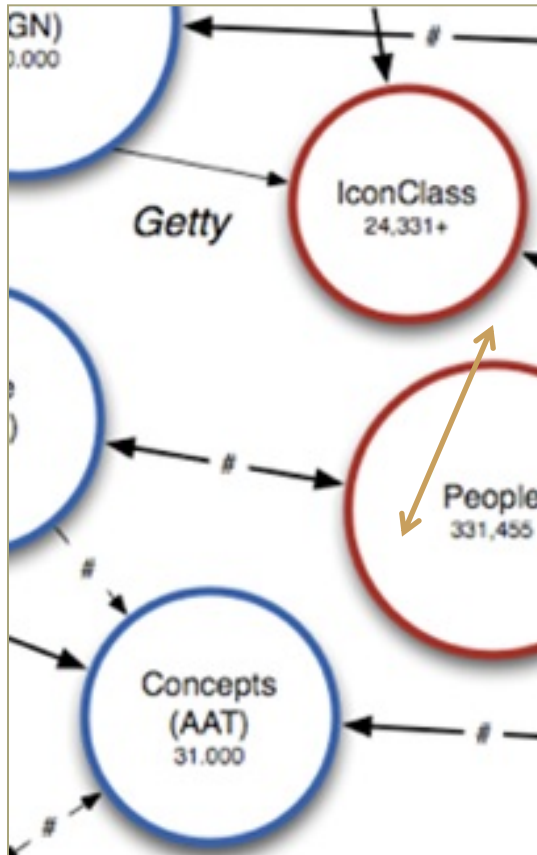
Rijksmuseum



Michiel Hildebrand
<http://e-culture.multimedien.nl/>

Exploring connections

Iconclass and AAT



Questions:

Connect on a concept level?
or
Connect on keyword level?

Data structure issues?

What are the benefits?



a multilingual classification system for cultural content



Henri van der Waal (1910-1972)

Start in 1950's

Computerized editions: 1990-2001 (cd-rom) Online browser 2004. Update in 2009 www.iconclass.org

Alfanumerical codes with text.

Hierarchies like thesaurus

Multilingual

LOD publication (URI, API and full set)



Hierarchical structure

Rembrandt, Portret van een echtpaar als Isaak en Rebecca, 1662-1666

7 – Bible

71 – Old Testament

71C – Genesis: the patriarchs

71C2 – story of Isaac

71C21 – Rebekah (Rebecca) sought in marriage
(Genesis 24)

71C217 – marriage of Isaac and Rebekah

Keys: Eliezer (servant of Abraham) · Genesis · Genesis 24 ·

Isaac · Old Testament · Rebekah · bible · marriage · patriarch

· proposal

Voorbeelden 11H Saints



- Mary Magdalene under female saints
- 11HH(MARY MAGDALENE)(+3) the penitent harlot Mary Magdalene... (+ angel(s))
- Keywords: Christian religion · Mary Magdalene (St.) · angel · book · crown · crown of thorns · crucifix · jar · mirror · musical instrument · ointment · palm-branch · religion · rosary · saint · scourge · scroll · supernatural · whore · woman

Iconclass browser

Iconclass

Options · Help · About

Outline · Edits · **Clipboard**

- 0 Abstract, Non-representational Art
- 1 Religion and Magic
- 2 Nature
- 3 Human Being, Man in General
- 4 Society, Civilization, Culture
- 5 Abstract Ideas and Concepts
- 6 History
- 7 Bible
 - 71 Old Testament
 - 71D Genesis: the story of Joseph
 - 71D1 story of Joseph (part I)
 - 71D12 Joseph sold into slavery and taken to Egypt (Genesis 37:12-35)
Genesis · Genesis 37 · Jacob · Joseph (son of Jacob) · Joseph's brothers · Old Testament · bible · brother

71D125 while Joseph's brothers are eating
to sell Joseph to them

71D126 Joseph on his way to Egypt with
they pass by)





a multilingual classification system for cultural content

JSON

URI: <http://iconclass.org/>....

