Open Context PeriodO Use Cases

Eric Kansa (@ekansa)
OpenContext.org

Fullsize image

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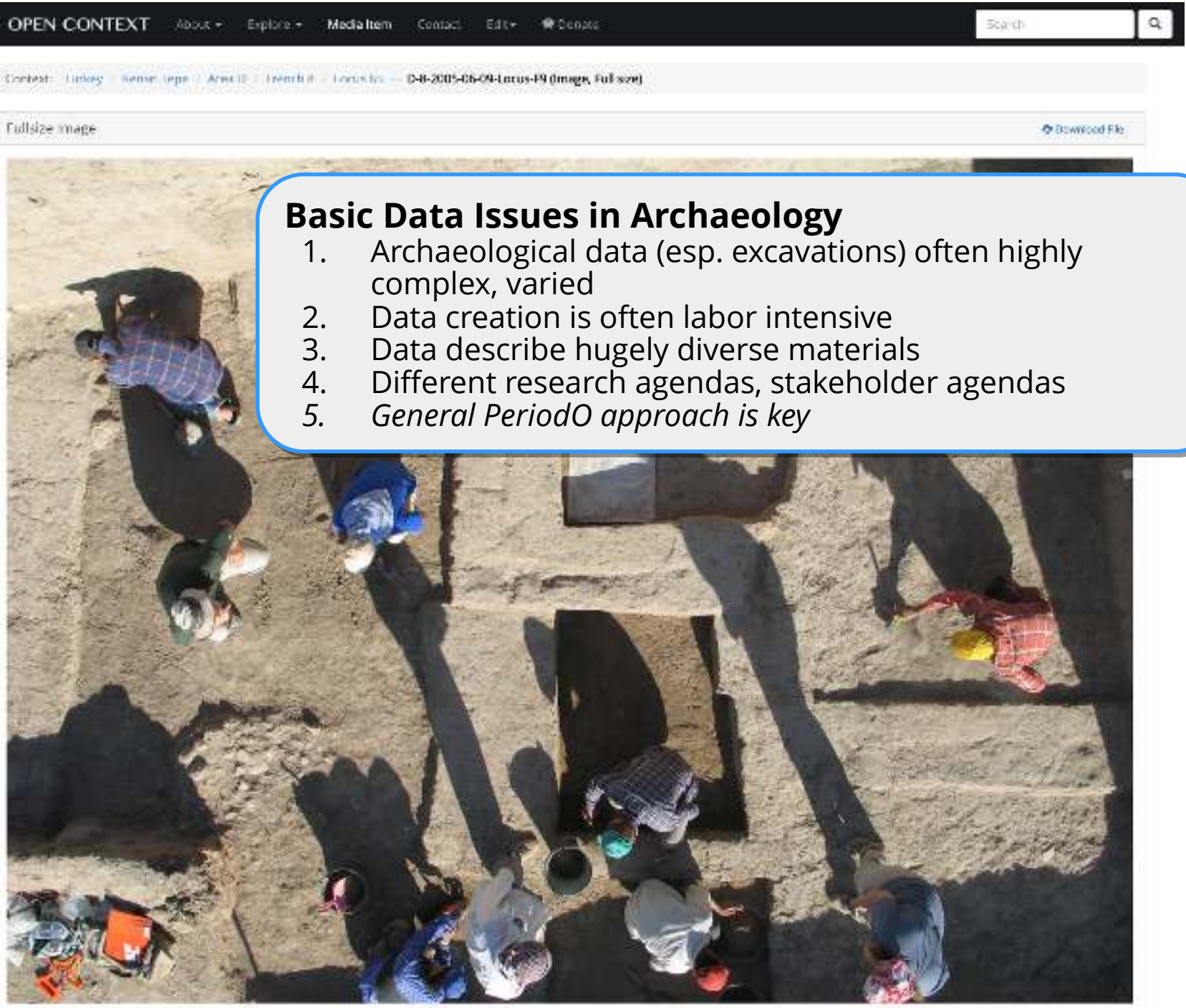
OPEN CONTEXT
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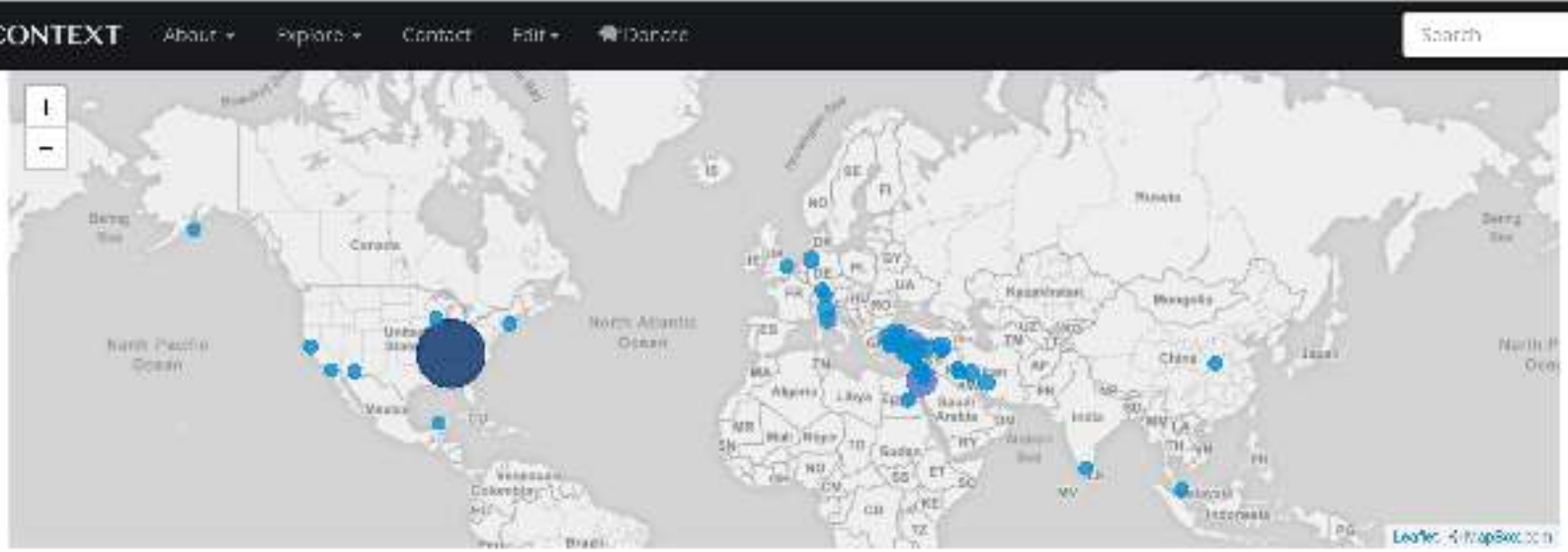
Basic Data Issues in Archaeology
1. Archaeological data (esp. excavations) often highly complex, varied
2. Data creation is often labor intensive
3. Data describe hugely diverse materials
4. Different research agendas, stakeholder agendas
5. General PeriodO approach is key



