

europeana
think culture

SKOS – An Overview

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Webinar “Vocabularies as a Service”

October 15, 2015



Knowledge Organization Systems

- Classification systems
- Thesauri
- Subject heading lists
- Gazetteers
- Etc...



Instrument Keywords / Hornbostel & Sachs Classification

Harpsichord

Language

Pivot language

Translations

- German : [Cembalo](#)
- Swedish : [Cembalo](#)
- French : [Clavecin](#)
- Italian : [Clavicembalo](#)
- English : [Harpsichord](#)
- Dutch : [Klavecimbel](#)

Broader Terms



Art & Architecture Thesaurus® Online
Full Record Display

[New Search](#)

[Previous Page](#)

[Help](#)

Click the icon to view the hierarchy.

[Semantic View \(JSON, RDF, N3/Turtle, N-Triples\)](#)

ID: 300198626

Record Type: concept

hourglasses (sandglasses, <timepieces by form>, ... Furnishings and Equipment (Hierarchy Name))

Note: Sandglasses for which one hour is required for the given quantity to fall from the upper to the lower vessel.

Terms:

- hourglasses ([preferred](#), C,U,English-P,D,U,PN)
- hourglass (C,U,English,AD,U,SN)
- hour-glasses (C,U,LC,English,UF,U,N)
- uurglazen (C,U,Dutch-P,D,U,U)
- uurglas (C,U,Dutch,AD,U,U)
- reloj de las horas (C,U,Spanish-P,D,U,PN)
- reloj de arena (C,U,Spanish,AD,U,SN)

Facet/Hierarchy Code: V.TN

Hierarchical Position:

- Objects Facet
 - Furnishings and Equipment (Hierarchy Name) (G)
 - Measuring Devices (Hierarchy Name) (G)
 - measuring devices (instruments) (G)
 - <measuring devices for extent> (G)
 - timepieces (G)
 - <timepieces by form> (G)
 - sandglasses (G)
 - hourglasses (G)

Additional Notes:

Dutch Zandlopers die één uur nodig hebben om de beschikbare hoeveelheid zand van het bovenste naar het onderste glas te laten stromen.

Spanish Relojes de arena que necesitan una hora para que la cantidad determinada caiga del recipiente superior al inferior.



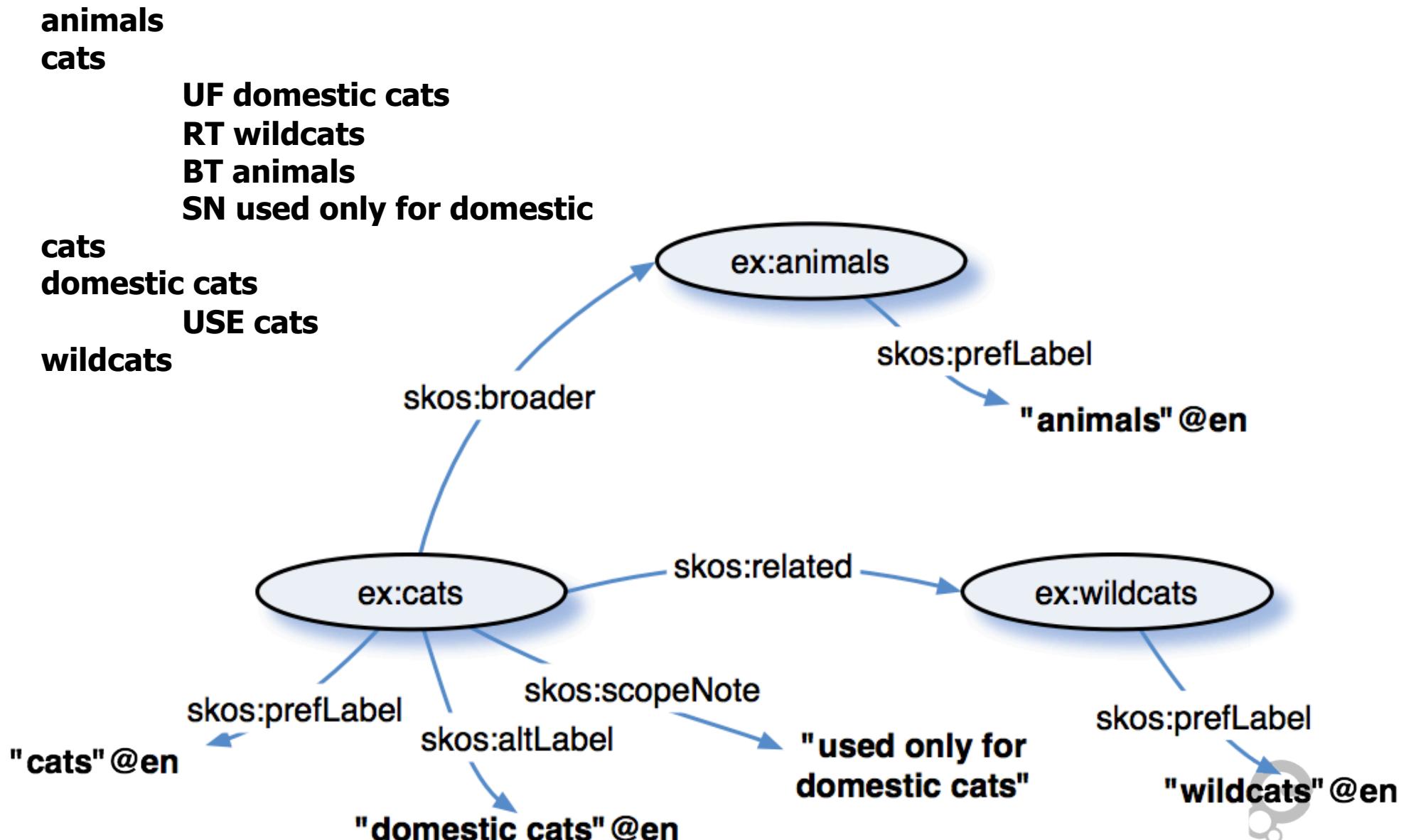
Simple Knowledge Organization System

SKOS is for exchanging KOSs as Linked Data (in RDF)

