



Working with subjects and temporal concepts across international archaeological resources



Archaeology and Architecture in Europeana

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UNIVERSITY *of York*

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The Problem(s)

- **Subject:** Archaeological data is particularly difficult to aggregate across borders, as it must not only be multilingual, but also represent a wide range of research traditions
- **Temporal concepts:** Time in archaeology must also be geolocated (Bronze Age in Yorkshire is not the same as Bronze Age in Crete)

Introduction to ARIADNE

- EU FP7 project under the 'Infrastructures' theme, including 23 European partners across 16 countries
- Four-year project: First phase ended January 2017
- 17 Workpackages – primary deliverable: collection level metadata aggregation portal
- Coordinator: PIN Scri - Polo Universitario "Città di Prato" at the University of Florence
- Deputy Coordinator: ADS



ariadne-infrastructure.eu

ARIADNE Community:

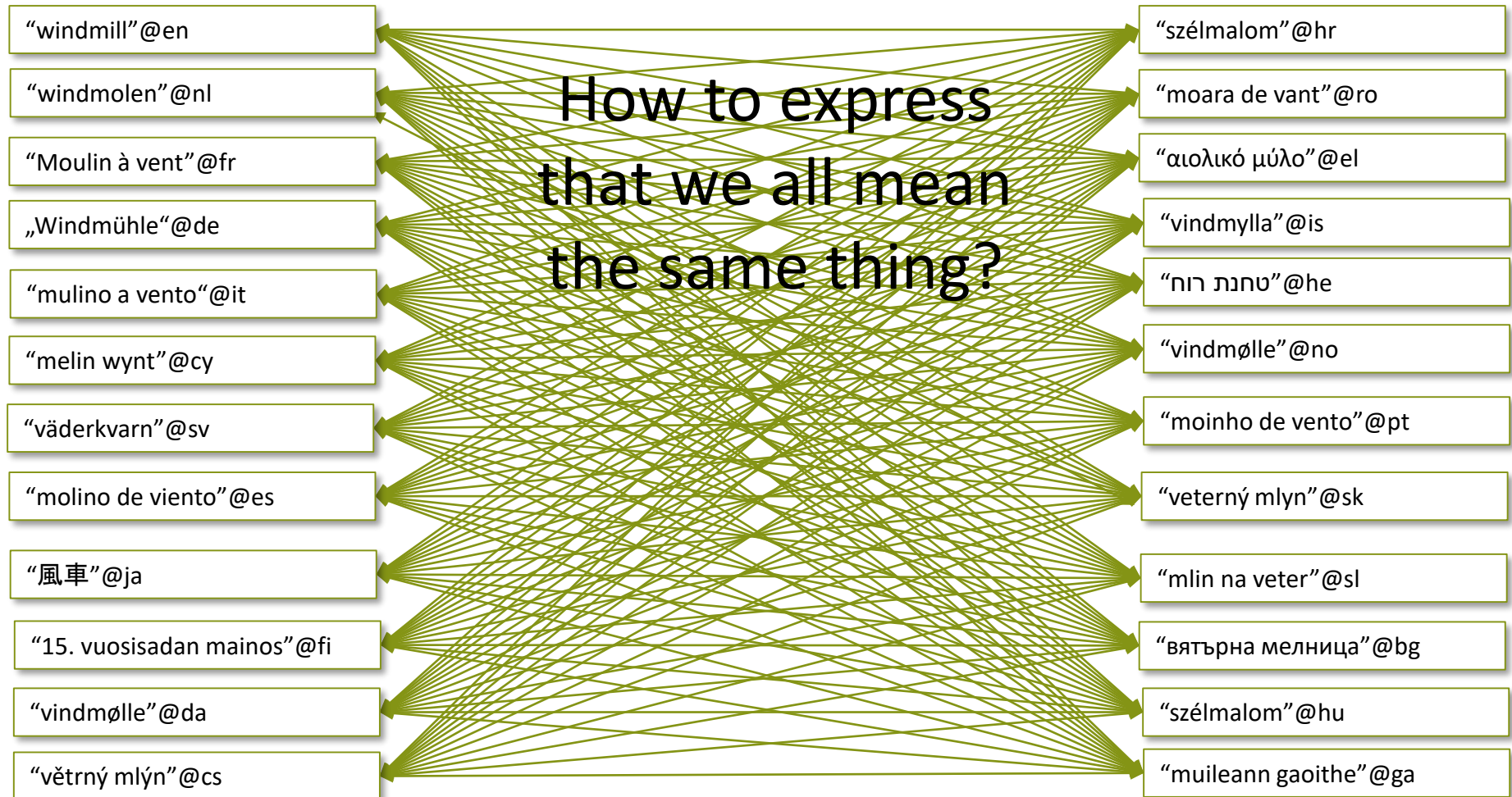
- 9 ICT organisations
- 14 archaeological organisations
- 15 Associate partners