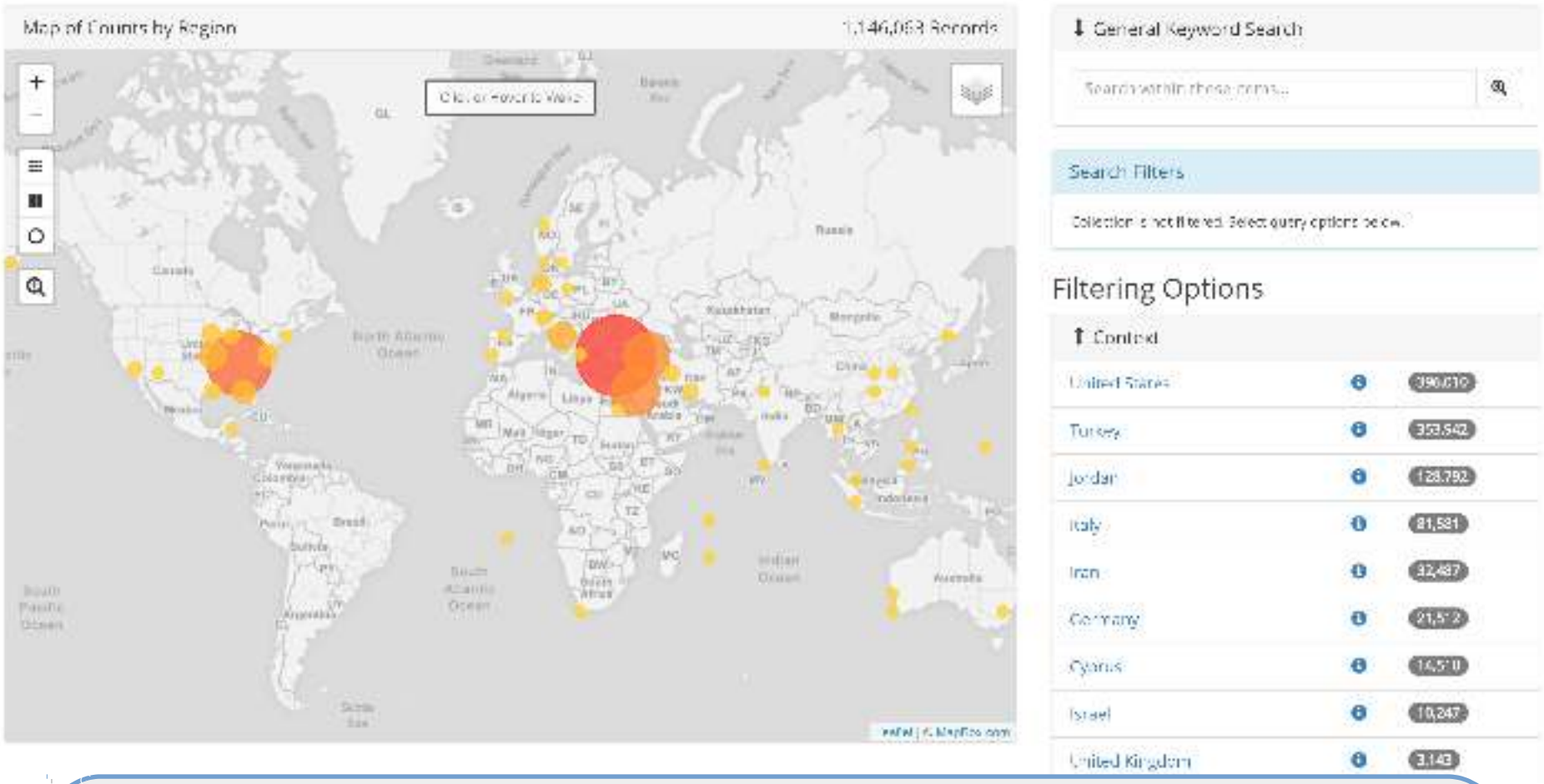
WELCOME TO OPEN CONTEXT

Publishing research data on the Web

Because data are for discovery and inspiration, not just management

Why a Publishing Metaphor?

1. Editorial (curatorial) co-production
2. Promote vision of data as more than a "residue" of research



Open Context: 10 years of iterative development

Linked: Links with other systems & data (tDAR, EOL, ORCID, etc)
Open: Code, data (mainly CC-By) on GitHub, machine-readable formats, APIs
Long-term: NSF, NEH data management. California Digital Library archiving
Global: Mirroring, collaboration with the German Archaeological Institute (DAI)
Recognition: Awards from the White House (2013), Digital Curation (2014), Archaeological Institute of America (2016)

Routledge
Taylor & Francis Group

Behavioral & Social Sciences Librarian

ISSN: 0163-9269 (Print) 1544-4546 (Online) Journal homepage: http://www.tandfonline.com/loi/wbss20

