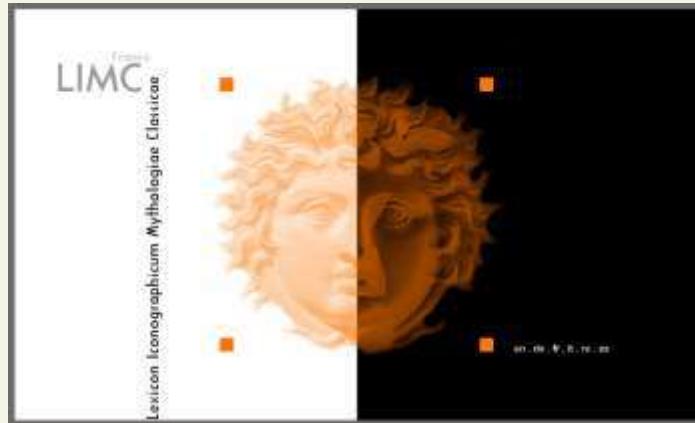


FROM THE LIMC VOCABULARY TO LOD

Current and Expected Uses of the Multilingual Thesaurus *TheA*



Anne-Violaine SZABADOS

(CNRS UMR7041–ArScAn, LIMC & ESPRI)

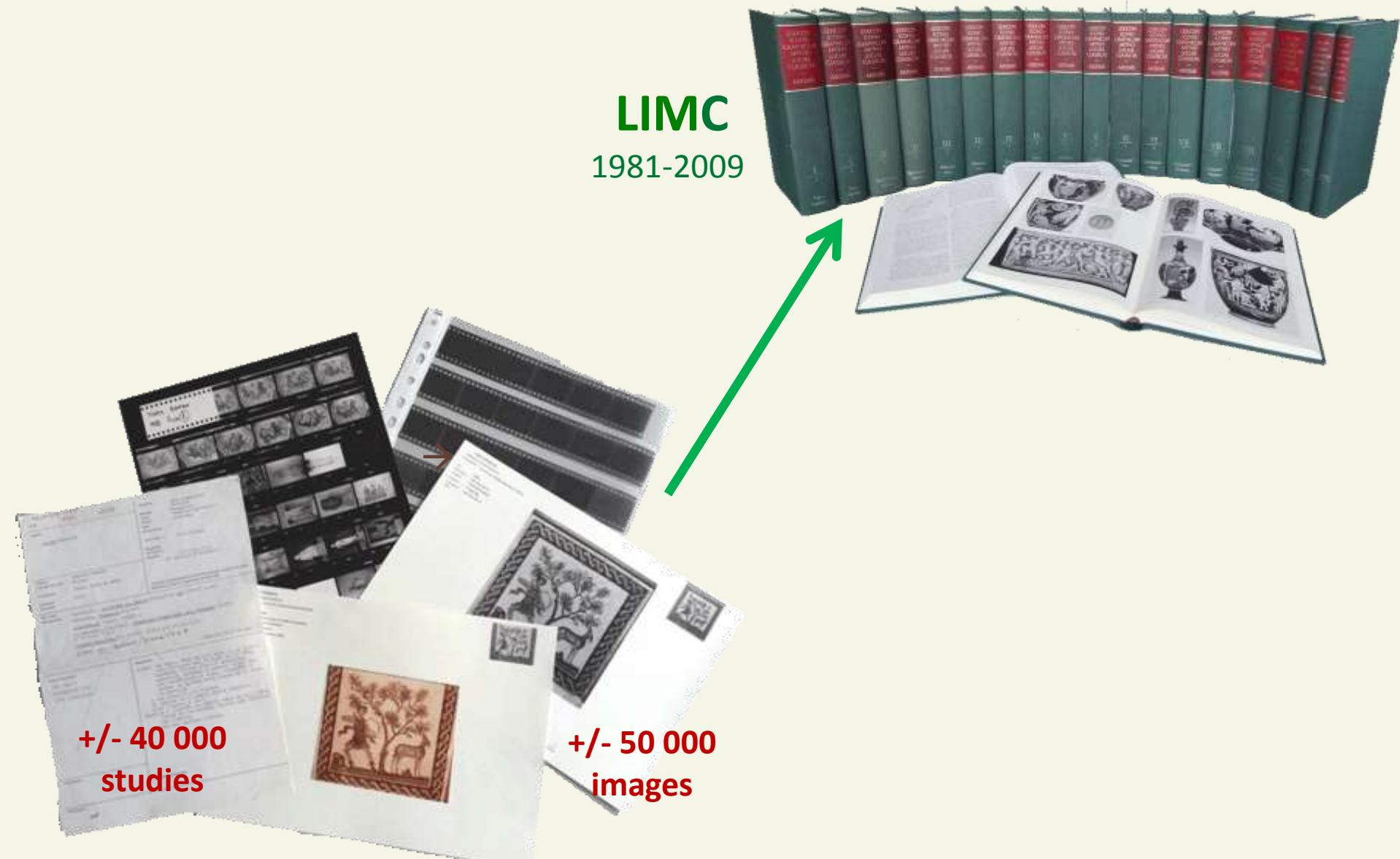
EAGLE 2014
*International Conference on Information Technologies
for Epigraphy and Digital Cultural Heritage
in the Ancient World*