RDF/SKOS

```
{
  "p": [
    "1",
    "11",
    "11H",
    "11HH",
    "11HH(...)",
    "11HH(MARY MAGDALENE)"
  ],
  "o": [
    "11HH(MARY MAGDALENE) (+3)"
  ],
  "txt": {
    "fr": "Marie Madeleine, pé",
    "en": "the penitent harlot",
    "cn": "the penitent harlot",
    "de": "Maria Magdalena, bü",
    "it": "Santa Maria Maddale",
    "fi": "katuva portto Maris"
  },
  "kw": {
    "fr": [
```

```
<rd:Description rdt:about="http://iconclass.org/11HH%28MARY%20MAGDALENE%29%28%2B3%29"
  <rdf:type rdf:resource="http://www.w3.org/2004/02/skos/core#Concept"/>
  - <skos:prefLabel xml:lang="fr" >
    Marie Madeleine, pécheresse pénitente; attributs possibles : livre (ou rouleau), couronne, couronne d'épi
  </skos:prefLabel>
  - <skos:prefLabel xml:lang="en" >
    the penitent harlot Mary Magdalene; possible attributes: book (or scroll), crown, crown of thorns, crucif
  </skos:prefLabel>
  - <skos:prefLabel xml:lang="de" >
    Maria Magdalena, büßende Prostituierte; mögliche Attribute: Buch (oder Schriftrolle), Krone, Dornenk
  </skos:prefLabel>
  - <skos:prefLabel xml:lang="it" >
    Santa Maria Maddalena prostituta penitente; attributi: corona, corona di spine, crocifisso, flagello, libro
  </skos:prefLabel>
  - <skos:prefLabel xml:lang="fi" >
    katuva portto Maria Magdaleena; mahdolliset attribuutit: kirja (tai kirjakäärö), kruunu, orjantappurakruu
  </skos:prefLabel>
  <skos:inScheme rdf:resource="http://iconclass.org/rdf/2011/09"/>
  <skos:notation>11HH(MARY MAGDALENE)(+3)</skos:notation>
  <skos:narrower rdf:resource="http://iconclass.org/11HH%28MARY%20MAGDALENE%29%28%2B3%29" />
  <skos:broader rdf:resource="http://iconclass.org/11HH%28MARY%20MAGDALENE%29" />
  <dc:subject xml:lang="fr" >Marie Madeleine (Ste)</dc:subject>
  <dc:subject xml:lang="fr" >ange</dc:subject>
  <dc:subject xml:lang="fr" >couronne</dc:subject>
  <dc:subject xml:lang="fr" >couronne d'épines</dc:subject>
  <dc:subject xml:lang="fr" >crucifix</dc:subject>
  <dc:subject xml:lang="fr" >femme</dc:subject>
```