Mapping Concepts

- Original datasets not necessarily produced with aggregation, consolidation, reuse and cross-search in mind
- I say “*potato*”, you say “*pomme de terre*”, she says “*maris piper*” – multiple barriers to cross-searching subject metadata – language, punctuation, spelling, homonyms, synonyms, level of specificity
- Text-based search is limited by all of these
- Need to establish common meaning

Mapping Concepts



Mapping Concepts

The *words* may be different, but the *concept* is (more or less) the same...

“windmill”@en

“windmolen”@nl

“Moulin à vent”@fr

„Windmühle“@de

“mulino a vento”@it

“melin wynt”@cy

“väderkvarn”@sv

“molino de viento”@es

“風車”@ja

“15. vuosisadan mainos”@fi

“vindmølle”@da

“větrný mlýn”@cs

“szélmalom”@hr

“moara de vant”@ro

“αιολικό μύλο”@el

“vindmylla”@is

“רוחנת”@he

“vindmølle”@no

“moinho de vento”@pt

“veterný mlyn”@sk

“mlin na veter”@sl

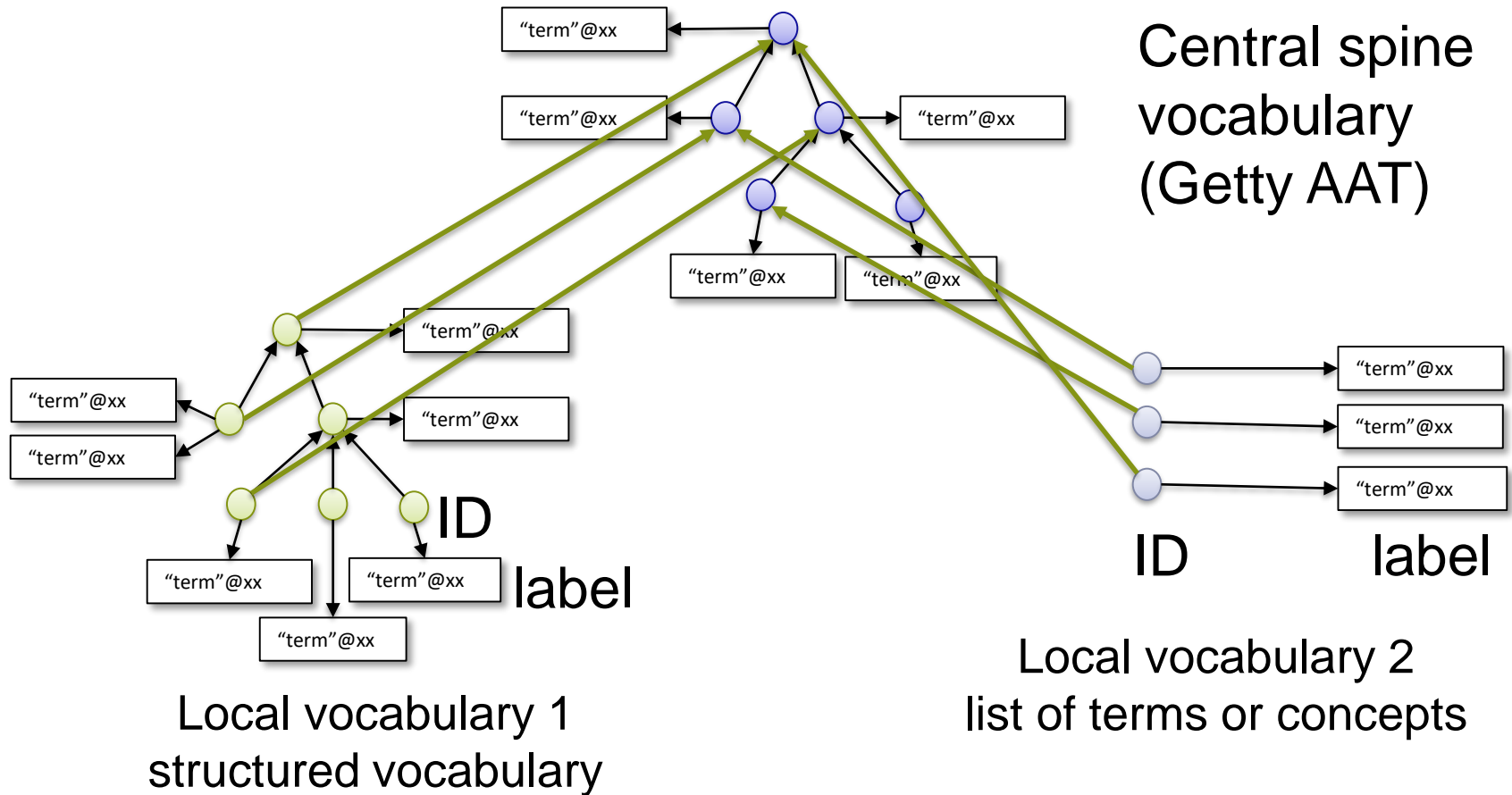
“вятърна мелница”@bg

“szélmalom”@hu

“muileann gaoithe”@ga

Predicate	Object
rdf:type	gvp:Concept
rdfs:seeAlso	http://www.getty.edu/vow/AAT/FullDisplay?find=&logic=AND¬e=&subject=300006273
dcterms:created	1998-01-01T00:00:00
dcterms:modified	1994-09-29T00:00:00, 2001-07-26T22:02:25, 2001-07-26T22:15:02, 2002-06-13T17:04:20, 2002-06-13T17:12:15, 2007-04-30T12:57:12, 2007-04-30T12:58:21, 2007-04-30T16:37:06, 2010-04-23T00:04:02, 2011-01-07T20:35:36, 2011-01-07T20:35:36, 2012-07-20T16:16:50, 2013-03-29T10:15:54, 2013-03-29T10:15:55, 2013-12-09T20:16:31, 2013-12-09T20:16:32, 2013-12-09T20:22:47, 2013-12-09T20:22:48, 2013-12-09T20:30:46, 2013-12-09T20:30:47, 2013-12-20T14:06:02, 2017-11-05T20:40:56, 2017-11-05T20:40:56, 2017-11-05T20:46:17