École Normale Supérieure
29-09-2014



- Why the need for a controlled vocabulary ?
- 1.3 – From a controlled vocabulary to a standards-compliant thesaurus
 - 1.3.1 – SKOS-compliant
 - 1.3.2 – Some principles of *TheA*
 - 1.3.3 – Envisaged improvements
 - 1.3.4 – ISO 25964-compliant
- 1.4 – Linked Data : opening new ways
 - 1.4.1 – Multilingualism
 - 1.4.2 – Gazetteer
 - 1.4.3 – Periods and other experiments

1.2 - Why the need for a controlled vocabulary ?



LIMC-France

1.2 - LIMC-France : databases - TheA - a Web site -

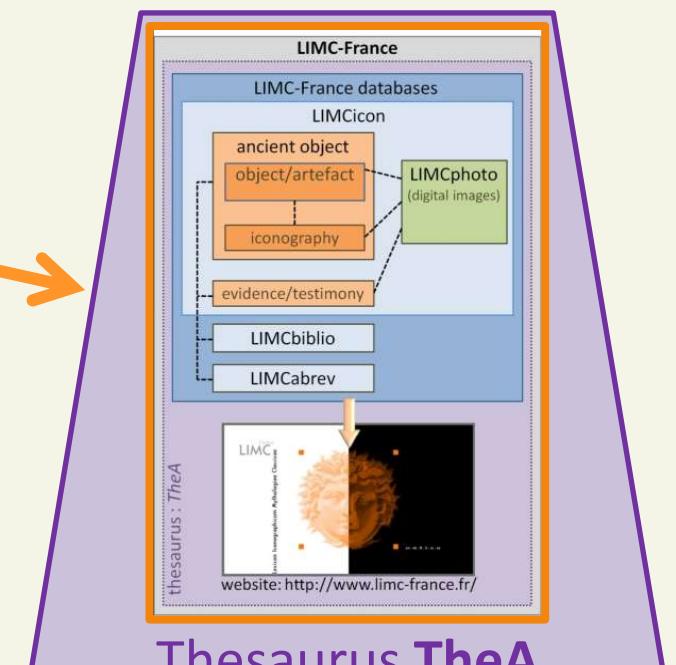
LIMC



+/- 40 000
studies

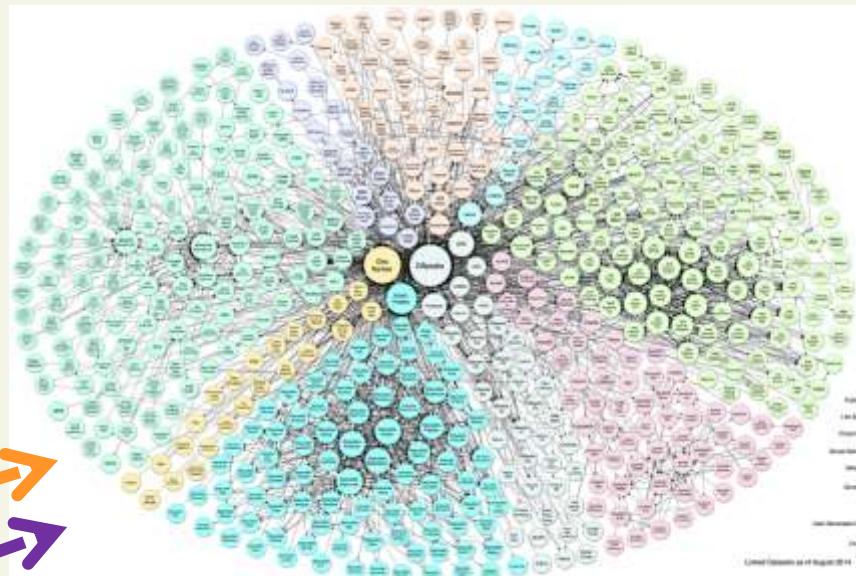
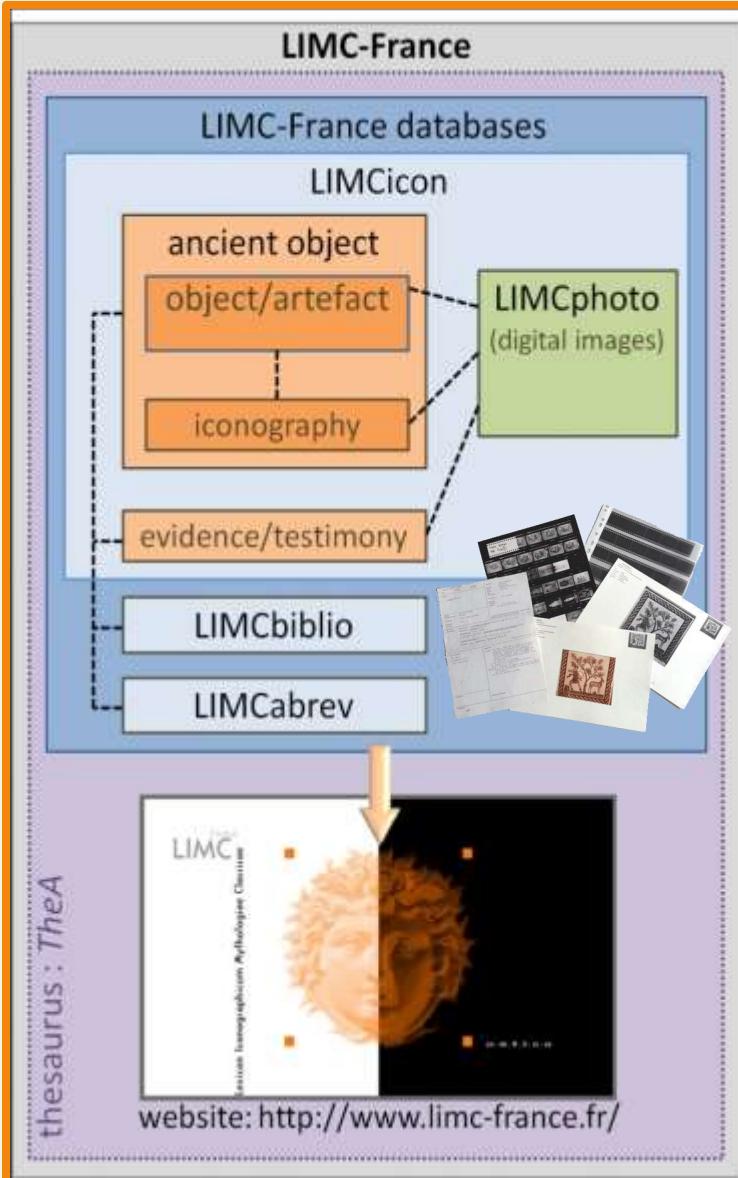
+/- 50 000
images

LIMC-France



Thesaurus TheA
Databases & Web site

1.2 - Databases & TheA → Linked (Open) Data (*work in progress*)



LOD cloud diagram (2014-08-30)
<http://lod-cloud.net/>

- Ontology, model...
 - Cultural Heritage (object...) → CIDOC CRM
 - LIDO, HADOC, EDM...
 - thesaurus → SKOS, ISO25964
- Vocabulary, thesaurus → THEA
- URI → ancient objects
 - TheA : concepts/terms
- RDF → cf. CLAROS (RDFs)
- <http://>



Databases – TheA – Web site

1.3.1– From a controlled vocabulary to a SKOS-compliant thesaurus

TheA : Thésaurus–Antiquité

| COMPONENTS OF THE CONTROLLED VOCABULARY 1981 | | USE IN THE DATABASES/WEBSITE |
|--|--|----------------------------------|
| object types | | ancient object |
| materials | | ancient object |
| artistic domains / techniques | | ancient object |
| cultural areas (geographical areas) | | production of the object |
| mythological & historical characters'names → general list <i>Name</i> | | iconography beared by the object |

| COMPONENTS ADDED IN 1998 IN <i>THEA</i> | USE IN THE DATABASES/WEBSITE |
|--|---|
| artists/ workshops | ancient object |
| places | previous and current locations of the object |
| periods of time | creation, production of the object |
| iconographic keywords & themes | iconography beared by the object |
| mythological characters'names from the <i>Lexicon</i> → Article-LIMC | references to the <i>LIMC</i> (and iconography) |

1.3.1- TheA : a SKOS-compliant multilingual thesaurus

MICRO-THESAURI

- 250 object types
- 90 materials
- 26 artistic domains & techniques

- 200 *cultural areas*
- 450 periods of time
- 7500 places (& spatial data)