- Better than semi-structured data (CSV)
- Still relatively *simple*



A SKOS RDF graph



Representing formal semantics

The formal way: OWL Semantic Web ontology language

Used for ontologies that enable machine reasoning

Mother is a class

Parent is the class of entities of type **Person** that are related to at least one other resource of type **Person** using the **child** property

...



Do we want to represent every vocabulary as a formal ontology?

It is possible, but not easy

→ KOS are large

→ KOS have “soft” semantics

Parent RelatedTerm **Child**

→ KOS have a focus on terminological information

Child UsedFor **Offspring**

Softer semantics can be useful for many applications!





Using SKOS in Europeana



Europeana - a platform to access European culture

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New exhibition : Leaving Europe
Why did 50 million Europeans emigrate to America in the 19th/20th centuries? This exhibition of rarely seen pictures tells their story.
[Open Exhibition](#)

From the blog

Marseille, the Capital of Culture and a Giraffe
This weekend, Marseille celebrates its status as a European Capital of Culture. There are parties and events all weekend, so if you're in the south

Poisonous Nature
Did you know that potatoes are poisonous? Or holly? Or centipedes? 'Poisonous Nature' is an online exhibition from a Europeana partner

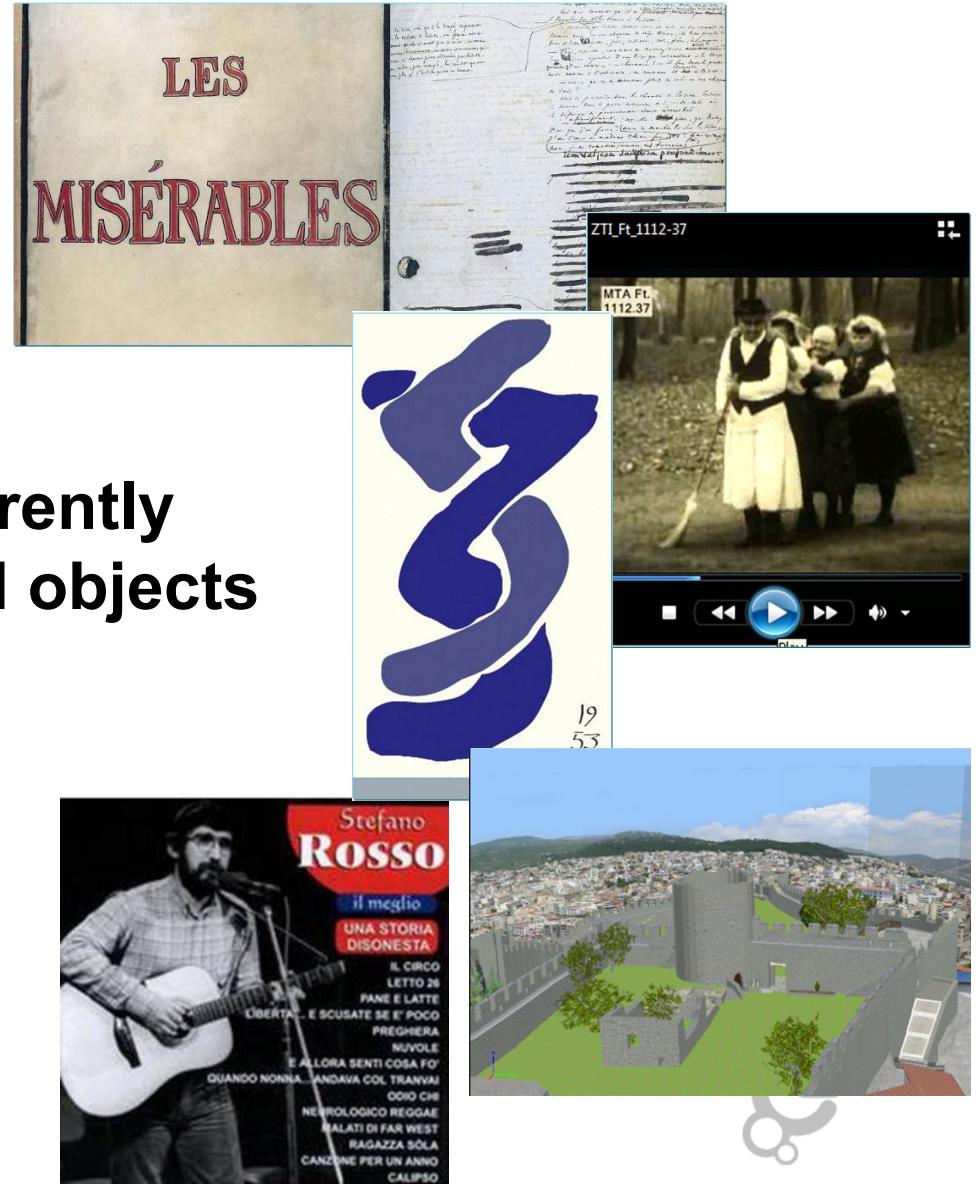
Featured Item

Church of the Assumption
The church of Virgin Mary's Assumption is located at the district of Panagia (Virgin Mary), in the old city of Kavala, between the