skos:changeNote	aat_rev_500046250, aat_rev_500046251, aat_rev_500119049, aat_rev_500119050, aat_rev_500119051, aat_rev_500119052, aat_rev_5001170249, aat_rev_5001439335, aat_rev_5001439336, aat_rev_5001439341, aat_rev_5001651295, aat_rev_5001651296, aat_rev_5001651303, aat_rev_5001651914, aat_rev_5001651915, aat_rev_5001651916, aat_rev_5002212030, aat_rev_5002212031, aat_rev_5002212040, aat_rev_5002242977, aat_rev_5002242978, aat_rev_5002242979, aat_rev_5002242980, aat_rev_5002242981, aat_rev_5002242982, aat_rev_5002242983, aat_rev_5002242984, aat_rev_5002242985, aat_rev_5002242986, aat_rev_5002242987, aat_rev_5002242988, aat_rev_5002242989, aat_rev_5002242990, aat_rev_5002242991, aat_rev_5002242992, aat_rev_5002242993, aat_rev_5002242994, aat_rev_5002242995, aat_rev_5002242996, aat_rev_5002242997, aat_rev_5002242998, aat_rev_5002242999, aat_rev_5002243000, aat_rev_5002243001, aat_rev_5002243002, aat_rev_5002243003, aat_rev_5002243004, aat_rev_5002243005, aat_rev_5002243006, aat_rev_5002243007, aat_rev_5002243008, aat_rev_5002243009, aat_rev_5002243010, aat_rev_5002243011, aat_rev_5002243012, aat_rev_5002243013, aat_rev_5002243014, aat_rev_5002243015, aat_rev_5002243016, aat_rev_5002243017, aat_rev_5002243018, aat_rev_5002243019, aat_rev_5002243020, aat_rev_5002243021, aat_rev_5002243022, aat_rev_5002243023, aat_rev_5002243024
gvp:parentString	mls (buildings), <single built works by function>, <single built works by specific type>, single built works (built environment), Single Built Works (hierarchy name), Built Environment (hierarchy name), Objects Facet
gvp:parentStringAbbrev	mls (buildings), <single built works by function>, ... Objects Facet
gvp:displayOrder	1

Mapping Concepts



Mapping Concepts

- Concepts from 27 vocabularies from 12 data partners were mapped to Getty AAT
- Mappings by individual partners ranging from a few to over 1600 concepts
- 6416 mappings total
- Most at similar level of generality
- Some partner vocabs more specialised than AAT but in a few cases AAT was more specialised

