Linked Pasts 7: Poster Booklet

Table 1 Adriatic:

- 1. Laura Elmer (Graz), Analysis of historical point patterns
- 2. Stephen Gadd (BL), Locating a National Collection
- 3. Franziska Hübl (Graz University of Technology), Spatial Linked Data Approach for Trace Data in Digital Humanities

Table 2 Algiers:

- 4. Terhi Nurmikko-Fuller & Paul Pickering (ANU), Liberal Sydney
- 5. Richard Hadden (Austrian Centre for Digital Humanities), Georg Vogeler (Graz), The IPIF API and endpoint implementations
- 6. Alice Santiago Faria, Mafalda Pacheco, Sandra M.G. Pinto (Lisboa), eViterbo

Table 3 Sicily:

- 7. Florian Thiery, Allard Mees (RGZM), How to link the ceramics past? Use Linked Open Pots
- 8. Frederik Elwert (Bochum), Linked Gandhara. Resources from the **DiGA** Project

Table 4 Aegean:

- 9. Frances Madden (British Library), Developing Identifiers for Heritage Collections
- 10. K. Faith Lawrence (The National Archives), Project Omega: Creating a Linked Data Catalogue for the National Archives
- 11. Fernanda Olival, Helena Freire Cameron, Renata Vieira & Ivo Santos (CIDEHUS), Barbara McGillivray (King's College London), What does it mean to publish historical sources today?

Table 5 Mediterranean:

- 12. Georgia Kakouti (Athens), Documentation and conceptual Block's 15 immersive production
- 13. Aleksandar Andelović & Lewis Read (Wien), Re-evaluating the
- 14. Eleonora Paklons, Paavo Van der Eecken, Lith Lefranc (Antwerp), Understanding bias through data-driven methods: testing of past data (c.1800-c.1940)

Table 6 Black Sea:

- 15. Tom Gheldof (Leuven), Epigraphy.info and the Epigraphic Ontology
- 16. Timo Homburg, Hubert Mara and Kai-Christian Bruhn (Mainz), Cuneiform in the LOD cloud: Connecting 2D and 3D representations of philological objects with linguistic concepts

Table 7: Cyprus

- 17. Joana Vieira Paulino, Daniel Alves (NOVA FCSH), Implementation of LOD principles in DH_Lab projects collaboration
- 18. A.L. McMichael (Michigan State), One Dataset, Many Moving Parts: Assembling a Linked Open Dissertation

modeling of historical information of the interactive scenario of the

Eleventh Century Through Linked Events and Entities (RELEVEN) cognitive social learning processes through intersectional analysis

Analysis of Historical Point Patterns

Laura Elmer

Introduction

Point patterns appear in Archaeology, Biology, Economics and Sociology and in many other disciplines.

The aim of this poster is to give an explanatory approach to analyse point patterns of a historical context, in particular the locations of historic buildings in Mexico City. The focus lies on the examination of the underlying point pattern, specifically if it is random, regular or clustered.

The data consits of 351 monuments situated in the districts "Morelos" (20), "Estado de México" (136) and "Ciudad de México" (195).

Methodology

In the study we transformed the point pattern - consisting of locations of the buildings - into descriptive statistics. This reduction of spatial data to informative statistics was carried out in two ways.

One type of statistics is based on the distance between points, between points and randomly sampled points or both in combination. The second approach is based on dividing the area of México City into a regular grid and sampling the number of points in each cell.

The detection of cluster was carried out with "local indicators of spatial autocorrelation" (LISA) like "Moran's I". With "Moran's I" attributive and spatial similarities are compared, resulting in positiv correlated municipalities (Hot Spots or Cold Spots) or negative correlated municipalities (Doughnuts or Diamonds).

Data

Colonial monuments of Mexico City

Distribution of Monuments



Results

Number of Monuments



Results



Results





TU Graz, Institute of Geodesy,

December, 2021



Results Grid-based statistics



Conclusions

The analysis of the number of monuments of Mexico City results in positive autocorrelation and Hot Spots in the district "Ciudad de México". In comparison with historic assumptions that the Spaniards rebuilt their new capital of the viceroyalty on the grounds of the aztec ruins the analysis of the results are the mathematic proof.