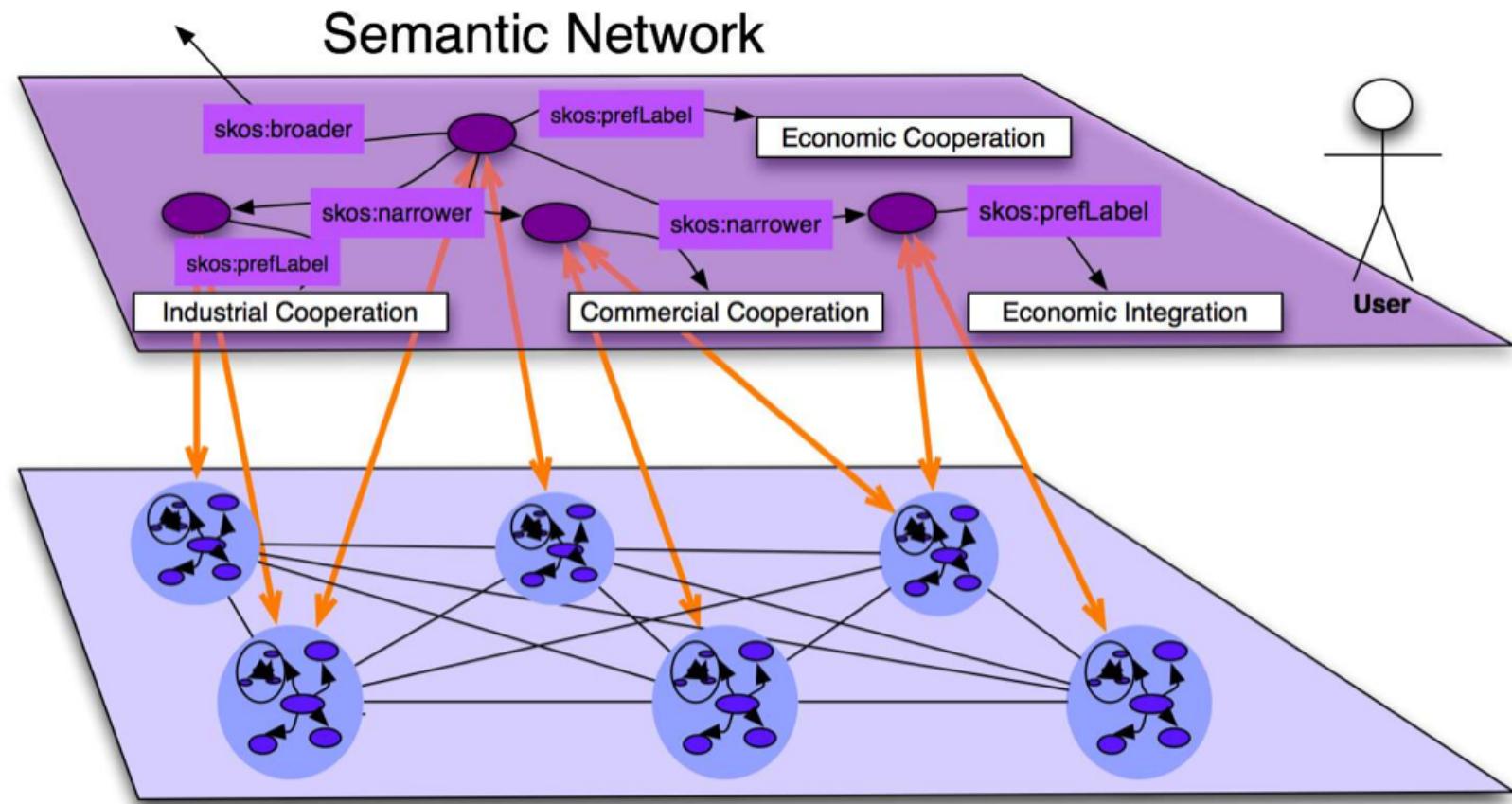
Featured Partner

Hellenic Educational Television
Hellenic Educational Television aims to provide educators and students with the opportunity of using available video content. Through Europeana explore over 600 educational videos from Hellenic