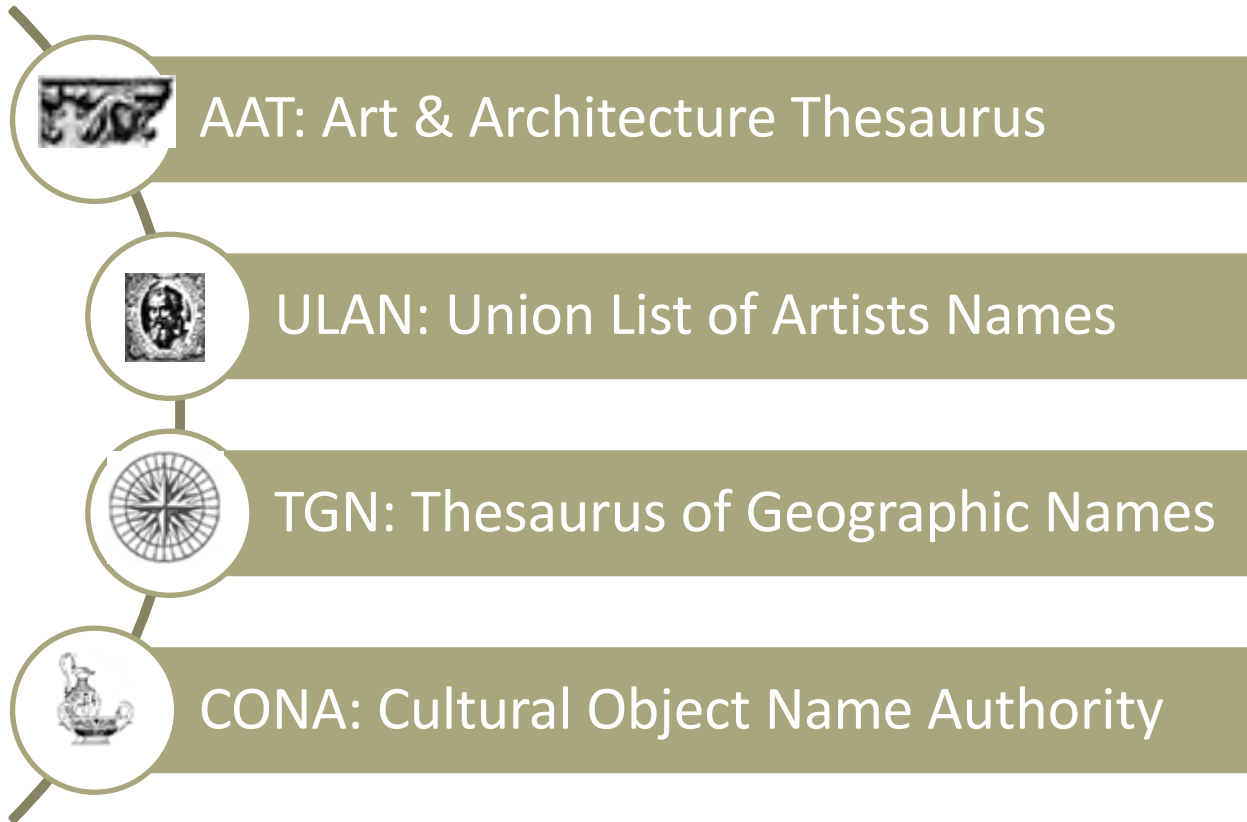

Issues with Iconclass keywords

- They are standardized following some conventions
- But not unique: they are not concepts
- keywords in LOD, are not always symmetrically structured between the language variants.
 - Keyword 1 in French = 'Victoria'
 - Keyword 1 in English = 'idea'

My experiment focussed on mapping the English keywords: no automatic mapping for the other languages.



Getty vocabularies




They are all constructed as thesauri





Art & Architecture Thesaurus® Online

Search Results

 [New Search](#)

[◀ Previous Page](#)

- Developed since **1980**
- **43.000** concepts, and 300.000 terms
- **Generic concepts** for describing objects and images in several languages. **Multi-lingual**
 - No names of persons and unique events
 - ‘Cathedal’ yes, but not ‘Chartres cathedral’ (CONA)
- Strict **editorial control**, validation by sources
- Thesaurus construction follows **ISO 25964**
- **international (even global)** scope



The Art & Architecture Thesaurus

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Search

ID: 300004590

Record Type: [concept](#)

chapels (rooms or structures) (Christian religious building spaces, religious building spaces, ... Components (hierarchy name))

Terms:

chapels (rooms or structures) ([preferred](#),C,U,LC,English-P,D,U,PN)

chapel (room or structure) (C,U,English,AD,U,SN)

chappelle (C,U,English,UF,U,N)

..... documented by the 13th century in English texts

(French,UF,U,N)

chappelle (C,U,English,UF,U,SN)

..... current French spelling, formerly also found in English

(French,AD,U,SN)

cappella (C,U,English,UF,U,SN)

..... current Italian; Medieval English spelling

(Latin,AD,U,SN)

(Medieval Latin,UF,U,SN)

(Italian,AD,U,SN)

kapellen (ruimten of constructies) (C,U,Dutch-P,D,U,U)

kapel (C,U,Dutch,AD,U,U)

chappelles (C,U,French-P,D,U,PN)

Kapellen (Raum oder Gebäude) (C,U,German,D,PN)

Kapelle (Raum oder Gebäude) (C,U,German-P,AD,SN)

cappelle (C,U,Italian-P,D,U,PN)

capillas (habitación o estructura) (C,U,Spanish-P,D,U,PN)

capilla (habitación o estructura) (C,U,Spanish,AD,U,SN)

chappel (H,U,English,UF,U,N)

..... obsolete spelling, used through the 19th century

- Editorial Guidelines
- Getty Vocabularies as Linked Open Data
- Frequently Asked Questions
- ▶ Obtain the Getty

Here you will find a list of the most frequently asked questions about the thesaurus.