In the 17th century 182 monuments were altered, resulting in five Hot Spots. In one Hot Spot (Malinalco) the Order of Saint Augustine was superseded by the Jesuits concomitant with alterations at religious buildinas.

Acknowledgements

Address

I would like to thank Johannes Scholz for his constant advice during this project.

Thank you Werner Stangl for providing data and historic knowledge of Mexico City.

contact

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Building on methodologies developed by *Pelagios Network* partners, Locating a National Collection seeks to establish best practice and provide technical recommendations for an approach to connecting collections and engaging audiences.

Part of the UKRI-funded project Towards a National Collection - see <u>bit.ly/TaNC-LaNC</u>



4. Visualisation tool to be developed, based on *bit.ly*/Peripleo-Lite.





2. Search-engine-indexable *bit.ly*/LaNC-Data-Model



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	ό δὲ Πειραιεὺς δῆμος μὲν ἦ	ν έκ παλαιού , πρότερον δὲ πρὶν ἢ
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	τὴν χώραν καὶ ναυσὶν ἄμα	έκ θαλάσσης κατεῖργεν.
	Άντίγονος ὁ Δημητρίου στρ	οατιậ τε αύτὸς ἐσβεβληκὼς ἕφθειρε
	Πτολεμαίου τοῦ Λάγου τιμ	ωρεῖν ἕστειλεν <mark>Αθηναίοις</mark> , ὄτε <mark>σφίσιν</mark>
	τριήρεσιν ὑπέπλει ναύαρχα	ος <mark>Αίγυπτίαις</mark> , ἃς Πτολεμαῖος ὀ
	ώκοδομήσατο έν <mark>αύτῆ</mark> καὶ	<mark>χάρακα</mark> έβάλετο Πάτροκλος , ὃς
	νῆσος ἕρημος οὐ μεγάλη Π	ατρόκλου καλουμένη· τείχος γὰρ
	Λαύριόν τέ έστιν, ἕνθα ποτ	έ Άθηναίοις ἦν ἀργύρου μέταλλα , καὶ
	Σουνιάδος έπι κορυφή τής	άκρας . πλέοντι δὲ ές τὸ πρόσω
	λιμήν τε παραπλεύσαντι τὴ	ν άκοαν έστὶ καὶ ναὸς Ἀθηνᾶς
	τῆς ήπείρου τῆς Ἐλληνικῆς	κατὰ νήσους τὰς <u>Κυκλάδας</u> καὶ ούνιον ποόκειται νῆς τῆς Ἀττικῆς · καὶ
	Chapter 1 Section 1	
		*

Spatial Linked Data Approach for Trace Data in Digital Humanities

Franziska Hübl

November 2021

By combining existing ontologies like the Linked Pasts Ontology with historical Linked Places and "trace" data a Knowledge Graph can ABSTRACT. be realized. This semantically enriched contextual triplestore, which functions as a basis for e.g., Geographic Question Answering, is investigated regarding the given formats and their geosemantic capabilities and spatio-temporal guerying.



RESULTS. The shown approach indicates that the Linked Places format holds enough linkable object values to integrate it into a Knowledge Graph. By taking a look at the geosemantic capabilities, the given Linked Places format is holding the following possibilities:

- Include all kinds of descriptions and links
- Supports different geometry types and formats
- Places are well describable and can be enriched with context as needed
- A lot of possibilities to describe time relevant changes of • places, events, names etc.

By integrating the given data and ontologies to the Knowledge Graph, while following existing patterns and formats, no information gets lost.

The data mapping of the sample "trace" data showed that the Linked Traces format needs further adaption to satisfy the overall requirements, e.g., by defining historical entities and their types like event, artifact, person etc.

The resulting Knowledge Graph can be published as SPARQL endpoint and thus becomes accessible and linkable in a standardized way.



Visual graph created in GraphDB, showing the place "Babylon", where several events of three different traces took place.

SOURCES (Linked Pasts Ontology and Data Formats).