Comparing Digital Archaeological Repositories: tDAR Versus Open Context

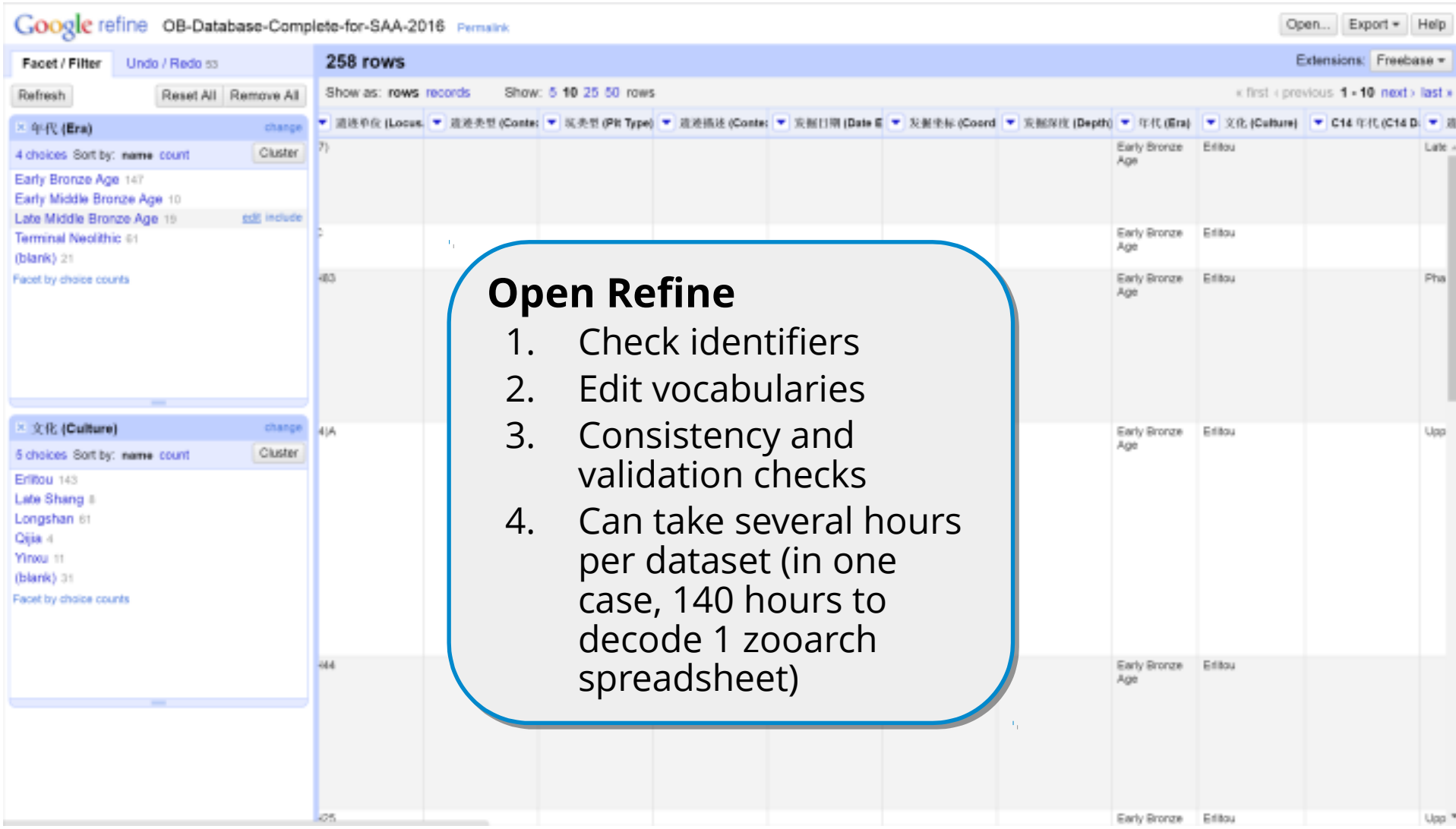
Beth Sheehan

To cite this article: Beth Sheehan (2015) Comparing Digital Archaeological Repositories: tDAR Versus Open Context, Behavioral & Social Sciences Librarian, 34:4, 173-213, DOI: 10.1080/01639269.2015.1096155

To link to this article: http://dx.doi.org/10.1080/01639269.2015.1096155

Published online: 03 Dec 2015.

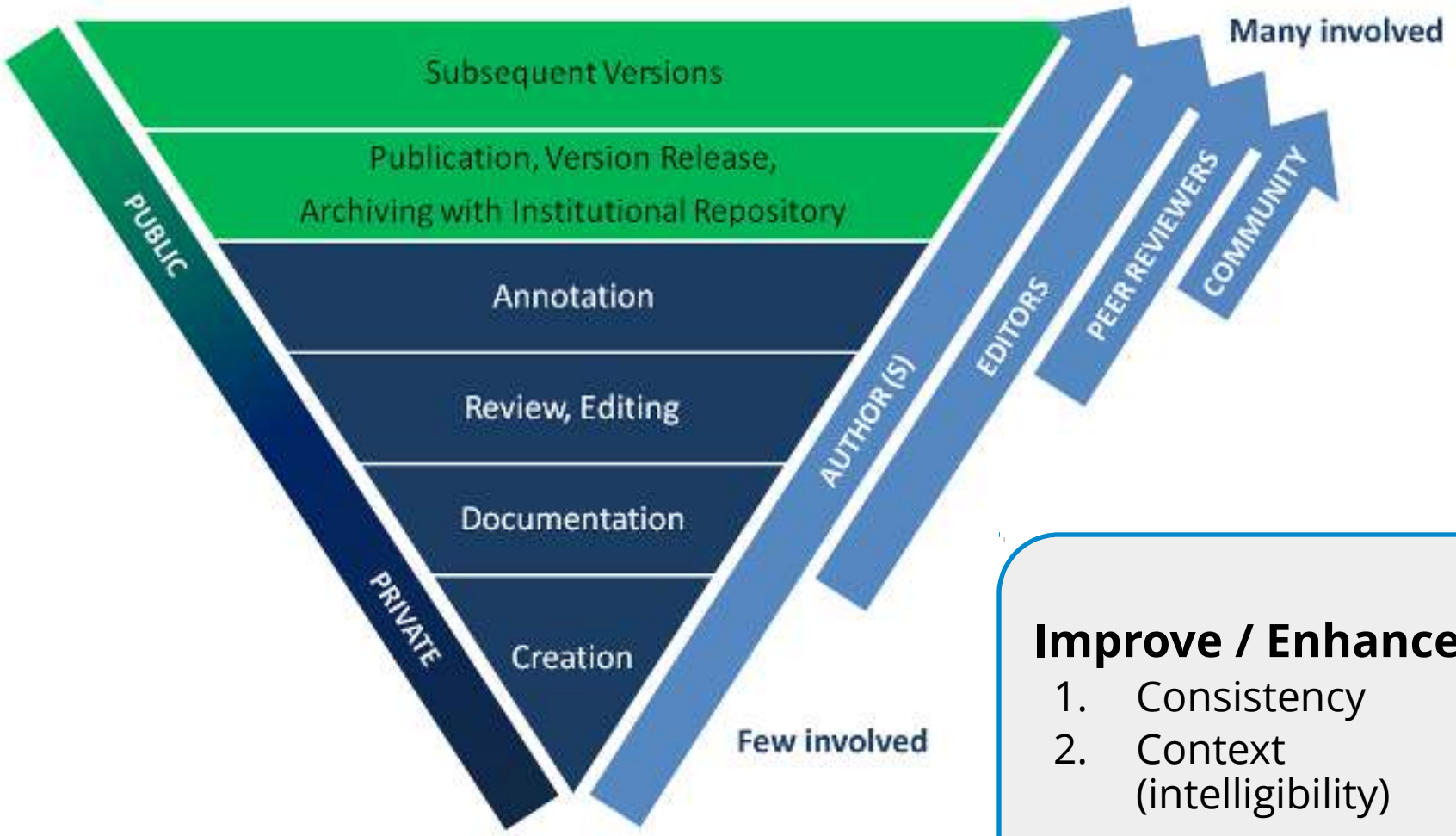

Raw Data Can be Unappetizing



Open Refine

1. Check identifiers
2. Edit vocabularies
3. Consistency and validation checks
4. Can take several hours per dataset (in one case, 140 hours to decode 1 zooarch spreadsheet)