- 700 key-words & 2500 mythological names
- 3000 mythological names in the LIMC



MULTILINGUALISM *French (fr)*

| | |
|--------------|----------------|
| Arabic (ar) | Hungarian (hu) |
| English (en) | Italian (it) |
| German (de) | Russian (ru) |
| Greek (gr) | Spanish (es) |

- Concept
- unique identifier for each concept
- preferred label
alternative labels
hidden labels

SEMANTIC RELATIONS

Hierarchical relations

- Polyhierarchy
- Broader Term (BT) /
Narrower Term (NT)

Associative relations (RT)

- synonym
- variant term
- variant spelling

→ + 65000 terms & translations

1.3.2 – Some examples

| PREFERRED LABEL (ENGLISH) | VARIATION (RT) | TYPE OF VARIATION | MICRO–THES. |
|------------------------------|---|--|-------------------|
| thunderbolt | lightning | synonym | iconography |
| Ulysses | Odysseus <i>Odysseus / Ulixes / Uthuze</i> | variant term <i>LIMC version</i> | mythological name |
| Annaba | Hippo Regius <i>Hippone</i> <i>Bône</i> | ancient place name <i>old place names</i> | place |

vase (BT)
alabastron (NT)
aryballos (NT)
amphora (NT)
bowl (NT) ...

gem (BT)
magical gem (NT)
stele (BT)
decree stele (NT)
grave stele (NT)
votive stele (NT)

1.3.2 – Some principles of TheA...

animal (BT)
bird (NT) (BT)
eagle (NT)



An eagle on a Corinthian aryballos.

(BnF, De Ridder.113) :

<http://medaillesetantiques.bnf.fr/ark:/12148/c33gbzztq>



an eagle as Jupiter's attribute on a roman cameo (BnF, Camée.5) :

<http://medaillesetantiques.bnf.fr/ark:/12148/c33gb1cq62>

Jupiter in the shape of an eagle, with Ganymede, on a jewel (BnF, inv.56.200)

<http://medaillesetantiques.bnf.fr/ark:/12148/c33gbhb6q>

1.3.2 – Some principles

Ex : The “Venus de Milo” [title of the English wikipedia article

2014.07.20 : http://en.wikipedia.org/wiki/Venus_de_Milo]

is an *Aphrodite of Milos/Melos*.

→ TheA : Aphodite / Venus / Turan
Greek / Latin / Etruscan



The screenshot shows the Wikipedia article for the Venus de Milo. The page title is "Venus de Milo". Below the title, it says "From Wikipedia, the free encyclopedia". A note at the top of the article states: "This article is about the statue by Alexandros of Antioch. For the prehistoric statuettes, see [Venus figurines](#). For the Teenage Mutant Ninja Turtles character, see [Venus \(Teenage Mutant Ninja Turtles\)](#)." The main text describes the statue as an ancient Greek statue of Aphrodite, created between 130 and 100 BC. To the right of the text is a small image of the statue's head.



Wikimedia commons

- Modern terms rather than ancient terms: *lionskin* vs *leonte* (*leonte* is hidden)
- Specific ancient words selected as preferred labels: *thyrsos*

1.3.3 – Envisaged improvements: the granularity of the mythological characters' names

LIMC



Iberia Graeca
<http://www.iberiagraeca.com/base/ficha.php?ficha=3061>

LIMC-icon record
<http://www.limc-france.fr/objet/15649>
 Attic pelike : L'Escala / Ampurias (Spain) MAC-Empúries inv.1494
 A character named by the inscription ΘΑΛΕΑ

LIMC-France resources & TheA

LOD

LIMC 1981-2009 :
 vol.VII, s. v. THALEIA IV, 899 n°6.

Some possible links within LIMC-France and the LOD.



ΘΑΛΕΑ
 Photogr.: AVSz

THALEIA IV

(Θάλεια, Θάλεα, Θαλία) „Die blühende“, Mänenadename (→Mainades) in Vaseninschriften.

6. (= Galene II 3 mit Lit., = Komodia 4, = Paidia 12*) Pelike, att. rf. Barcelona, Mus. Arch. 33. Aus Ampurias. – Kossatz, Namen 190. – Um 400 v. Chr. – Darstellung nicht vollständig erhalten. Oben schmücken Flügelfrauen einen Dreifuß. Sie werden umgeben von Apollon und Dionysos mit namentlich benannten Trabanten. Einige der Mänenadennamen lassen erkennen, daß hier Personifikationen dramatischer Gattungen gemeint sind. L. von der Akanthusäule ist der Oberkörper der Mänade ΘΑΛΕΑ erhalten (efebekränzt, hält Thyrsos).