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Data + Ontology = Knowledge Graph

Linked Places and Linked Traces format Existing patterns like CIDOC CRM ontology and

Event, Place, Trace class and additional trace

SPARQL queries and spatial queries with GeoSPARQL Order data by time (works for different time formats)

Liberal Sydney

Terhi Nurmikko-Fuller and Paul Pickering

Abstract

We investigate the genesis of a brand of colonial liberalism that helped to shape the contours of modern Australian politics.

Our project brings together an innovative granular methodology for the study of prosopography with Linked Data supporting and diversifying historical enquiry and enriching academic investigation.

Project Description

The columns of C19th colonial newspapers were packed with lists. Our project begins by focusing on one list in particular: the 'General Committee', comprising 116 members, formed to secure the election of Henry Parkes to the New South Wales Legislative Assembly. It was published in Parkes' Sydney-based newspaper, The Empire, in April 1854.

Why this list? Why Henry Parkes? Parkes was standing at a crucial by-election for the vacant seat of Sydney at a pivotal moment in the campaigns for self-government and democratic rights in the Australian, His crushing victory as a selfdescribed 'liberal' was a marker of the rise of progressive thinking in the colony. For us, it is a point of entry. What did

'liberalism' mean? Who advocated it?



A cursory investigation of the *dramatis* personae of Parkes' Committee, collected during a preliminary prosopographical examination of the Sydney press, reveals complex individual lives. Portraits of some of these people have been mapped previously [1-6], but those investigations were compiled using old technology: a sharp pencil and index cards.

A Linked Data approach allows us to go exponentially further, penetrating the shadows of history to identify hitherto unknown shared characteristics: relationships, ideas, values and aspirations.

Mapping Prosopography

Designing Ontology





Our analogue research archive contains data from newspapers and journals totalling more than 150 years of coverage (approx. 8,000 issues or 32,000 pages), supplemented by over 300 collections of manuscript correspondence, diaries, and memoirs as well as books, pamphlets and ephemera.

There are approx. 110,500 data instances: 83,500 on index cards; 27,000 in A4 notebooks; and 3,000 in additional photocopies. Each card, page, and photocopy were assigned a unique identifier and references to other documents within the system. It results in a non-linear but robust analogue hypertext system [7].



Australian National University

Australian National University

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The IPIF API and endpoint implementations

IPIF (International Prosopographical Interchange Format; Vogeler et al. 2019) is a factoid-based (Bradley 2005) data model and API for sharing, querying and writing prosopographical data.

AUSTRIAN

ACADEMY OF SCIENCES



A factoid connects a number of statements about a person from a single source.

JSON-LD FORMAT (/PERSON RESPONSE)



API ENDPOINTS

```
/persons/tangl k (get a person by ID or by URI)
/persons/http://apis.acdh.ac.at/entity/1408/
```

```
/statements/tangl k name (get statement by ID)
/factoids/factoid 27527 (get factoid by ID)
/sources/original source 594 (get statement by ID)
```

STATEMENT PROPERTIES

Statements may contain a number of standard properties:

- name (value of any naming statement)
- role (role in an organisation or event)
- date (temporal value of the statement)
- places (list of places involved in statement)
- relatesToPerson (list of persons related to statement)
- memberOf (organisation in which person has a role)

QUERYING

Any API endpoint may be gueried with statement properties, allowing 'graph-like' traversals using URIs or full-text search:

/sources?personId=tang1 k (all sources that are related, via some **factoid**, to the **person** with ID 'tangl_k')

STATEMENT FILTERS

Statements can be queried by properties:

/statements?name=Tangl (statements assigning the name 'Tangl')

or via 'shortcuts' from other endpoints:

/person?name=Tangl&place=Wien (persons connected via a **factoid** to a **statement** that assigns the name 'Tangl', and via a factoid to a statement pointing to the place 'Wien')

USE CASES

- Fast and easy autocompletes for data entry Data analysis
- · Building lots of other fancy tools!



EXIST-DB IMPLEMENTATION (FORTHCOMING)



model, and automatically creates endpoints for the IPIF API.



Python client allows guerying multiple IPIF endpoints simultaneously using a pythonic API, automatically carrying out requests and aggregating data using matching URIs.