Publishing Workflow

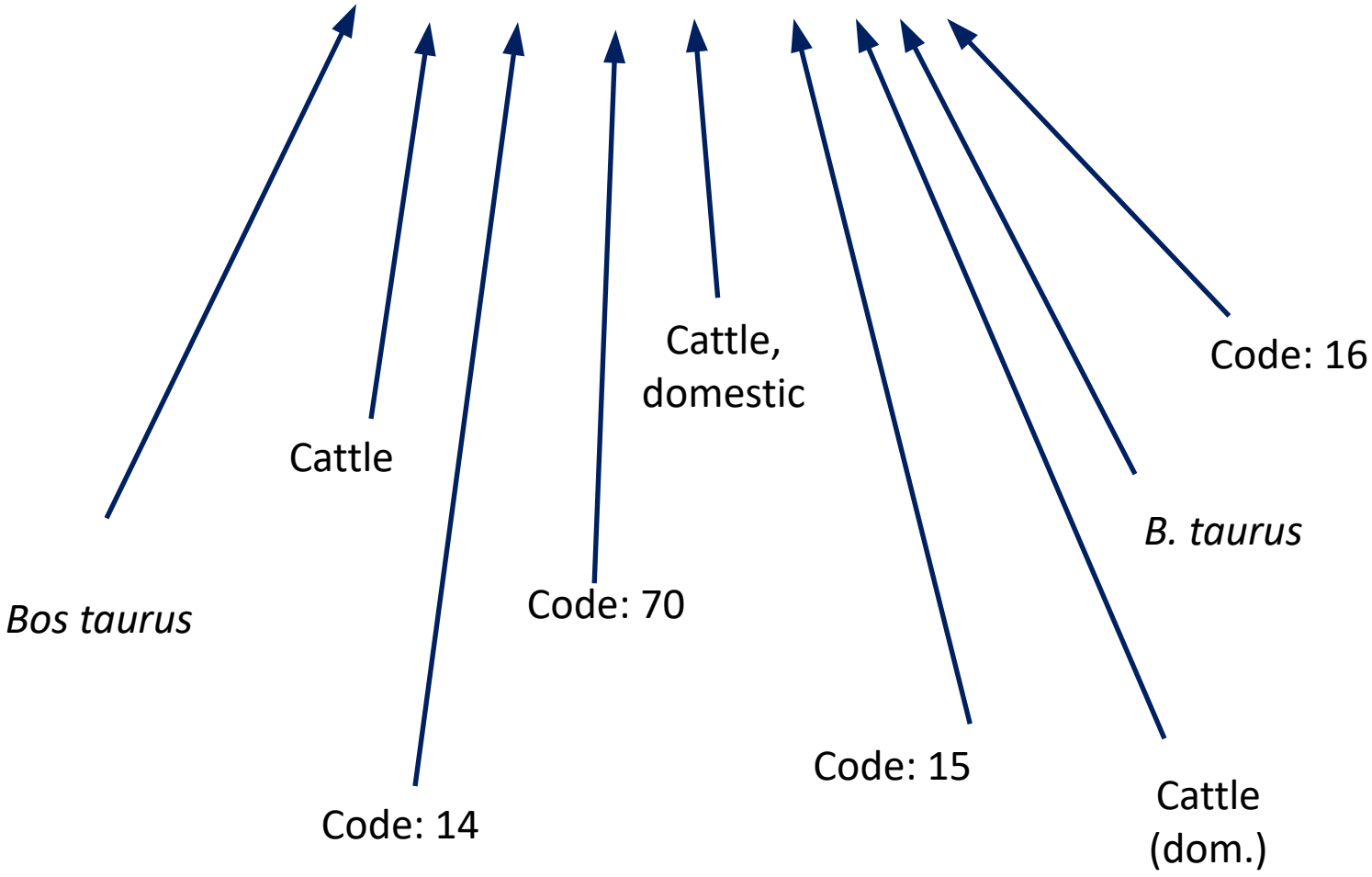


Improve / Enhance

1. Consistency
2. Context (intelligibility)

	OPEN CONTEXT	
Citation	Cite Archaeological Entities (sites, coins, bones, etc)	Cite Digital Files (can contain thousands of items)
Granularity	High (“1 URI per potsherd”)	Low (Information aggregated in big files)
Discovery, Querying	Common schema, common index for content, not just metadata	Index metadata only, content is more opaque
Cost	Expensive “Boutique Publishing”	Cheaper, easier to scale. Self-service models.

“Bos taurus”
http://eol.org/pages/328699



OPEN ACCESS PEER-REVIEWED
RESEARCH ARTICLE

Data Sharing Reveals Complexity in the Westward Spread of Domestic Animals across Neolithic Turkey

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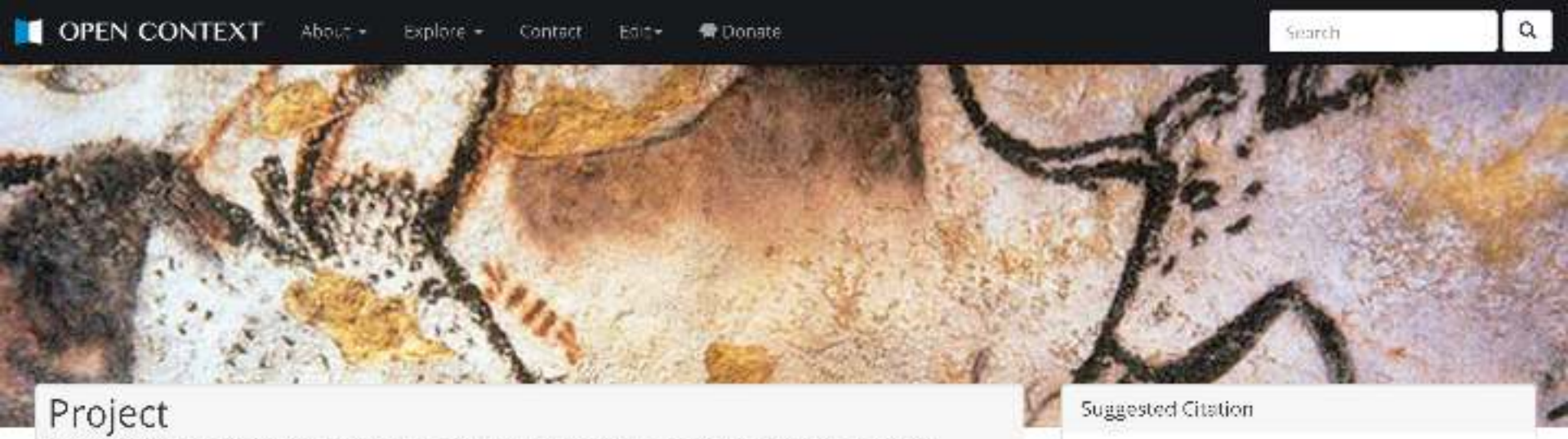
Abstract

This study presents the results of a major data integration project bringing together primary archaeozoological data for over 200,000 faunal specimens excavated from seventeen sites in Turkey spanning the Epipaleolithic through Chalcolithic periods, c. 18,000-4,000 cal BC, in order to document the initial westward spread of domestic livestock across Neolithic central and western Turkey. From these shared datasets we demonstrate that the westward expansion of Neolithic subsistence technologies combined multiple routes and pulses but did not involve a set 'package' comprising all four livestock species including sheep, goat, cattle and pig. Instead, Neolithic animal economies in the study regions are shown



Project

Biometrical Database of European Aurochs and Domestic Cattle

Bos primigenius and Bos taurus biometrical and ageing data from a number of European sites dating from the Middle Pleistocene to the Medieval period

Project Abstract

Biometrical Database of European Aurochs and Domestic Cattle

Abstract:

These data were collected during the course of a PhD exploring the morphological variation of the European aurochs (*Bos primigenius*). This project provides the widest ranging review of European aurochs material to date, bringing together aurochs bone and tooth biometrical and ageing information from a number of geographical areas and time periods, in order to gain a better understanding of the morphological variation of this animal, and provide a data

Suggested Citation

Elizabeth Wright. "Biometrical Database of European Aurochs and Domestic Cattle". (2016) Elizabeth Wright (Ed.). Released: 2016-04-05. Open Context <http://opencontext.org/projects/[illegible]>. DOI: http://dx.doi.org/10.6078/V7TX3C3V