THALEIA V

1600 v. Chr. Thaleia die Apumiliti in einer Vaseninschrift.
 1. 17 Aphrodite 43/1570. – Eumenia 69* Lakon. att. rf. Eltan. Para. Sk. Barilli. Aus Attika – Akro 1557. att. rf. Ait. de Medellinen Ed. 30. 1875-182-23-34 Taf. 19-21 zur Haupt. 16. 169-62; 1956-19 16-5. Barn. Meiss. 774 MM 107. Stephan Pfeiffer 194-85 Abb. 28; 257 Nr. 21. – Sizil. 3. 1. v. Chr. – Kultur vor einer thermischen Quelle, dienter Asklepios. Ein durch Adler und Sanktus mit Stein 900.

THALEIA VI

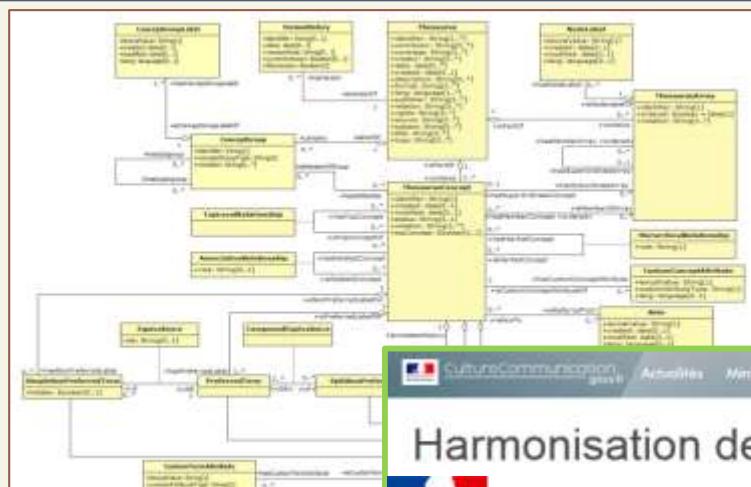
1600 v. Chr. Geburt einer der wichtigsten Frau. 1. 17 Aphrodite 43/1570. – Eumenia 69* Lakon. att. rf. Eltan. Para. Sk. Barilli. Aus Attika – Akro 1557. att. rf. Ait. de Medellinen Ed. 30. 1875-182-23-34 Taf. 19-21 zur Haupt. 16. 169-62; 1956-19 16-5. Barn. Meiss. 774 MM 107. Stephan Pfeiffer 194-85 Abb. 28; 257 Nr. 21. – Sizil. 3. 1. v. Chr. – Kultur vor einer thermischen Quelle, dienter Asklepios. Ein durch Adler und Sanktus mit Stein 900.

ANS ELLSEE, FRANKFURT - DILIGENTIA

1.3.4 – ISO 25964-compliant

next step

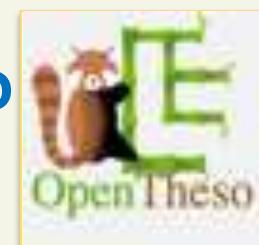
TheA in a SKOS & ISO25964 compliant OpenSource online tool



ISO 25964-1:2011

The screenshot shows the GINCO platform interface. At the top, there's a navigation bar with links to 'CultureCommunication', 'Actualités', 'Ministère', 'Régions', 'Politiques ministérielles', 'ressources', 'Aides & démarches', and 'Rechercher'. Below the navigation, a banner reads 'Harmonisation des données culturelles'. The main content area has tabs for 'Modèle de données', 'Référentiels', 'Normes', and 'Ouverture des données'. A sidebar on the left lists 'ressources' such as 'Harmonisation d...', 'Référentiels', 'Les vocabulaires...', and 'Plate-forme de diffusion GINCO'. The central part of the page features a large red header 'Plate-forme de diffusion GINCO'. Below it, a section titled 'PUBLIÉ LE 09.04.2014' contains a thumbnail of a document titled 'LES VOCABULAIRES DU MINISTÈRE DE LA CULTURE ET DE LA COMMUNICATION'. A descriptive text block below the thumbnail states: 'La plate-forme GINCO a pour objectif de donner accès à l'ensemble des vocabulaires scientifiques et techniques produits par le Ministère chargé de la culture et ses partenaires. L'application GINCO fournit un environnement de gestion des vocabulaires appuyé sur la norme ISO 25964-1:2011'. On the right side of the page, there are two large green leaf-like icons.