Currently
44M objects



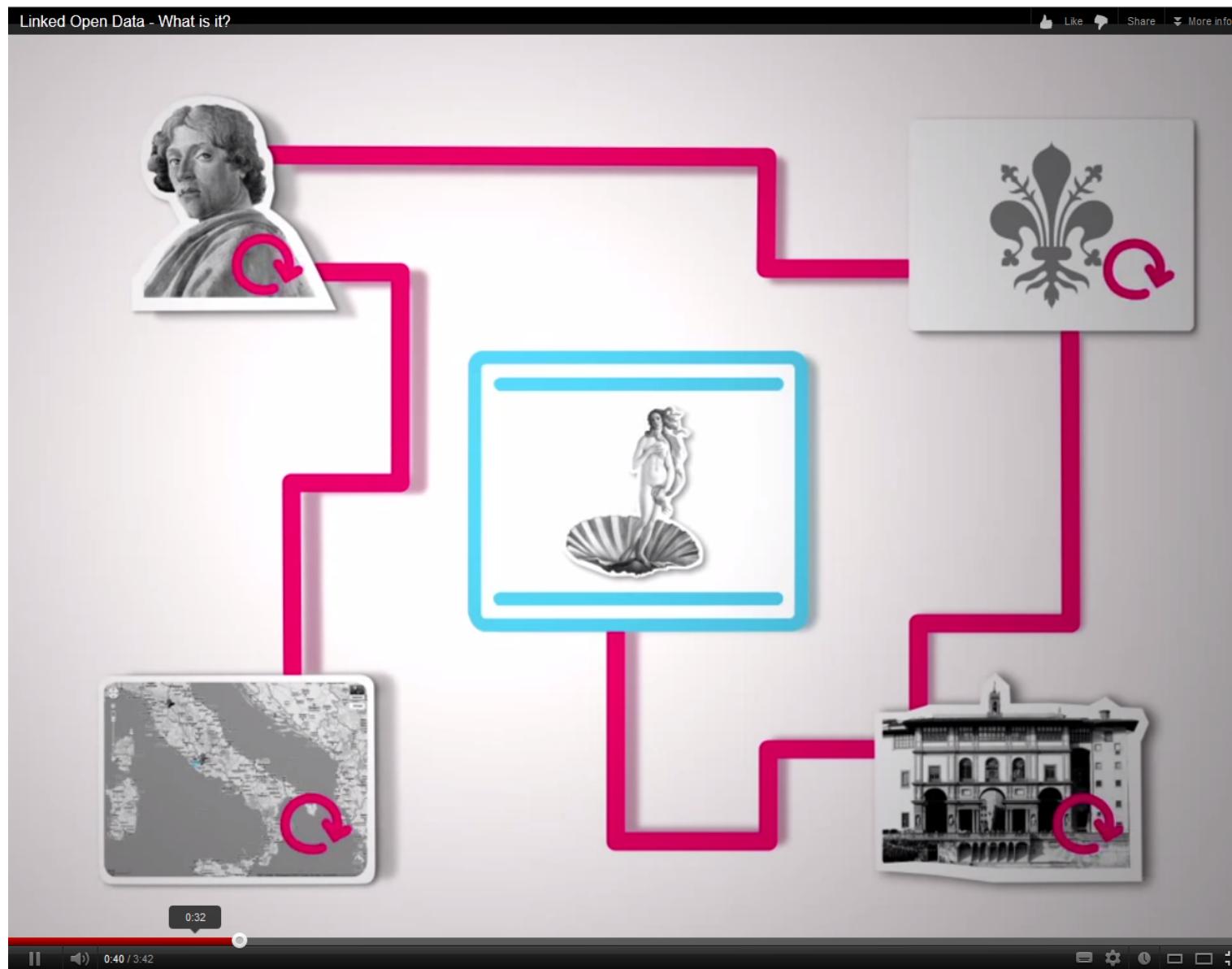
Europeana and KOSs



→ Create a “semantic layer” on top of cultural heritage objects

From: Stefan Gradmann

Linked Open Data



<http://vimeo.com/36752317>

Benefits of using contextual resources

- Allows to present users with richer context
- Fuels multilingual search & display



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[Katholieke Universiteit Leuven
- Faculteit Psychologie en
Pedagogische
Wetenschappen](#) ↗

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 Translate details

Select language ▾

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Apparaat van Molteni

Alternative Title:
Appareil Molteni

Description:
projectoren (beeldprojectoren);

toverlantaarns;

Meting: Een instrument om afbeeldingen te projecteren.;

Fysieke beschrijving: Een lamp van 1000 Watt kan in de hoogte en in de breedte versteld worden door draaiknoppen ...;

Werking: Het projectiemateriaal wordt in de gleuf tussen de kamer en de lenzen geschoven en wordt verlicht door de ...

Creator:
[Radiguet & Massiot; Molteni, Alfred](#)

Type:
projectors (image projectors); projector (image projector); magic lanterns; lanterns, magic

Format:
messing; hout

Multilingual & semantic linked data for concepts

```
<skos:Concept rdf:about="http://vocab.getty.edu/aat/300211124">
    <skos:prefLabel xml:lang="en">magic lanterns</skos:prefLabel>
    <skos:prefLabel xml:lang="nl">toverlantaarns</skos:prefLabel>
    <skos:prefLabel xml:lang="de">Laterna magica</skos:prefLabel>
    <skos:prefLabel xml:lang="es">linternas mágicas</skos:prefLabel>
    <skos:broader rdf:resource="http://vocab.getty.edu/aat/300211119">
</skos:Concept>
```