Browse Project

Data Records

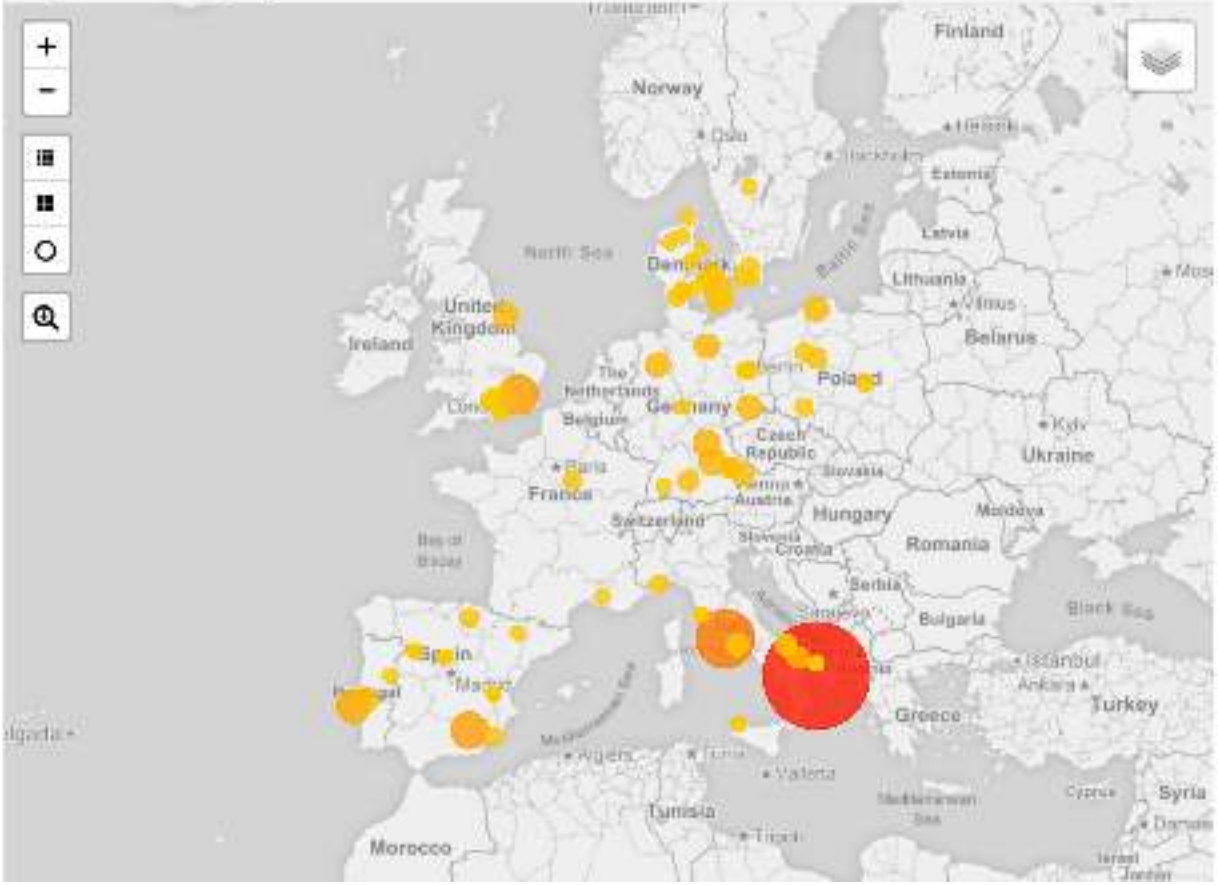
Record type: Animal Bone

Browse and query project Animal Bone data

Example for PeriodO:

Dataset describing animal bones in museum collections and published literature.

Map of Courts by Region 3,683 Data Records



General Keyword Search (Data Records)

Search within these items...

Applied Filters

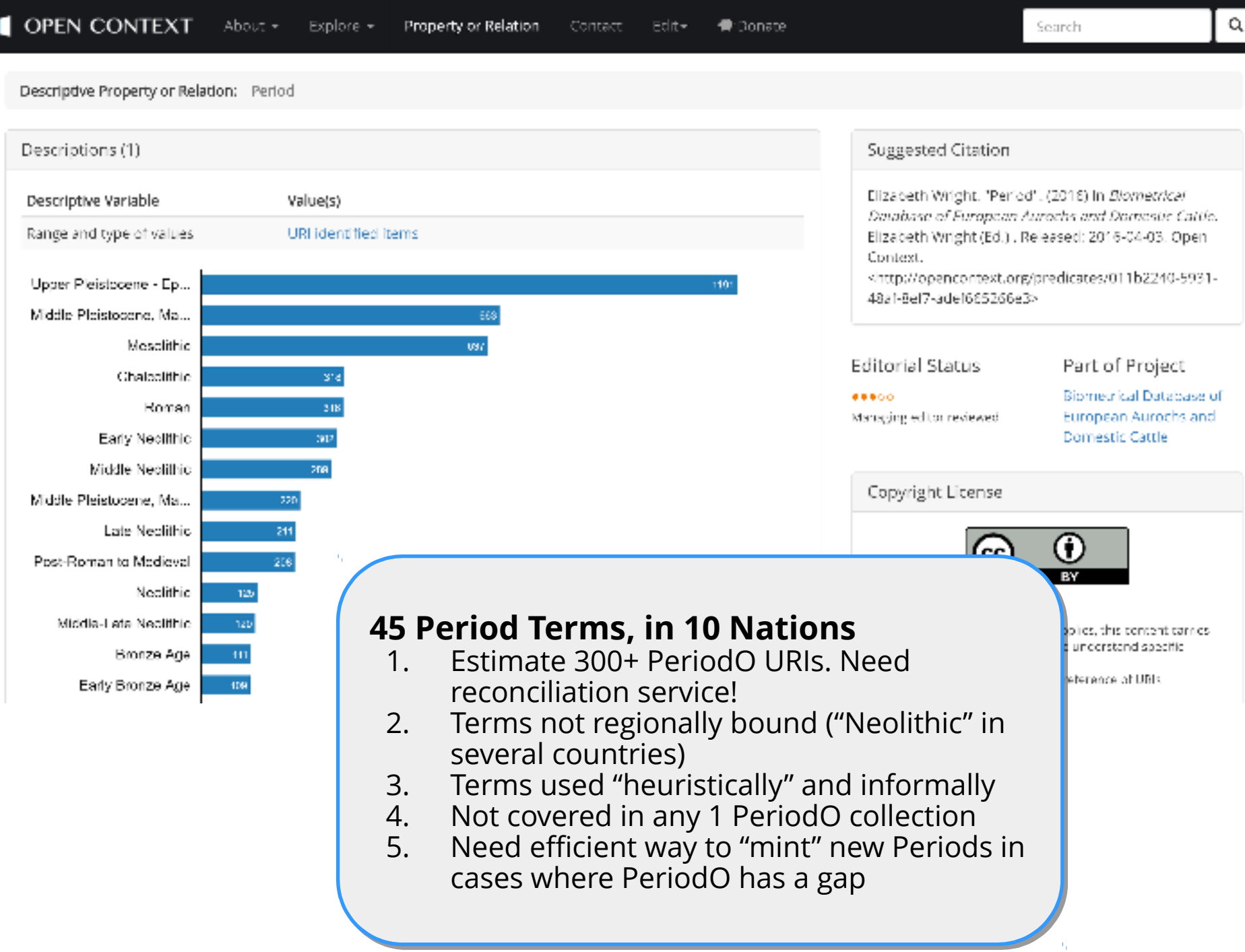
Description
[redacted]

Project:
[redacted]

Filtering Options

Context

Italy		2,156
Germany		1,105
United Kingdom		554
Denmark		529
Spain		408
Portugal		354



45 Period Terms, in 10 Nations

1. Estimate 300+ PeriodO URIs. Need reconciliation service!
2. Terms not regionally bound (“Neolithic” in several countries)
3. Terms used “heuristically” and informally
4. Not covered in any 1 PeriodO collection
5. Need efficient way to “mint” new Periods in cases where PeriodO has a gap

Project

Pyla-Koutsopetria Archaeological Project

Pedestrian survey, geophysical prospecting, and excavation near Pyla, on the southern coast of Cyprus

Project Abstract

The dataset collected by the Pyla-Koutsopetria Archaeological Project (PKAP) documents fieldwork that began in the summer of 2004 near the modern village of Pyla on the southern coast of Cyprus. Over seven field seasons, PKAP teams documented the coastal zone of Pyla using a combination of intensive pedestrian survey, geophysical prospecting, and excavation. We systematically sampled 100 ha in the area, recorded hundreds of thousands of artifacts on the surface, and described hundreds of cut blocks and *in situ* architectural features. After fieldwork, we studied over 15,000 of the artifacts. We recorded the finds and features in a relational database (Microsoft Access) and plotted them on a Cyprus Land Survey 1:5000 map using Geographic Information System software (ArcGIS).