Vocabulary Matching Tool

Source Concept		Match Type	Target Concept	Suggest	Delete Row
Identifier	Label		Filter column...		
	Filter column...				
http://purl.org/heritagedata/schemes...	Abbey Church	Close Match	abbey churches	Q	⊖
http://purl.org/heritagedata/schemes...	ABBEY	Exact Match	abbeys (monasteries)	Q	⊖
http://purl.org/heritagedata/schemes...	AGRICULTURAL BUILDING	Exact Match	agricultural buildings	Q	⊖
http://purl.org/heritagedata/schemes...	AGRICULTURAL DWELLING	Broad Match	agricultural buildings	Q	⊖
http://purl.org/heritagedata/schemes...	AGRICULTURAL HALL	Broad Match	agricultural buildings	Q	⊖
http://purl.org/heritagedata/schemes...	FARM BUILDING	Close Match	agricultural buildings	Q	⊖
http://purl.org/heritagedata/schemes...	FIELD SYSTEM	Broad Match	agricultural land	Q	⊖
http://purl.org/heritagedata/schemes...	FIELD SYSTEM	Broad Match	agricultural land	Q	⊖
http://purl.org/heritagedata/schemes...	LAND USE SITE	Broad Match	agricultural land	Q	⊖
http://purl.org/heritagedata/schemes...	LYNCHET	Broad Match	agricultural land	Q	⊖
http://purl.org/heritagedata/schemes...	CURVILINEAR ENCLOSURE	Broad Match	agricultural settlements	Q	⊖
http://purl.org/heritagedata/schemes...	DITCHED ENCLOSURE	Broad Match	agricultural settlements	Q	⊖
http://purl.org/heritagedata/schemes...	DOUBLE DITCHED ENCLOSURE	Broad Match	agricultural settlements	Q	⊖
http://purl.org/heritagedata/schemes...	ENCLOSED SETTLEMENT	Broad Match	agricultural settlements	Q	⊖
http://purl.org/heritagedata/schemes...	ENCLOSURE	Broad Match	agricultural settlements	Q	⊖
http://purl.org/heritagedata/schemes...	AGRICULTURE AND SUBSISTENCE	Broad Match	agriculture	Q	⊖
http://purl.org/heritagedata/schemes...	AIR RAID SHELTER	Exact Match	air raid shelters	Q	⊖
http://purl.org/heritagedata/schemes...	AIRCRAFT	Close Match	aircraft	Q	⊖
390 rows					
<div> IMPORT JSON EXPORT JSON EXPORT CSV + ADD NEW ROW CLEAR ROWS SHOW HELP </div>					