Vocabularies currently provided to Europeana

Upload Vocabulary	Vocabulary Mapping
	6
Name	URL
MIMO-General	http://www.mimo-db.eu/
MIMO-Person	http://www.mimo-db.eu/
AAT Subjects	http://vocab.getty.edu/aat/
GeonamesVersion2	http://sws.geonames.org/
IconClass concepts	http://iconclass.org/
GNDSubjectHeadingsSensoStricto	http://d-nb.info/gnd
GNDDifferentiatedPerson	http://d-nb.info/gnd
Israel Museum Jerusalem	http://www.imj.org.il/imagine/thesaurus/objects/
Dismarc Format	http://purl.org/dismarc/ns/dmFormats/
GNDTerritorialCorporateBodyOrAdministrativeUnit	http://d-nb.info/gnd
WWI Data Europeana from Loc	http://data.europeana.eu/concept/loc
VIAF	http://viaf.org/viaf/
Israel Museum Jerusalem objects	http://www.imj.org.il/imagine/thesaurus/objects
GNDRoyalMemberofARoyalHouse	http://d-nb.info/gnd
GNDCorporateBody	http://d-nb.info/gnd
EAGLE_vocabulary	http://www.eagle-network.eu/voc/material/skos/
Dismarc Genres	http://purl.org/dismarc/ns/dmGenres/
Sounds genres	http://data.europeana.eu/concept/soundgenres/
PartagePlus	http://partage.vocnet.org/



Automatic semantic metadata enrichment



[View](#)

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View item at
[Les Arts Décoratifs, Paris, France](#)

 Share

 Cite on Wikipedia

 Translate details

Select language ▾

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Oiseau

Type:

bird

Rights:

©Photo Les Arts Décoratifs/photo Jean Tholance, tous droits réservés

Data provider:

[Les Arts Décoratifs, Paris, France](#)

Provider:

moteur Collections ; France

Providing country:

France

Auto-generated tags ▾**What ▾****Concept Term:**

<http://www.eionet.europa.eu/gemet/concept/912>

Concept Label:

[ptice, ptiči (Aves)] (sl); [vtáky] (sk); [fugle] (da); [hegazti] (eu); [pasăre] (ro); [uccelli] (it); [kuş] (tr); [għasfur] (mt); [fugl] (no); [madár] (hu); [putns] (lv); [طير] (ar); [paukštis] (lt); [pták] (cs); [Vogel] (de); [πουλί] (el); [bird, 鸟] (def); [linnut] (fi); [ptaki] (pl); [aves (taxonomia)] (pt); [Птица] (bg); [fåglar] (sv); [oiseau] (fr); [bird] (en); [птица] (ru); [lind] (et); [aves] (es); [vogels] (nl)

Concept Broader Label:

Broader concept: <http://www.eionet.europa.eu/gemet/concept/1798>

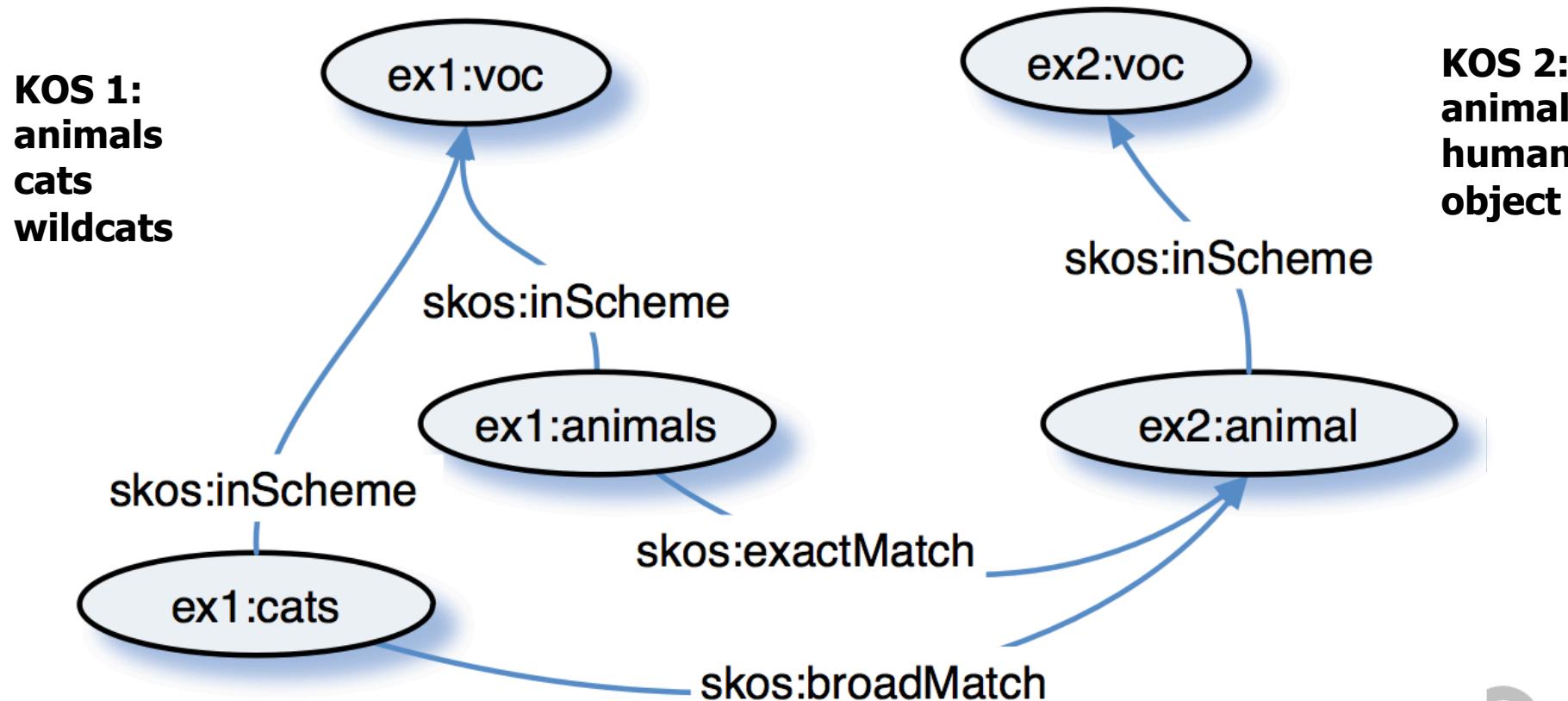
Broader concept: [vertebrate](#)