Ministère de la Culture
et de la Communication



1.3.4 – ISO 25964-compliant : OpenTheso (front end)

 Connexion Thésaurus Actuel : PACTOLS/fr Thésaurus OpenIndex

Thésaurus

Exporter le concept

Terme(s) générique(s)
matériaux (Id_15621)

argile (Id_13342)
Nombre de notices : 514
Domaine : Sujets
Créé le : 31/07/2014
Modifié le : 31/07/2014
Lien : http://opentheso3.mom.fr/OpenTheso/?id=13342&idt=TH_35
Lien Ark : <http://ark.mom.fr/ark:/66666/srvgnJ4gqV2J>

Terme(s) associé(s)
glaïssière (Id_14882)
adobe (Id_13103)

Terme(s) synonymes(s)
Exact :
Potentiel :

Définition

Terme(s) spécifique(s)
argile blanche (Id_35660)
argile rouge (Id_13349)
argile réfractaire (Id_35661)
ocre (Id_15955)

Alignment

broadMatch :
closeMatch :
exactMatch :
relatedMatch :
narrowMatch :

Traduction

Ton (de)
argilla (it)
الصلصال (ar)
clay (en)
arcilla (es)
klei (nl)

Facette

Image



© CNRS MOM-TRD-FRANTIQ / Miled ROUSSET

OpenTheso, M. Rousset (beta version). TRD FRANTIQ-MOM-CNRS
(data from PACTOLS)

1.3.4 – ISO 25964-compliant : OpenTheso (Arabic & back end)

The screenshot shows the OpenTheso web application interface. At the top, there are navigation links: 'Compte : Miled' (Connexion), 'Déconnexion', 'Thésaurus' (Actual : مكتبة), 'Thésaurus', 'OpenIndex', 'Candidats', 'Configurations', 'Edition', and 'Statistiques'. On the left, a sidebar titled 'Thésaurus' lists terms in French and Arabic, such as 'الموات' (Death) and ' الموت' (mort). Below this are 'Recherche', 'Résultat de la recherche', and 'Sous-groupes' buttons. The main content area displays a detailed view of the term 'موت' (Death). It includes sections for 'Exporter le concept' (Export concept), 'Exporter la branche' (Export branch), 'Terme(s) générique(s)' (Generic term(s)), 'Terme(s) associé(s)' (Associated term(s)), 'Terme(s) synonymes(s)' (Synonym term(s)), 'Définition' (Definition), 'Note d'application' (Application note), 'Note historique' (Historical note), 'Note éditoriale' (Editorial note), and 'Alignment' (Alignment). The alignment section lists match types: 'broadMatch', 'closeMatch', 'exactMatch', 'relatedMatch', and 'narrowMatch'. To the right, there are panels for 'Traduction' (Translation) showing equivalents in various languages, 'Facette' (Facet), and 'Image'.

*OpenTheso, M. Rousset (beta version). TRD FRANTIQ-MOM-CNRS
(data from PACTOLS)*

Attributes (DC) → *TheA*
→ context

Thesaurus concept
PreferredTerm / NonPreferredTerm

TopTerm

CompoundTerm
Compound Equivalence
→ *wreath + laurel*

ConceptGroups
ConceptGroupLabel
→ *mythological character*
→ *historical character*

Array ?

Associations → attributes
Alignment → attributes
→ broadMatch /closeMatch/relatedMatch...

bold = new

Thesauri & alignments ?...

Alignments with ...? :

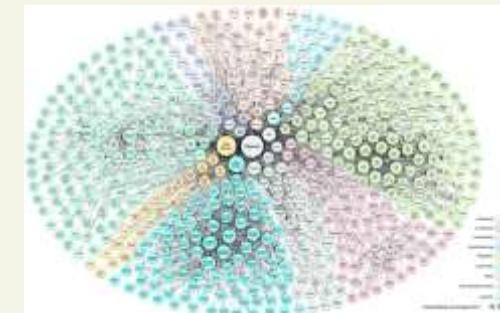
- Vocabularies of the French Ministère de la Culture
- PACTOLS → archaeology, bibliographical notices...
- Getty Vocabularies AAT/ ULAN/ TGN → History of Art, artists, gazetteer...
- SENESCHAL → English Heritage
- Iconclass → iconography, themes
- Etc...

Does *TheA* include specific topics worthy of mapping and alignments ?

- mythological characters' names ?
- iconographic keywords ?
- artists and workshops'names ?...

Some possible 'SameAs' / 'closeMatch'

- Typology of Greek vases : *bell crater, aryballos...*
- Greek vase painters' names : *Nikostenes*
- Materials : *silver...*
- ...