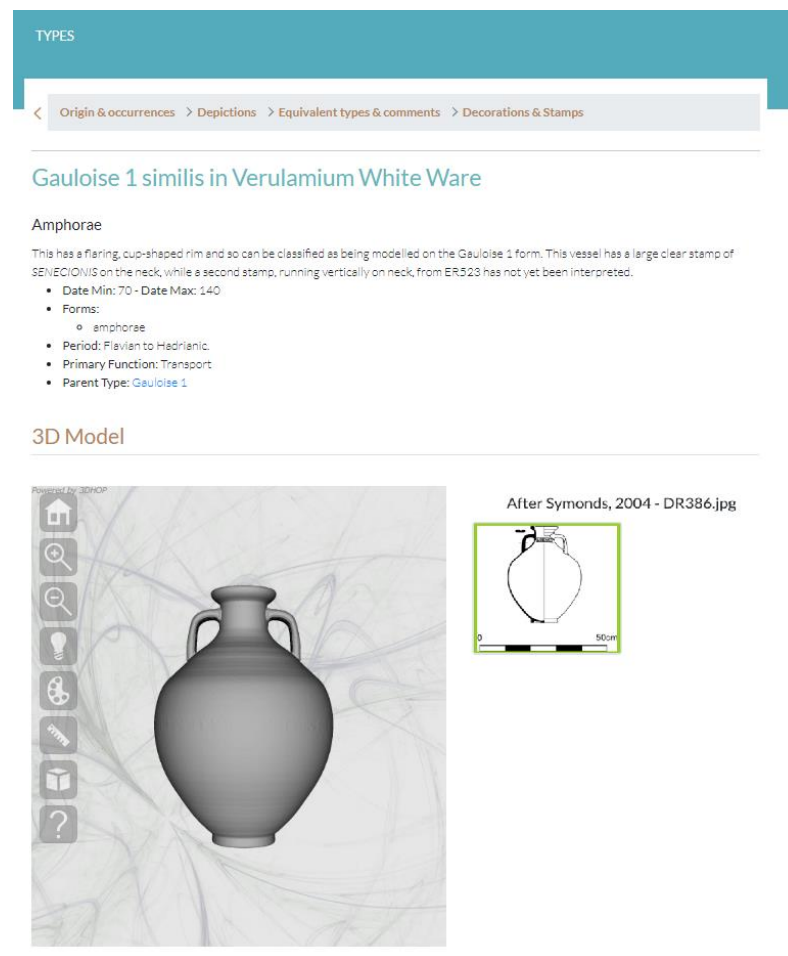


Created by University of South Wales

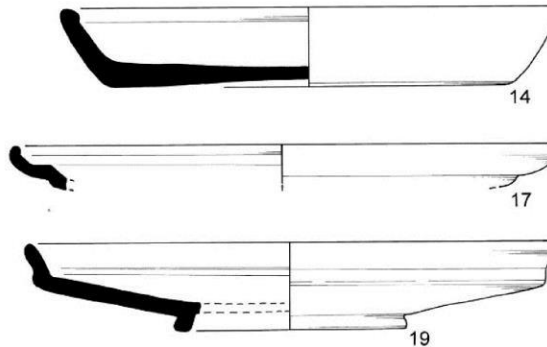
ARIADNEplus is a Horizon 2020 project funded by the European Commission (Grant Agreement No. 823914)

This application retrieves some information originating from Getty Art & Architecture Thesaurus (AAT)® which is made available under the ODC Attribution License. See <http://vocab.getty.edu/> for further details.

- H2020 Research and Innovation Action focused on using automated image recognition to identify archaeological pottery
- Needed to create multilingual digital comparative collections for the pottery types







Plate, Platter or Dish?

Had to agree a baseline on how aspects are recorded

Created controlled vocabularies for use within the comparative database:

- **Sherd type** e.g. *“rim”*
- **Form** e.g. *“plate”*
- **Decoration form** e.g. *“burnished”*
- **Decoration colour** e.g. *“yellow”*
- **Fabric** e.g. *“North African 1”*

Although the pottery terms were much more specialised than the subject terms for ARIADNE, mapping to the AAT was still a good solution

The Italian terms *graffita*, *graffita a punta*, *graffita a stecca*
= “sgraffito” <http://vocab.getty.edu/aat/300266416>

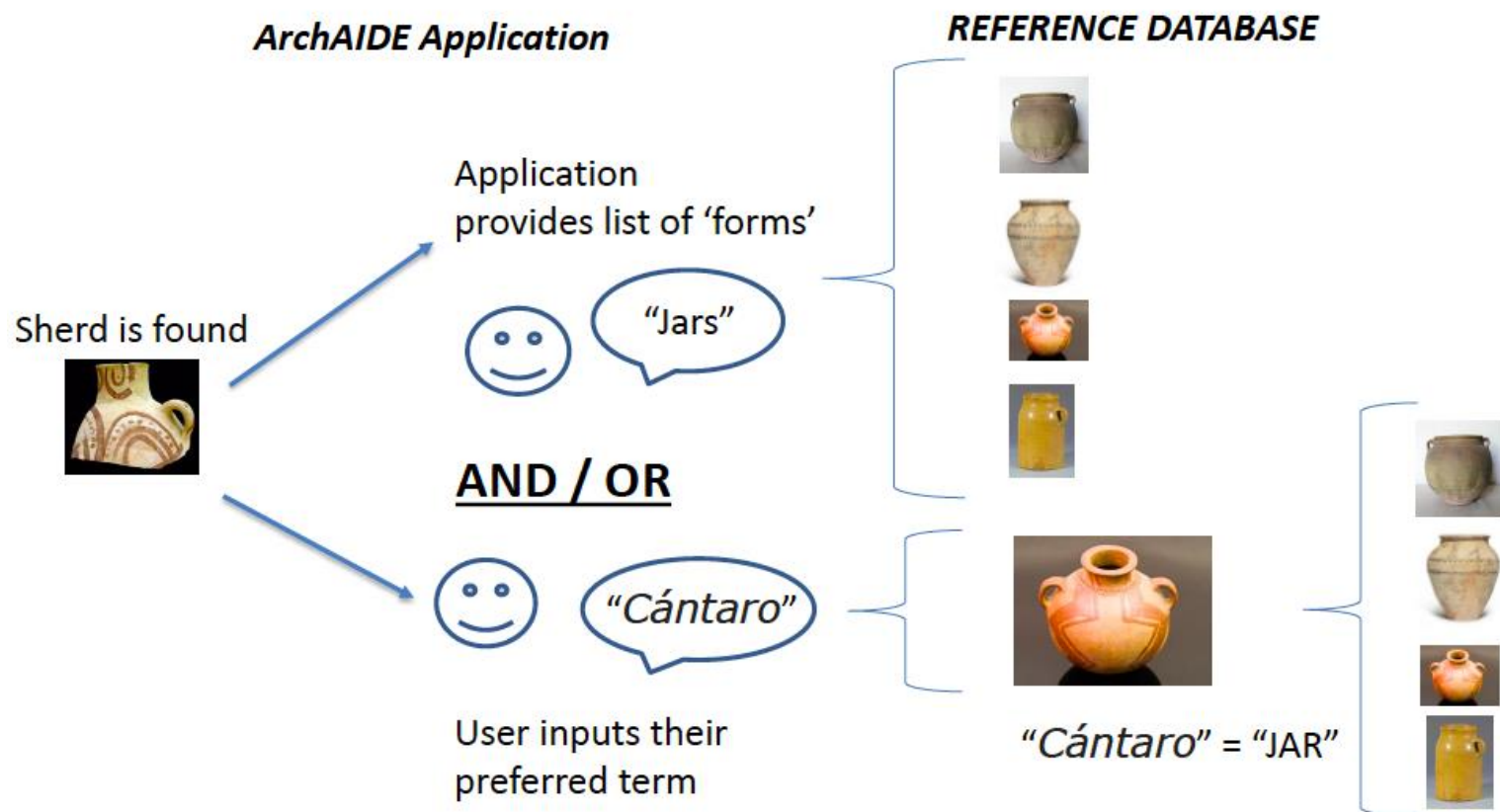
The Spanish term *Cántaro*
= “jars” <http://vocab.getty.edu/aat/300195348>