AAT@getty.edu

Click here to send a message to the AAT editors.



Getty web service



- The base URI is <http://vocab.getty.edu/>
- SPARQL-endpoint
- Standard presentation is SKOS or SKOS-XL
- Mappings and ontology based on RDF/XML and Turtle
- Published versions of lookup lists e.g., languages, roles, nationalities, place types, and bibliographic sources)

ODC-By licence

This [title or report or article or dataset] contains information from Art & Architecture Thesaurus (AAT)[®] which is made available under the ODC Attribution License



Compare Iconclass - AAT

IC notations (text) can be equivalent to AAT concept, but more often not

- difficult to determine exact meaning and often out of scope

41A71 'furniture to put things on'

Iconclass notation: *47H6 textile fabric, cloth*
mapping with AAT: *cloth* (300162391)

IC keywords for 'textile fabric, cloth':

civilization · cloth · craft · culture · industry · occupations · society ·
textile industry

- These keywords can be mapped well because more standardized and generic!



Mapping keywords to AAT

Civilization

• <http://vocab.getty.edu/aat/300055806>

cloth

• <http://vocab.getty.edu/aat/300162391>

craft

• <http://vocab.getty.edu/aat/300054704>

culture

• <http://vocab.getty.edu/aat/300055768>

industry

• <http://vocab.getty.edu/aat/300055718>

occupations

• <http://vocab.getty.edu/aat/300263369>

society

• <http://vocab.getty.edu/aat/300026009>

textile industry

• **NO MATCH**



Mapping results



Tools: Excel, Open Refine, Cultuurlink

When removing duplicates from the keywords. The result was about: 35% matches overall

CULTUURLINK Upload source Select target Edit strategy Export

1. Data Source >
2. Filter source >
3. Create mapping >
4. Filter mapping >
5. Combine >
6. Select candidate >

String match

rdfs:label
rdfs:label
nl
nl
snowball-dutch

String fuzzy match

rdfs:label
rdfs:label
nl
nl
nl
1

String match

rdfs:label
rdfs:label
nl
nl
snowball-dutch

language: ANY String match NOTA NOTB RESULT 883 concepts search

id	skos:prefLabel	skos:altLabel
1 http://data.cultureelerfgoed.nl/semnet/0021d008-2f04-4583-b119-8311d71e59d	Geblazen bitumen (nl)	

When Using Cultuurlink for the full set: the percentage rose to around 50%

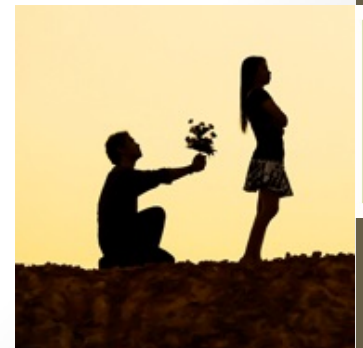
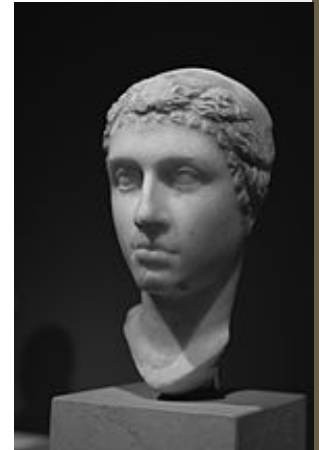
Mapping results 2

Named entities do not match!