Beyond simple SKOS



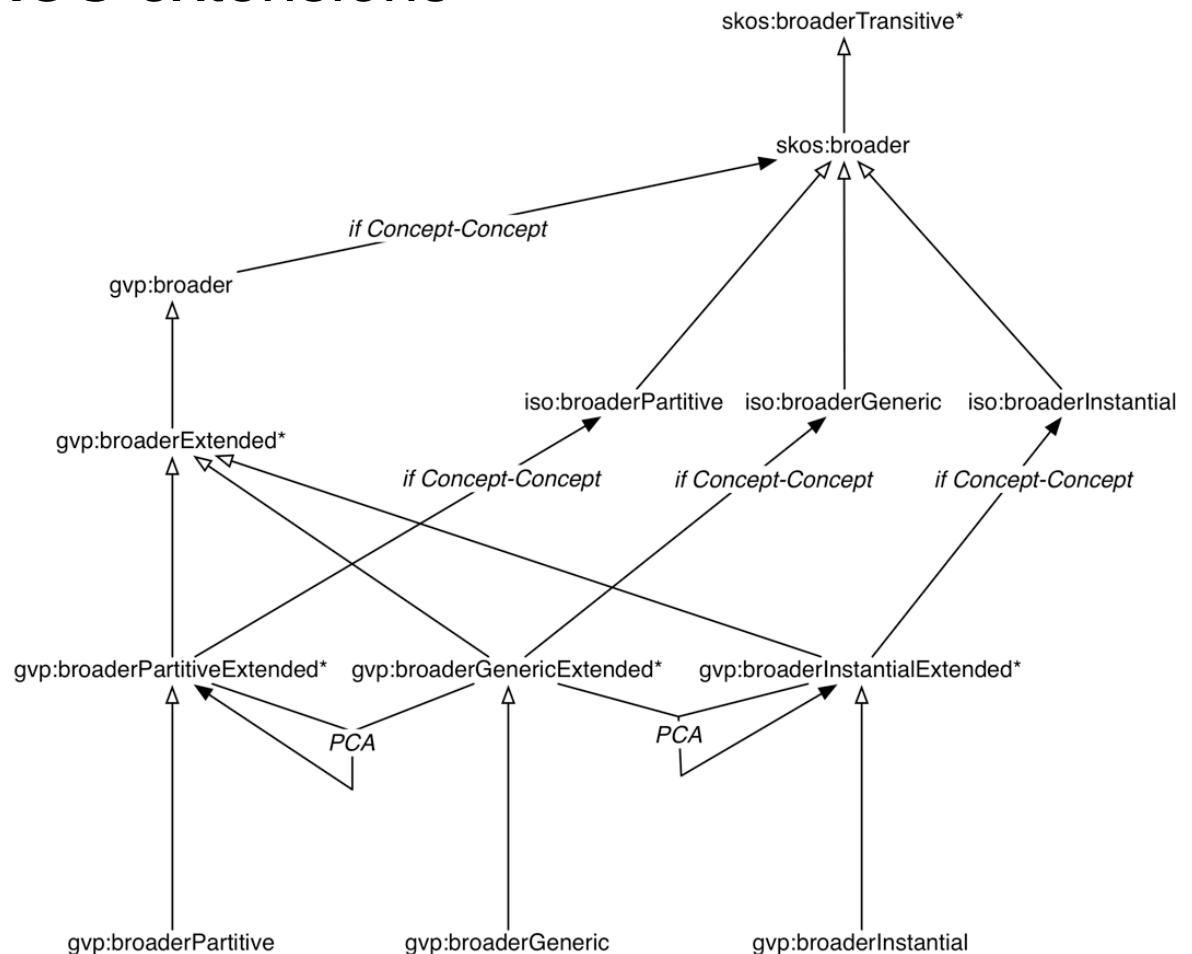
KOS alignments



Finer-grained semantics

More precise relationships and formal semantics for query expansion or data validation