The German terms *gebogener Henkel*, *Ohrförmiger Henkel*
= “handles” <http://vocab.getty.edu/aat/300266416>

Often this was more complicated, with partners having differing perceptions on what to call something (e.g. “plate” versus “platter”)

In truth, this confusion may also be reflected by what has come out of the ground!

An advantage of using the AAT (SKOS thesaurus), is that ambiguity or difference in nomenclature can be resolved by a broader term or concept



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ARCHAIDE, 2019

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Downloads

- [Archaide Mappings](#)
- [Archaide Triples](#)
- [Archaide Wordlists](#)

Archaide wordlists

<i>archaide_vocab_characteristic_base_type</i>	CSV	1 Kb
<i>archaide_vocab_characteristic_body_type</i>	CSV	1 Kb
<i>archaide_vocab_characteristic_handle_type</i>	CSV	2 Kb
<i>archaide_vocab_characteristic_neck_type</i>	CSV	1 Kb
<i>archaide_vocab_characteristic_rim_type</i>	CSV	1 Kb
<i>archaide_vocab_characteristic_shoulder_type</i>	CSV	1 Kb
<i>archaide_vocab_decoration_colour</i>	CSV	1 Kb
<i>archaide_vocab_decoration_type</i>	CSV	1 Kb
<i>archaide_vocab_sherd_type</i>	CSV	1 Kb
<i>archaide_vocab_type_form</i>	CSV	2 Kb

Download Guide Motivation Technical overview Publications Contact  

PeriodO

A gazetteer of period definitions for linking and visualizing data.

Download the period definitions as JSON. **Use** the PeriodO period browser.

What is this?

PeriodO is a [public domain](#) gazetteer of scholarly definitions of historical, art-historical, and archaeological periods. It eases the task of linking among datasets that define periods differently. It also helps scholars and students see where period definitions overlap or diverge.

Who are you?

The PeriodO project is led by [Adam Rabinowitz](#) (University of Texas at Austin) and [Ryan Shaw](#) (University of North Carolina at Chapel Hill) with the cooperation of the [University of Texas Libraries](#). [Patrick Golden](#) is the lead developer of the [PeriodO software](#). The PeriodO dataset has been developed largely by our generous contributors. Our work has been funded by a Digital Humanities Start-Up Grant from the [Office of Digital Humanities](#) at the National Endowment for the Humanities, and a [National Digital Platform grant](#) from the [Institute of Museum and Library Services](#).

Tell me more.

Start by looking at the [guide to using PeriodO](#).

You may also be interested in reading about the [motivation](#) for the project or getting a [technical overview](#). Further information can be found in our [publications](#). To keep up with PeriodO developments, follow us on Twitter: [@perio_do](#). Or [contact us](#) and ask whatever you want!



<http://perio.do>



PeriodO

Current backend: Canonical [switch]

Sign in

Menu

Browse by:

Period

Collection

Period Collections

Viewing 1 - 20 of 134

Previous

1

2

3

...