Cleopatra, Arthur, Ophelia, Odin, Mars, Paris, Marseille

iconographical (biblical) subjects do not match (often)
'Man of Sorrows', 'hand of God' and 'Jacob's ladder'

Unusual compound terms do not match
apparent death', 'love unrequited' and 'not too poor, not too rich'



IC-AAT Linked Data

4 | civilization = <http://vocab.getty.edu/aat/300055806>

4 | culture = <http://vocab.getty.edu/aat/300055768>

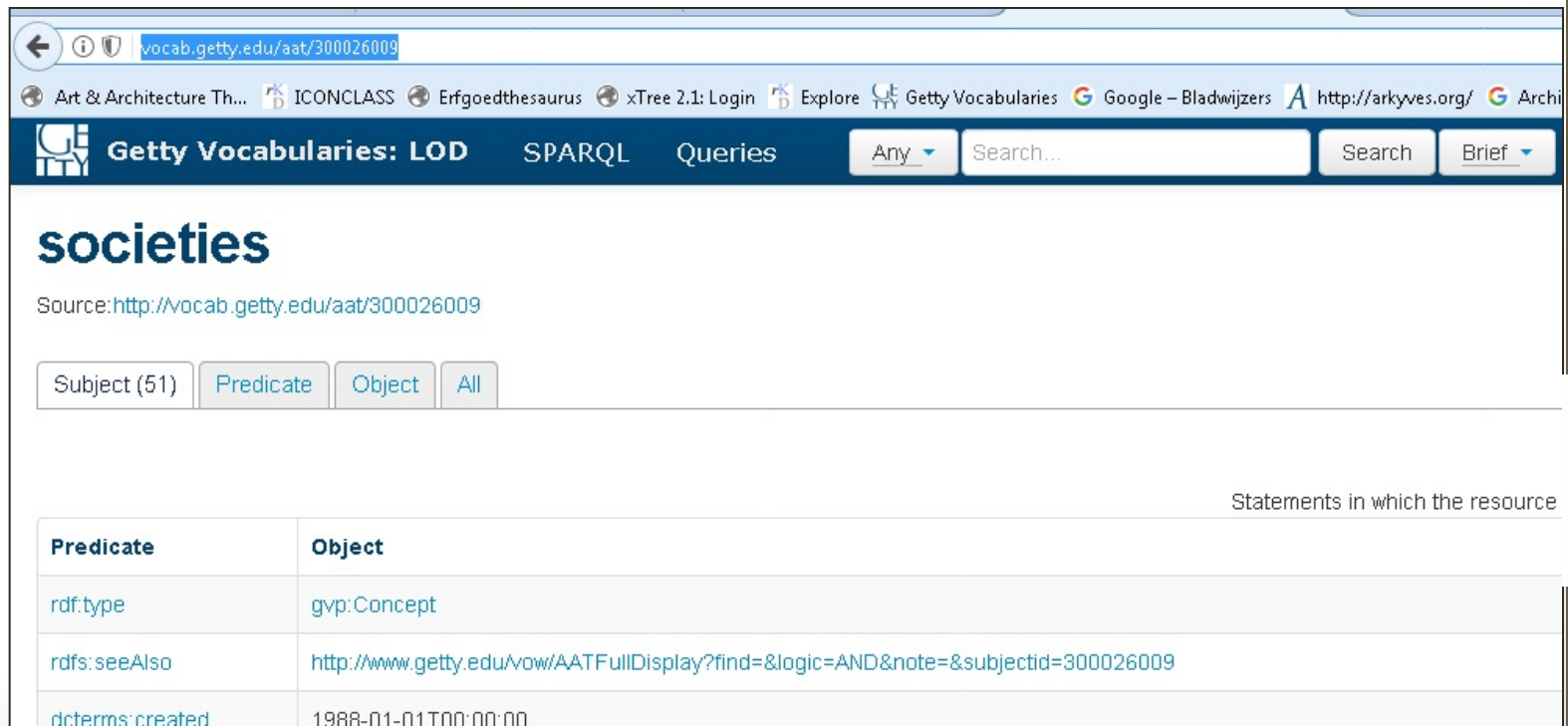
4 | society = <http://vocab.getty.edu/aat/300026009>