ISO 25964 and Getty SKOS extensions



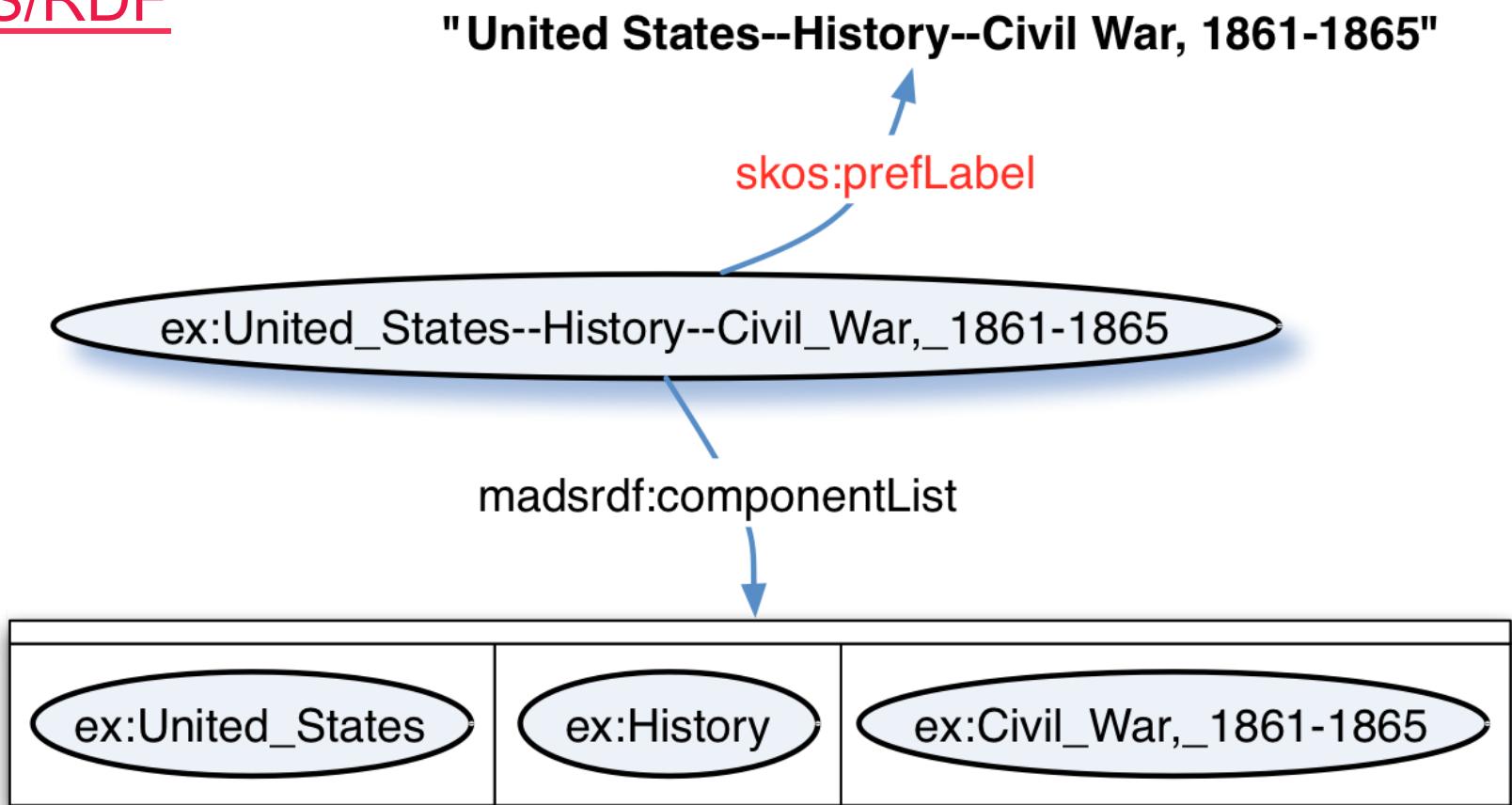
Finer-grained semantics

Depth level in classifications, concept associations

XKOS

Pre-coordinated strings

MADS/RDF



Finer-grained semantics?

Finer-grained semantics can be useful, but core models are key

- What most people start using
- Where most of the interoperability benefits lie



→ Application scenarios



Searching/Browsing

▼ works created by person who died in (3)



De Nederlanden door ...
Mauger, Jean



Huwelijk van Lodewij...
Molard, Michel



Vrede van Munster
Molard, Michel

▼ works created by person who was born in (74)



Zuidelijk landschap ...
Asselijn, Jan



Zuidelijk landschap ...
Asselijn, Jan



Rustende jagers in e...
Asselijn, Jan



Heuvelachtig landschap
Asselijn, Jan



Zuid

▼ works showing person who was born in (11)



Crabbetje
Rembrandt Harmensz. ...



Crabbetje
Rembrandt Harmensz. ...



Crabbetje
Rembrandt Harmensz. ...



Crabbetje
Rembrandt Harmensz. ...



Remb

Europeana Entity Autocompletion - demo

Language English

delete query

Moza|

Wolfgang Amadeus Mozart
agent[w=154597,e=5428]

Leopold Mozart
agent[w=4630,e=62]

Franz Xaver Wolfgang Mozart

europeana music

our sites EN

◀ go back

description

Johannes Sebastian Bach

Composer
1685 - 1750

Johann Sebastian Bach (31 March [O.S. 21 March] 1685 – 28 July 1750) was a German composer and musician of the Baroque period. He enriched established German styles through his skill in counterpoint, harmonic and motivic organisation, and the adaptation of rhythms, forms, and textures from abroad, particularly from Italy and France. Bach's compositions include the Brandenburg Concertos, the Goldberg Variations, the Mass in B minor, two Passions, and hundreds of cantatas. His music is revered for its technical command, artistic beauty, and intellectual depth.



Johannes Sebastian Bach
National Library of France
France

Born: 31 March 1685,
Eisenach, Germany
Died: 28 July 1750,
Leipzig, Germany
Period: Baroque
Influenced by: Georg Böhm,
Richard Wagner,
Anton Bruckner

Bach was born in Eisenach, Saxe-Eisenach, into a great musical family. His father, Johann Ambrosius Bach, was the director of the town musicians and all of his uncles were professional musicians. His father probably taught him to play the violin and harpsichord, and his brother, Johann Christoph Bach, taught him the clavichord and exposed him to much contemporary music. Apparently at his own initiative, Bach attended St. Michael's School in Lüneburg for two years. After graduating he held several musical posts across Germany. He served as Kapellmeister (director of music) to Leopold, Prince of Anhalt-Köthen, Cantor of the Thomasschule in Leipzig, and Royal Court Composer to Augustus III. Bach's health and vision declined in 1749, and he died on 28 July 1750. Modern historians believe that his death was caused by a combination of stroke and pneumonia.