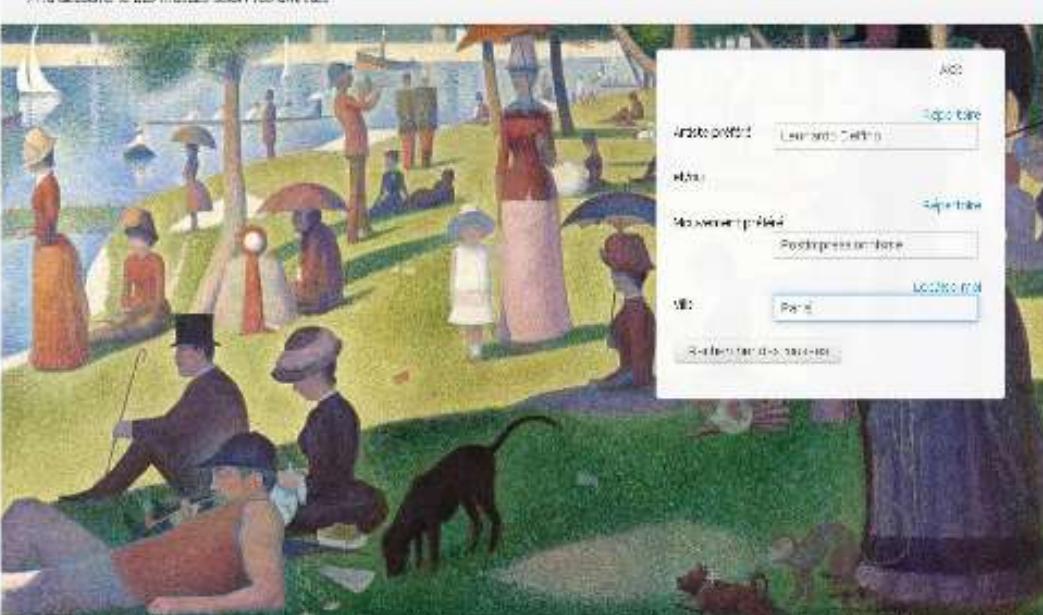
1.4.2- Linked Data : opening new ways – multilingualism

now on the Web: ‘Museosphere’

11. Le projet Muséophile



Muséophile

[English](#)[Deutsch](#)[Español](#)[Italiano](#)[Català](#)[Русский](#)[ES](#) [EN](#) [FR](#)[Cultura](#) [Communication](#)[Occitan](#)

←
by Th. GROUAS

<http://museosphere.net/>

Délégation générale à la langue française et aux langues de France

- translated terms are drawn from Wikipedia via *DBpedia/mashups...*
and also... *HDA Lab* and *JocondeLab...*

1.4.2- Linked Data : Gazetteer



TheA :
Modern & ancient places
countries > regions > towns and/or ancient sites > buildings
& coordinates (latitude/longitude), variants, different spelling

ancient places → only a part of the gazetteer

A
LOD

image by E. Gruber, Kerameikos

Attic... (geometry/polygons)

PLEIADES / Pelagios : historical geographic information about the ancient world
<http://pleiades.stoa.org/docs/using-our-data/pelagios>

1.4.2- Linked Data : Periods ...

PeriodO : <http://perio.do/>

aims at "... the creation of a gazetteer not of agreed-upon, centralized, and abstracted period *concepts*, but of the individual *assertions* made by authoritative scholarly sources about the temporal and spatial boundaries of periods in particular contexts"

[RABINOWITZ, SHAW, KANSA 2014]

The screenshot shows the PeriodO website with a teal header. The header includes navigation links for Home, Narrative, Specifications, and Contact, along with social media icons for Twitter and GitHub.

PeriodO

A gazetteer of period assertions for linking and visualizing data.

Data Model

The data model for a period assertion in the PeriodO gazetteer requires that a period assertion include a period term or name, temporal coordinates in the form of a date range, geographic coordinates in the form of an association with a polygon or point, and a source in the form of an authoritative body and/or an author and published work.

Assertion

Period name: Late Bronze Age
Start date: -1100, Julian Year
End date: -600, Julian Year