6

7

Next

Source title	Num. of periods	Earliest start	Latest stop
Eduard Gerhard. Berlin's antike Bildwerke. 1836.	2	-483	-295
Pedley, John Griffiths. Greek art and archaeology John Griffiths Pedley.	4	-1999	-499
Corpus vasorum antiquorum, France. Fascicule 4, Musée du Louvre. Fascicule 3. 1925.	0		
The archaeology of society in the Holy Land. 1995.	28	-3499	1917
Schaeffer, Judith Snyder, 1937-. The Corinthian, Attic, and Lakonian pottery from Sardis.	2	-1184	-546
Birgit TAVERNIERS. Cathage Bir Massouda.	1	-799	-500
Frasca, Massimo. Monte Casasia (Ragusa) : campagne di scavo 1966, 1972-73 nella necropoli indigena. 1996.	3	-666	-399
Woolley, Leonard, 1880-1960. Ur 'of the Chaldees' : a revised and updated edition of Sir Leonard Woolley's Excavations at Ur. 1982.	4	-3149	-1739
Willeke Wendrich. UCLA Encyclopedia of Egyptology.	35	-699999	394
Claridge, Amanda. Rome : an Oxford archaeological guide to Rome. 1998.	3	69	238
Joel Dorman Steele. Barnes general history. : a brief history of ancient, mediaeval, and modern peoples, with some account of their monuments, institutions, arts, manners, and customs. 1883.	5	-2699	1453
Heidelberger Akademie der Wissenschaften. Epigraphische Datenbank Heidelberg. 2017.	26	-508	830
Colorado prehistory : a context for the Southern Colorado River Basin.	5	-999	1300

Woolley, Leonard, 1880-1960. Discovering the royal tombs at Ur.

Permalink: <http://n2t.net/ark:/99152/p0kc8t6>

Title Discovering the royal tombs at Ur.
URL <http://www.worldcat.org/oclc/31307>
Year published 1969
Creators Woolley, Leonard, 1880-1960.
Contributors Glubok, Shirley,
Locator page 10

Period list [JSON-LD](#) [Turtle](#) [CSV](#)

Viewing 1 - 8 of 8

Show periods at a time.

Previous

1

Next

▲ Label	Earliest start	Latest stop
Akkad Period	-2369	-2229
Early Dynastic Period	-2899	-2369
Isin-Larsa Period	-2019	-1599
Jemdet Nasr Period	-3099	-2899
Neo-Babylonian Period	-625	-538
Neo-Sumerian Period	-2112	-2005
Ubaid Period	-4499	-3499
Uruk (Warka) Period	-3499	-3099

ARIADNE Consortium. ARIADNE Data Collection. 2015.

Permalink: <http://n2t.net/ark:/99152/p0qhb66>

Title ARIADNE Data Collection

Citation ARIADNE Consortium. "ARIADNE Data Collection". 2015. <http://www.ariadne-infrastructure.eu/Resources/PeriodO/documentation>.

URL <http://www.ariadne-infrastructure.eu/Resources/PeriodO/documentation>

Year published 2015

Creators ARIADNE Consortium

Editorial note

Periodizations gathered from ARIADNE partners on the national level in a series of EU countries, as well as periodizations from some non-EU Fasti Online contributors. Some of the definitions are derived from other PeriodO collections; where this is the case, a note has been included with the PeriodO URI of the definition from which it is derived.

Period list [JSON-LD](#) [Turtle](#) [CSV](#)

Viewing 1 - 25 of 660

Show periods at a time.

[Previous](#)

[1](#)

[2](#)

[3](#)

[...](#)

[26](#)

[27](#)

[Next](#)

▲ Label	Earliest start	Latest stop
20th Century	1901	2000
A Doua Epocă a Fierului	-450	106
Akrotiri	-9300	-8801
Alta Edad Media	400	699
Alto Medioevo	530	1071
Alto Romano	-50	199
Antiquité	-600	499

Browse by: [Period](#) [Collection](#)

Periods

Viewing 1 - 32 of 32

Show periods at a time.

Previous

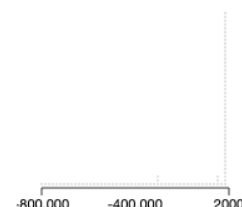
1

Next

▲ Label	Earliest start	Latest stop
Antiquité gallo-romaine	1	499
Antiquité tardive	300	499
Dryas récent	-11000	-9600
Haut Empire	1	299
Moyen Âge	476	1492
Moyen Âge classique	1000	1299
Mésolithique	-9600	-5500
Mésolithique ancien	-9600	-8030
Mésolithique moyen	-8030	-6900
Mésolithique récente et finale	-6900	-5500
Néolithique	-6000	-2100
Paléolithique inférieur	-800000	-300000
Paléolithique moyen	-300000	-40000
Paléolithique supérieur	-40000	-12500

Filters

Time range



☒ Hide outliers?