We developed a distributional approach that would produce a high resolution assemblage without overwhelming our logistical system. Across the coastal plain where artifact densities were highest, we chose grid units of 40 x 40 m (1,600 sq m), which were smaller than typical siteless / non-site survey units (3,000-10,000 sq m) but larger than the units used in intensive gridded collection of small sites (25-100 sq m). Across the ridges and the lower density areas of the plain, we broke with a standard grid and increased our unit size to about 5,000 sq m on average, which is more typical of distributional survey generally. In both the 1,600 sq m grid units and the larger non-gridded units, teams of four field walkers traversed the unit at 10 m intervals with each walker covering a 2 m wide swath through the unit.

To sample the site for artifacts, we employed a high-resolution collection method called the "chronotype system" which other projects had employed in Cyprus and Greece with much success. The chronotype system assigns every artifact type (i.e., chronotype) to a chronological and descriptive hierarchy based on specific physical, typological characteristics. Chronotypes range from the very precise (e.g., "African Red Slip Form 9A –

Suggested Citation

William R. Caraher, R. Scott Moore, David K. Pettegrew, "Pyla-Koutsopetria Archaeological Project", (2013) William R. Caraher, R. Scott Moore, David K. Pettegrew (Eds.). Released: 2013-10-25. Open Context. <http://opencontext.org/projects/3F60CD13-A476-488E-ED10-47D25513FCB2> DOI: http://dx.doi.org/10.6078/M7B56GVS ARK (Archive): http://n2t.net/ark:/28722/k2dj59f9n