41 | materiality = <http://vocab.getty.edu/aat/>

41A | housing = <http://vocab.getty.edu/aat/>

41A1 | architecture = <http://vocab.getty.edu/aat/>

41A1 | civil architecture = <http://vocab.getty.edu/aat/>

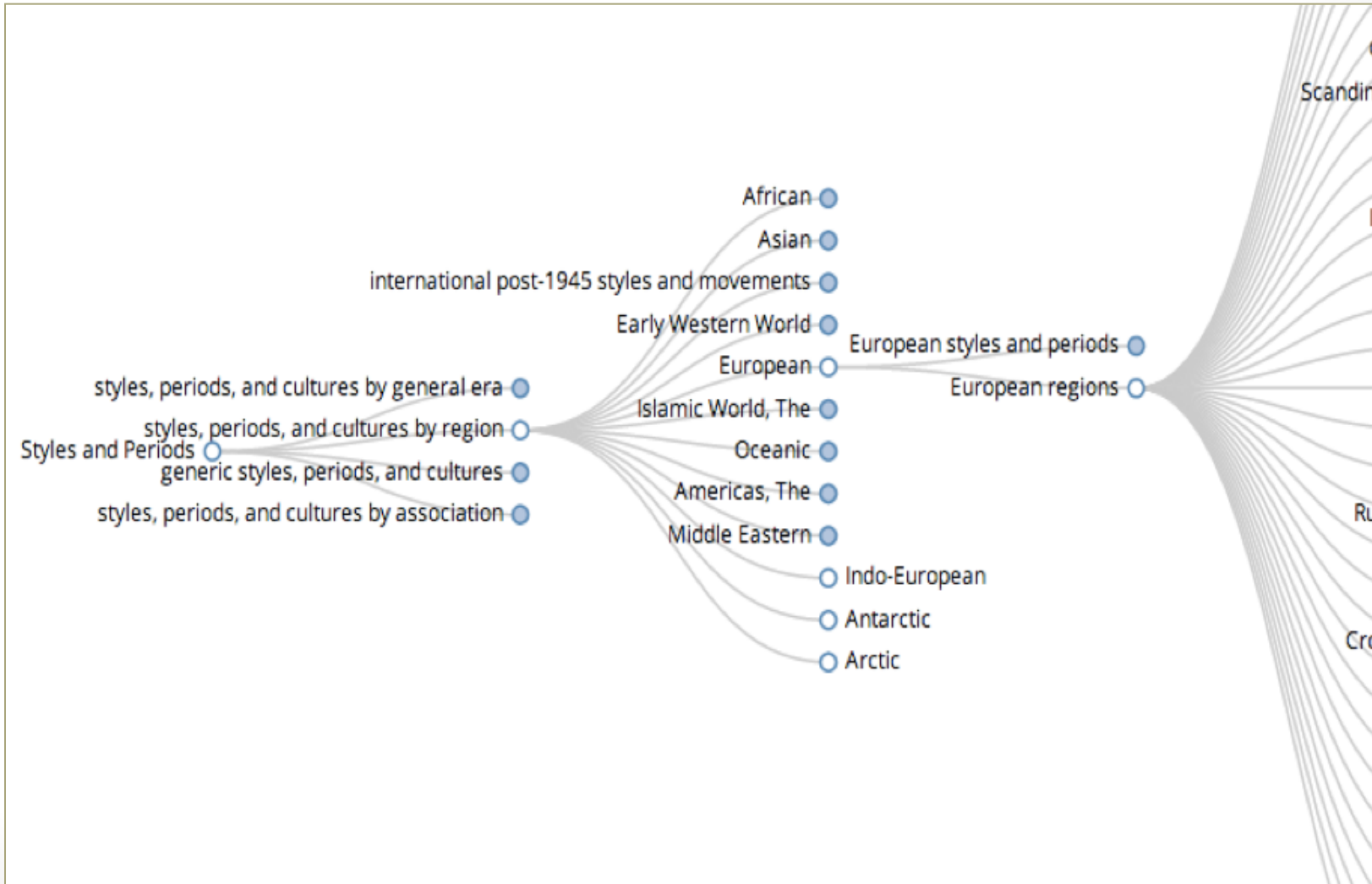


The screenshot shows a web browser window displaying the Getty Vocabularies LOD SPARQL interface. The address bar shows the URL <http://vocab.getty.edu/aat/300026009>. The page title is "societies" and the source is <http://vocab.getty.edu/aat/300026009>. The interface includes a search bar with the text "Any" and a search button. Below the search bar, there are tabs for "Subject (51)", "Predicate", "Object", and "All". The main content area displays a table of statements in which the resource is used. The table has two columns: "Predicate" and "Object".