Source

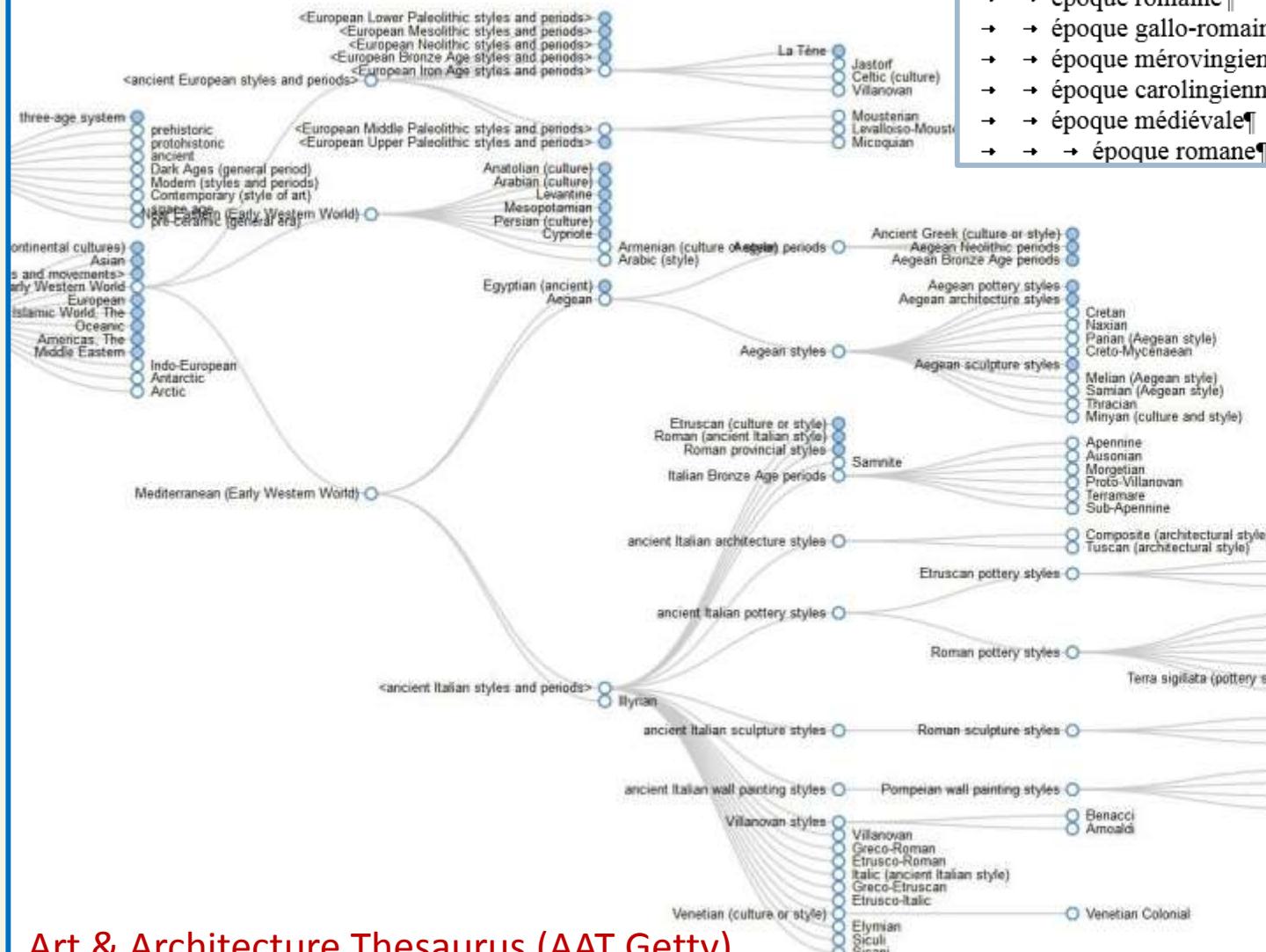
Author: Almagro-Gorbea, Martín
Title: Los Celtas en la Península ibérica
Date published: 1993
...

Location

ID: <http://www.geonames.org/2510769>
Name: Spain
Type: Independent political entity

Data Model
Identifiers
Data Serialization
Date Normalization
User Interface
Application Programming Interface (API)

Cultural area : time + place + style ?



- Deuxième Guerre mondiale
- appellation d'époque et de style
- époque préhistorique
- époque gauloise
- époque romaine
- époque gallo-romaine
- époque mérovingienne
- époque carolingienne
- époque médiévale
- époque romane

théâtre Garnier

périodisation

- appellation historique
- les âges du monde
- → L'âge d'or
- → L'âge d'argent
- → L'âge d'airain
- → L'âge de fer
- → préhistoire
- → → âge de la pierre taillée
- → Antiquité
- → → antiquité babylonienne
- → → antiquité égyptienne
- → → antiquité étrusque
- → → antiquité grecque
- → → Grèce archaïque
- → → Grèce classique
- → → conquêtes d'Alexandre
- → → antiquité perse
- → → antiquité romaine
- → → République romaine

Art & Architecture Thesaurus (AAT Getty)

Semantic web



Sustainability

Linked (Open) Data



improved quality

complementarity

...

epigraphy...



LIMC-France: ancient object with inscription ←?→ epigraphy 'on line'

LIMC-France : documents → databases + thesaurus → website / Linked data



- geospatial data
- chronology & periods & cultural areas
- characters' names

multilingual
thesaurus
TheA

database

LIMC
mographium Mythologique Classique