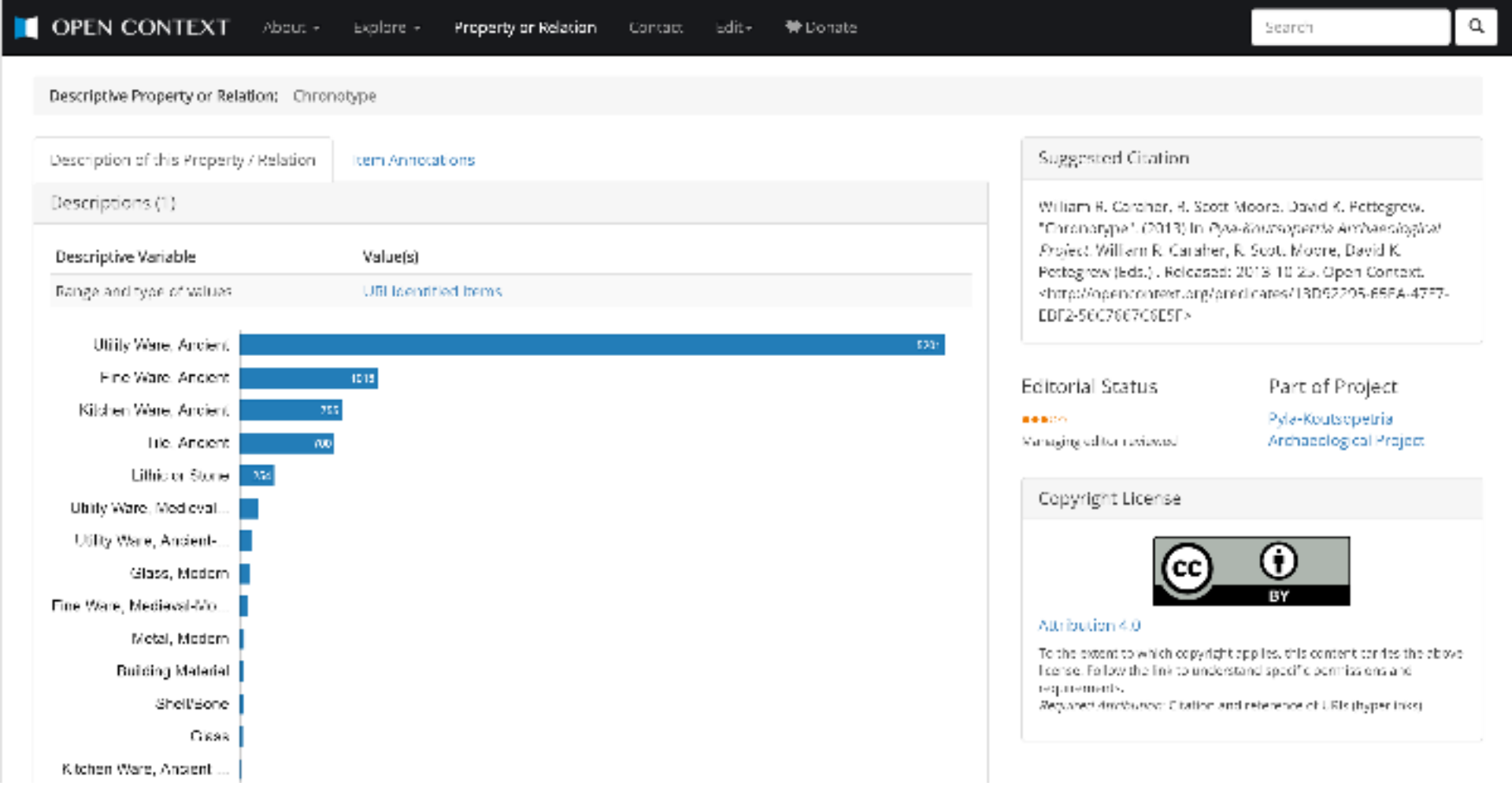
Browse Project

Data Records Media

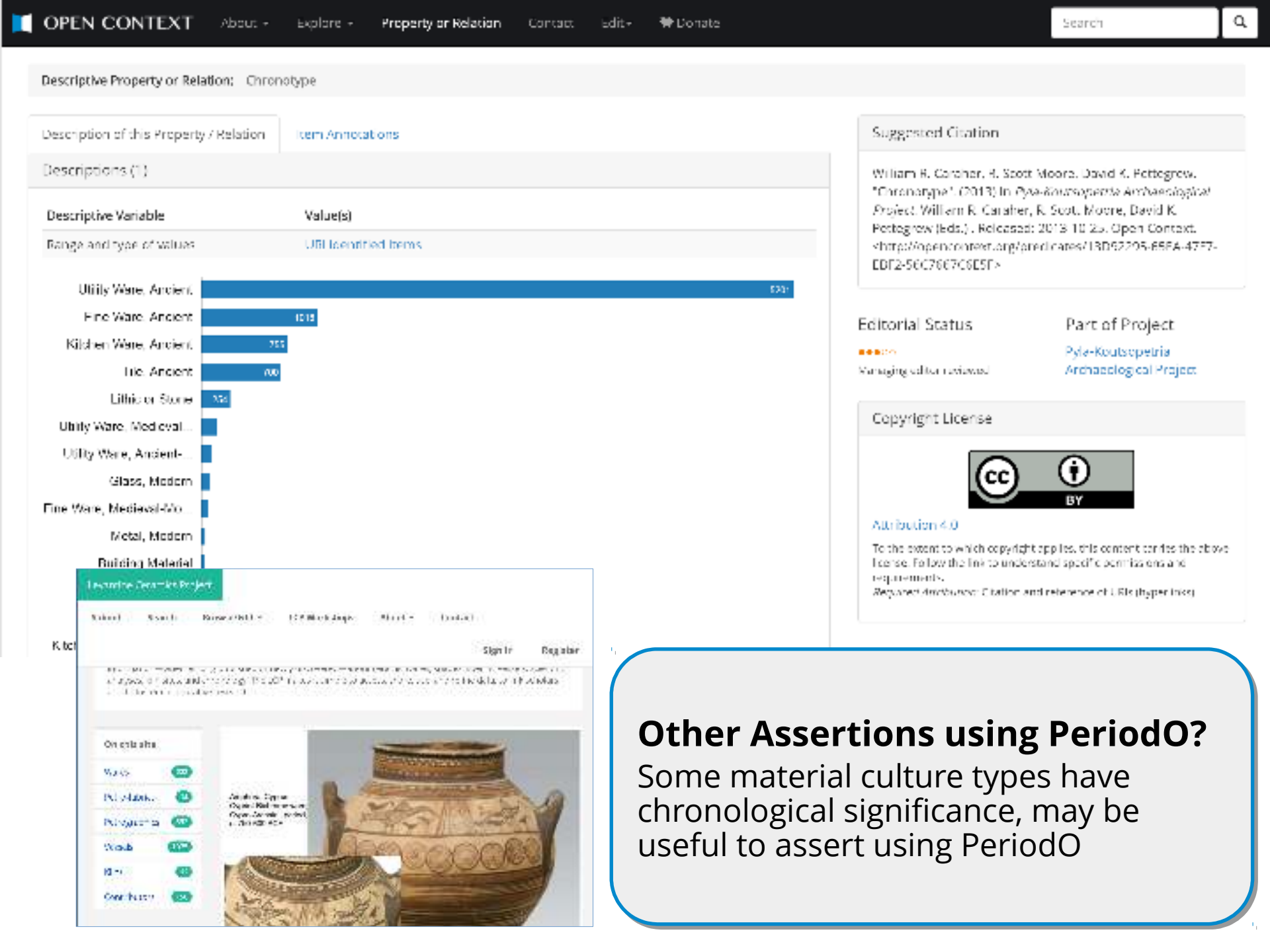
Editorial Status

Managing editor reviewed

Mapping Data

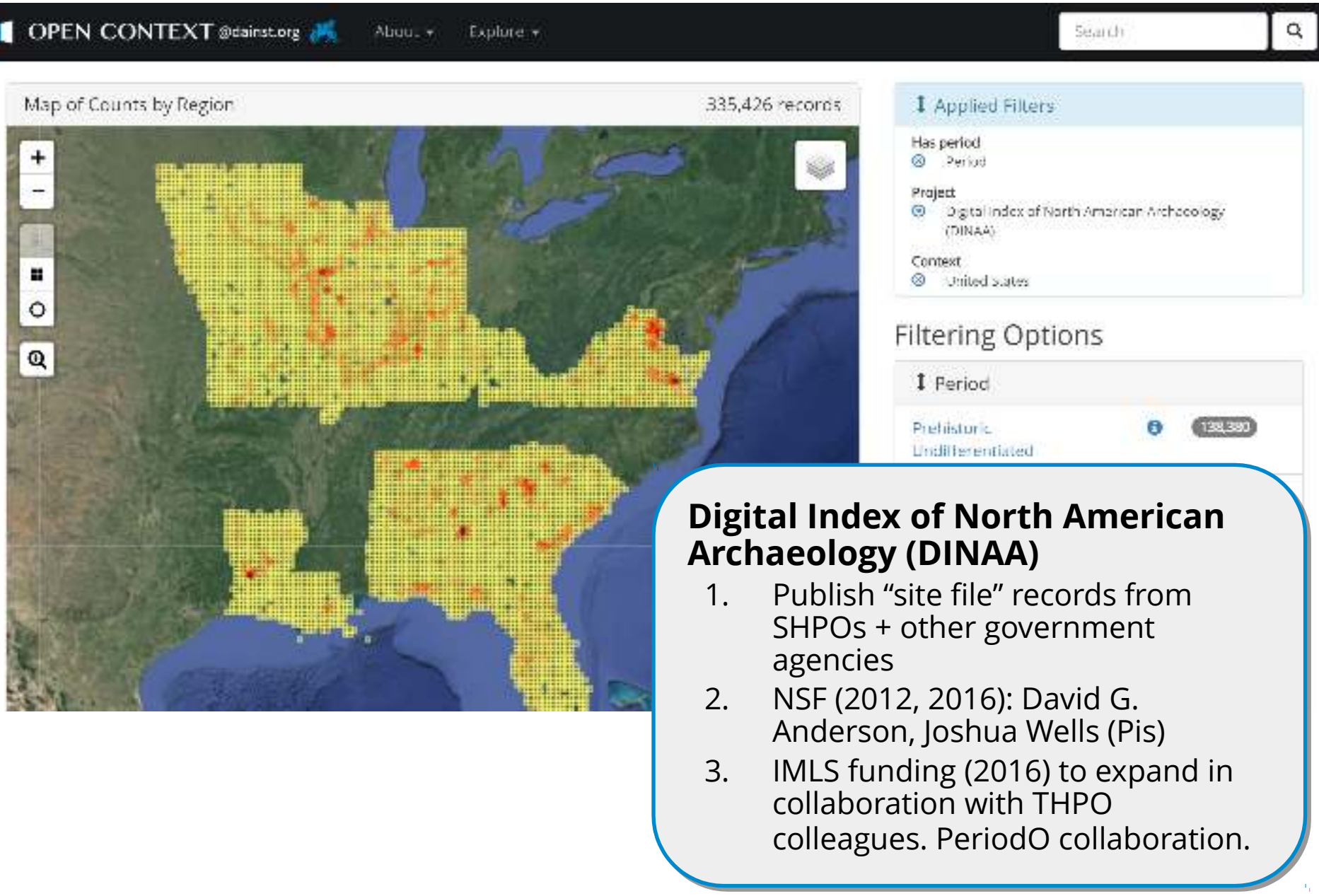


Custom Classification
(derived from research agenda)



Other Assertions using PeriodO?

Some material culture types have chronological significance, may be useful to assert using PeriodO



Digital Index of North American Archaeology (DINAA)

1. Publish “site file” records from SHPOs + other government agencies
2. NSF (2012, 2016): David G. Anderson, Joshua Wells (PIs)
3. IMLS funding (2016) to expand in collaboration with THPO colleagues. PeriodO collaboration.

PeriodO Current backend: web [switch] Sign in

Periodization

Source

Title Sandy Pylos : an archaeological history from Nestor to

URL http://www.worldcat.org/oclc/37663433

Year published 1998

Contributors Alcock, Susan E.
Davis, Jack L.