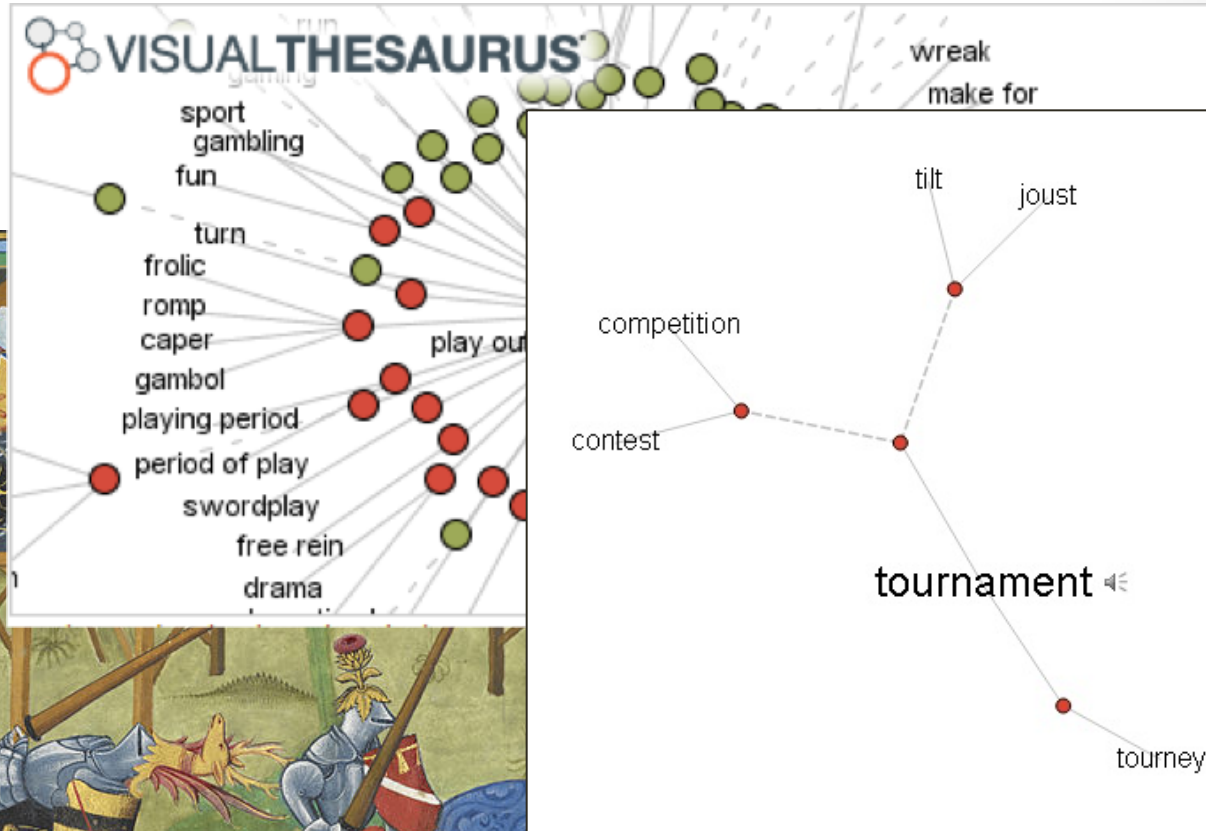
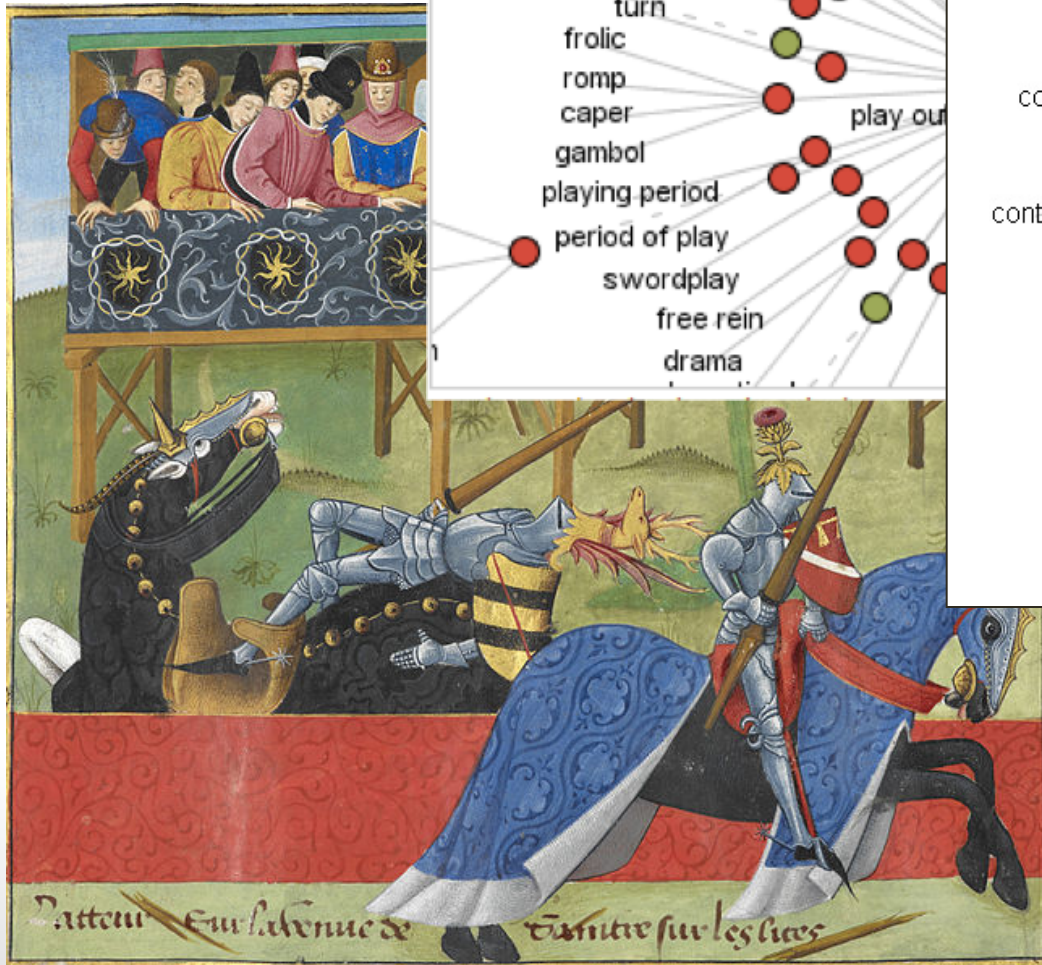
Predicate	Object
rdf:type	gvp:Concept
rdfs:seeAlso	http://www.getty.edu/vow/AATFullDisplay?find=&logic=AND&note=&subjectid=300026009
dcterms:created	1988-01-01T00:00:00



Possible value



End user visualization



Wikidata?

Thank you for listening!

RKDexplore <https://rkd.nl/en/>

Iconclass

<http://www.iconclass.org>

LOD <http://www.iconclass.org/help/lod>

Getty vocabularies

<http://www.getty.edu/research/tools/vocabularies/index.html>
LOD <http://vocab.getty.edu/>

Open Refine <http://openrefine.org/>

Cultuurlink <http://cultuurlink.beeldengeluid.nl/app/#/>