Bach's abilities as an organist were respected throughout Europe during his lifetime, although he was not widely recognised as a great composer until a revival of interest and performances of his music in the first half of the nineteenth century. He is now generally regarded as one of the greatest composers of all time.

related items



Description/Annotation

Pundit

homepage

semilib demo pages adding semantic annotations

authors

- Dante Alighieri
- Ludovico Ariosto

works

- Dante: Convivio/trattato_1
- Dante: Convivio/trattato_2
- Dante: Convivio/trattato_3
- Dante: Convivio/trattato_4

events

- Battle of Montaperti

dante alighieri

masterpiece

Image Annotation Panel

Dante was born in [Florence, Italy](#). The exact date of Dante's birth is not known, although it is generally believed to be around 1265. This can be deduced from autobiographic allusions in [La Divina Commedia](#), "the Inferno" (Halfway through the journey we are living, implying that Dante was around 35 years old, as the average lifespan according to the Bible during that time was 70 years and as the human soul only lives in

Annotations

- By Christian Morbidoni on 2012-11-22
- By Simone Fonda on 2012-12-10
- By Christian Morbidoni on 2012-11-30
- By Christian Morbidoni on 2012-12-11
- By Christian Morbidoni on 2012-12-11
- By Simone Fonda on 2013-01-18
- By Francesca Di Donato on 2013-02-01
- By Simone Fonda on 2012-12-11
- By Simone Fonda on 2013-02-05
- By Simone Fonda on 2013-01-08
- By Christian Morbidoni on 2012-11-29
- By Simone Fonda on 2012-12-11
- By Marco G. on 2012-12-20
- By Simone Fonda on 2012-12-10
- By Marco G. on 2012-12-20

Created by: Marco G.

Vocabulary Services

<https://vocabs.and.org.au/>

Research Vocabularies Australia

About Get Involved ▾ My Vocabs Login

Search for a vocabulary or a concept

Australian and New Zealand Standard Research Classification: Fields of Research widgetable

Acronym: ANZSRC-FOR
Publisher Australian Bureau of Statistics Created: 2015-09-21 [f](#) [t](#) [g](#)

current version
2008

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 Access apiSparql
 Access sissvoc

The Australian and New Zealand Standard Research Classification: Fields of Research allows research and development (R&D) activity to be categorised according to the methodology used in the R&D, rather than the activity of the unit performing the R&D or the purpose of the R&D. The categories in the classification include major fields and related sub-fields of research and emerging areas of study investigated by businesses, universities, tertiary institutions, national research institutions and other organisations. This classification allows the categorisation of fields of research activity within Australia and New Zealand.

For more information, visit <http://www.abs.gov.au/AUSSSTATS/abs@.nsf/Latestproducts/1297.0Contents12008>

Languages
English

Top Concepts

Browse

- AGRICULTURAL AND VETERINARY SCIENCES (8)
 - FORESTRY SCIENCES (11)
 - FISHERIES SCIENCES (7)
 - CROP AND PASTURE PRODUCTION (9)
 - ANIMAL PRODUCTION (8)
 - AGRICULTURE, LAND AND FARM MANAGEMENT (9)
 - OTHER AGRICULTURAL AND VETERINARY SCIENCES (3)
 - HORTICULTURAL PRODUCTION (6)
 - VETERINARY SCIENCES (13)
- INFORMATION AND COMPUTING SCIENCES (8)
- ENVIRONMENTAL SCIENCES (4)

Plugged with the Poolparty editor

Seamless data exchange from one to the other

The screenshot shows the Poolparty editor interface with the following components:

- Left Sidebar:** A tree view of the "Geographical Thesaurus HN" structure. It includes categories like "Free Concepts", "Regions", "Places", and "Institutions (0)".
- Institutions Section:** A detailed view of the "Institutions" section. It lists "Institutions", "Project", "Concept Scheme", "Free Concepts", "Concept", "Import", and "Export". A context menu is open over the "Concept" item, with "Create Narrower Concept..." highlighted.
- Right Panel:** A detailed view of the "Institutions" concept. It shows tabs for "SKOS", "Metadata", "Linked Data", and "Triples".
 - SKOS Tab:** Contains sections for "Broader Concepts" (with a search icon) and "Narrower Concepts" (with a search icon). A sub-menu is open under "Narrower Concepts" with options: "Create Narrower Concept...", "SKOS", "Metadata", "Linked Data", "Triples", and "Visualization".
 - Metadata Tab:** Shows sections for "Concepts" (with a search icon), "Matching Concepts" (with a search icon), and "Close Matching Concepts" (with a search icon).
 - Linked Data Tab:** Shows sections for "Concepts" (with a search icon), "Matching Concepts" (with a search icon), and "Close Matching Concepts" (with a search icon).
 - Triples Tab:** Shows sections for "Concepts" (with a search icon), "Matching Concepts" (with a search icon), and "Close Matching Concepts" (with a search icon).



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Thank you

Antoine Isaac

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