Periods

View as: List JSON-LD RDF/Turtle Visualization

Name	Start	Stop	Coverage	Note	Editorial note
Geometric Period	ca. 900 B.C.	700 B.C.	ancient Pylos: (Messenia)		
Early Helladic I	ca. 3100 B.C.	ca. 2650 B.C.	ancient Pylos: (Messenia)		
Middle Helladic	c. 2050 B.C.	1680 B.C.	ancient Pylos: (Messenia)	CC307C, Spring 2011, group 3: Tyler Conlin and Morgan Newton	
Hellenistic Period	323 B.C.	31 B.C.	ancient Pylos: (Messenia)		
Middle Byzantine	A.D. 900	A.D. 1204	ancient Pylos: (Messenia)		

Export

- CSV
- Text/Turtle
- JSON-LD

PeriodO Needs

- Many researchers don't want to define or specify a specific periodization scheme
- Want to reference a more vague "current consensus" period

Project
Oracle Bones in East Asia

Tracing the Spread and Development of Oracle Bone Divination in Ancient East Asia

Project Abstract

Oracle bones — animal bones used for pyro-osteomantic divination rituals in East Asia — are one of the most important types of bone artifacts in Chinese Neolithic and Bronze Age sites and the source of inscriptions containing the earliest writing in ancient China. Although these inscriptions are the focus of most research, oracle bone use far pre-dates the inscribed examples and continues after they were a primary medium for writing. Uninscribed oracle bones are rarely published and there is a lack of metric data available for studying spatial and temporal trends in oracle bone manufacture and use. In the Oracle Bone Project, we are reviewing collections of oracle bones housed in institutions across China in order to collect comprehensive data on the types of animal bones used in divination, the methods of oracle bone manufacture, and the archaeological contexts in which the bones are found. Our goal is to trace the origins of oracle bone divination rituals, their spread across Asia during the Neolithic, and the ultimate development of oracle bone divination as a central part of Shang Dynasty royal religious practices. The project brings new zooarchaeological and technological perspectives to research on oracle bones and address anthropological questions about the role of ritual technologies in household and state-level institutions.

Data collected as part of the Oracle Bone Project is published on Open Context in a multi-language open access format. The new data can be used by researchers around the globe to examine temporal and social trends in oracle bone manufacturing and use. Our focus is on uninscribed bones that have not received as much scholarly attention, but we encourage other scholars and institutions to upload additional data from inscribed or uninscribed oracle bones in their own collections. All contributions are associated with a publication record that is fully citable, searchable, downloadable in multiple formats, and linked to data standards that facilitate interoperability. Data input forms in English, Chinese, Korean, and Japanese are coming soon!

The Oracle Bone Project is an international collaboration between the Institute of Archaeology, Chinese Academy of Social Sciences (IA CASS) and Harvard University. The project co-PIs are Katherine Brunson (Postdoctoral Fellow, Harvard Fairbank Center for Chinese Studies), Rowan Flad (Harvard University Department of Anthropology), and Zhipeng Li (Institute of Archaeology, Chinese Academy of Social Sciences).

Annotations (3)

Property or Relation	Value(s)
Subject	+ Archaeology

Suggested Citation

Katherine Brunson, Zhipeng Li, Rowan Flad. "Oracle Bones in East Asia". (2016) Katherine Brunson, Zhipeng Li, Rowan Flad (Eds.). Released: 2016-09-04. Open Context. <http://opencontext.org/projects/27e93af3-6bf7-4da1-a1c3-/b2f744e6cf/> DOI: http://dx.doi.org/10.6078/M/4B2Z7J

Browse Project

Data Records | Sub-Projects | Media

Editorial Status

Page created by Open Context editors. Not reviewed.

Part of Project

Open Context (General)

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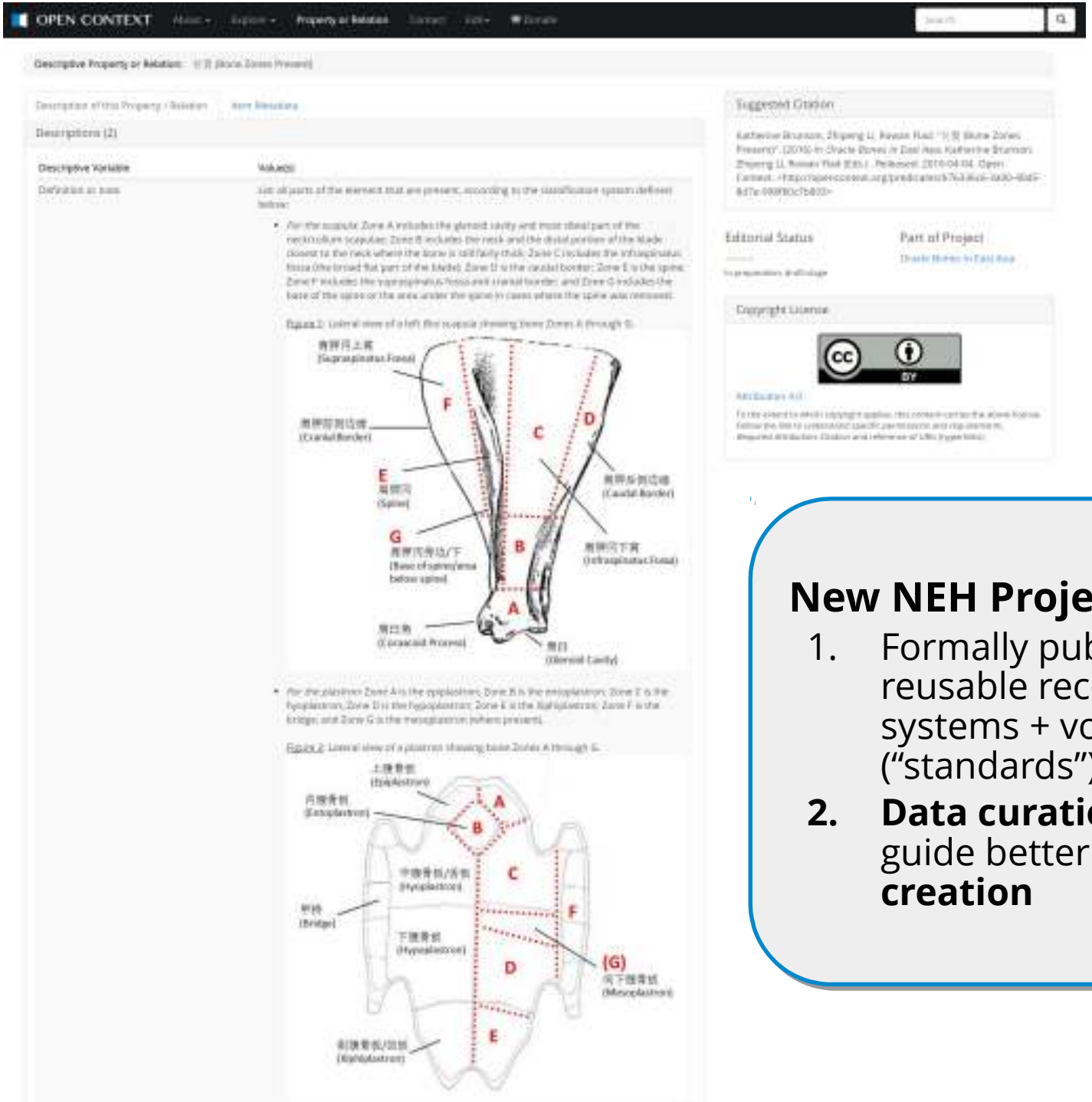

New NEH Project

1. Formally publish reusable recording systems + vocabularies (“standards”)
2. **Data curation** to guide better **data creation**

Image Credit: Copyright Newline Cinema


One does not simply
make implicit/informal
data modeling
explicit

THANK YOU!

University of California
CDL
California Digital Library

THE WILLIAM AND FLORA
HEWLETT
FOUNDATION

NATIONAL ENDOWMENT FOR THE
Humanities

Special Thanks!
Adam Rabinowitz, Ryan Shaw, IMLS, UT Austin, US tax-payers