Text

Match string

Source

[Reset](#)

Selected

- 32 [INRAP. INRAP: Chronologie Generale. 2007.](#)
- 63 [Library of Congress. Library of Congress Subject Headings. 2015.](#)
- 40 [ARIADNE Consortium. ARIADNE Data Collection. 2015.](#)

Language

[Reset](#)

- 32 [English](#)
- 32 [French](#)

PeriodO

Current backend: Canonical [\[switch\]](#)

[Sign in](#)

Menu ▾

Browse by:

Period

[Collection](#)

Periods

Viewing 1 - 9 of 9

Show periods at a time.

Previous

1

Next

▲ Label	Earliest start	Latest stop
Bronze Age	-2349	-800
Bronze Age	-2600	-700
Bronze Age	-2500	-700
Early Bronze	-2349	-1600
Early Bronze Age	-2600	-1600
Late Bronze	-999	-800
Late Bronze Age	-1200	-700
Middle Bronze	-1599	-1000
Middle Bronze Age	-1600	-1200

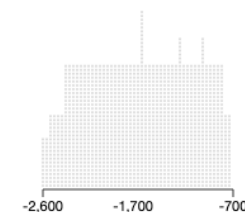
Previous

1

Next

Filters

Time range



☒ Hide outliers?

Text

Match string

Source

[Reset](#)

4 [Portable Antiquities Scheme. Periods used on the database. 2003.](#)

4 [Heritage Data. Heritage Data | Linked Data Vocabularies for Cultural Heritage. 2014.](#)

1 [ADS and Stewart Waller. ARENA - The ARENA Portal. 2004.](#)

Language

[Reset](#)

9 [English](#)

Spatial coverage

[Reset](#)

Catalog Services About

ARIADNE

All fields Search for resources in the Ariadne catalog ...

Welcome

ARIADNE brings together and integrates existing archaeological research data infrastructures so that researchers can use the various distributed datasets and new and powerful technologies as an integral component of the archaeological research methodology.

Browse the Catalog

Where

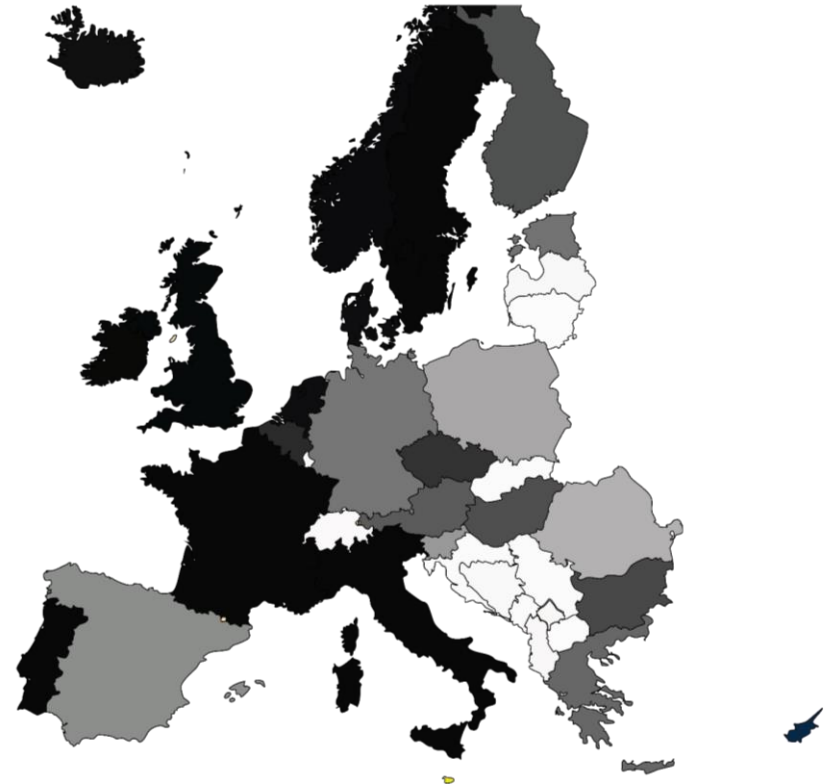
When

What

- pits (earthworks)
- churches (buildings)
- lime kilns
- forts
- ditches
- cairns
- churchyards
- houses
- drains
- farms
- farmhouses
- vessels (containers)

ARIADNEplus Community:

- 41 partners
- 28 countries
- Majority are archaeological partners
- Linked data backend
- Extending thematic coverage
- Expanding participation



Further Information

<http://archaeologydataservice.ac.uk>



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<http://www.facebook.com/archaeology.data.service>