- Making prosopographical data/metadata available in a standard form, via simple API
- Aggregating and merging data from multiple projects Identifying sources connected to persons

APIS IMPLEMENTATION



The Austrian Prosopographical Information System (APIS) is used at the ACDH-CH for many prosopographical and bibliographical projects (ÖBL, VieCPro). It is Python/Djangobased.

IPIF has been implemented as an APIS module, allowing data from these projects to be provided and gueried via the IPIF API. The application converts data to the IPIF model and pushes it to a Solr instance for rapid access.



Provides function templates for converting TEI-XML personographies to an XML representation of the IPIF

PYTHON CLIENT

```
In [1]: from ipif client import IPIF
In [2]: ipif = IPIF()
In [3]: ipif.add endpoint(name="APIS", uri="http://
localhost:8000/ipif/")
In [4]: p = ipif.Persons.id("27527")
```

Getting persons @id='27527' from APIS (0:00:00.03)





eViterbo by CHAM - Centro de Humanidades FCSH-NOVA eISBN: 978-989-8492-77-7 Research project funded by FCT—Fundação para a Ciência e a Tecnologia, I.P. (PTDC/ART-DAQ/31959/2017) Alice Santiago Faria, Mafalda Pacheco, Sandra M.G. Pinto



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How to link the ceramics past? Use Linked Open Pots!



Vitalis i (red), Samian pottery from La Graufesenque, Southern France



Vitalis iii (red), Samian pottery from Les Martres-de-Veyre, Central France



VITALIS (*black*) Amphora pottery from Baetica, Southern Spain, Dressel 20







 \uparrow The semantic relationships by potters or pottery owners as a main property concept allow for cross-kilnsite comparisons by using simultaneous SPARQL queries on different resources on the internet (i.e. Samian Research, amphoras CEIPAC/ADS) and merge the results on a single distribution map.

← Within different research-domain specific typologies (e.g. for Samian), specific potform / service properties can be used in order to describe the cross-typologies relations. This allows for retrieving pots when different Samian typologies are being used in different European regions.



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archaeology.link

Data Hub for the RGZM and its partners

An archaeological Linked Open



LINKED GANDHARA | RESOURCES FROM THE DIGA PROJECT

THE PROJECT

THE GAZETTEER

Dir > Chakdara > Right bank > Talash > Andand-

PREFERRED TERM

ENTRY TERMS

LATITUDE

LONGITUDI

Download this concept

URI

BROADER CONCEPT (PARTITIVE)

DiGA - The Digitization of Gandharan Artefacts Gazetteer

Digitization of Gandharan Artefacts (DiGA) is a project for the preservation and the study of the Buddhist art of Pakistan. It aims to digitize and catalogue a corpus of just under 2,000 Buddhist sculptures from the ancient region of Gandhara. Gandhara is a historical region which covers present-day Northwest Pakistan and Eastern Afghanistan and which was a pivot between South and Central Asia.

A comprehensive and systematic archaeological gazetteer or archaeological maps are still lacking for Gandha-

ra. The DiGA Gazetteer aims to reconstruct the cultural

Andand-dheri ႇ

https://w3id.org/diga/gazette

RDF/XML TURTLE ISON-LD

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The Ucch stupa

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geography of Gandhara by identifying regions of cultural rel-

evance, like valleys or river banks, and locating the historical



https://diga.ceres.rub.de/

sites within. For each site,

information about alternative

toponymy, its features, the his-

tory of archaeological research,

and the collection where excav-

ated objects are housed is

provided in addition to the site's

localisation and its related bibli-

ographical references.

THE CORPUS

The Buddhist sculptures – statues of the Buddha and bodhisattvas, narrative reliefs and decorative ele-Ð ments - were excavated in 13 ancient Buddhist monasteries located in the northern confines of Gandhara. A large portion is currently in the Dir Museum (Chakdara) and a smaller one with the Italian Archaeological Mission in Pakistan (MAIP). Produced during the first centuries CE, the objects bear testimony to Buddha in dhyana the rich cultural and religious heritage of this region that was once considered a Buddhist Holy Land. The digital reproductions and metadata will be made accessible through heidICON under permissive licenses.

THE THESAURUS

The development of a Thesaurus for the description of Gandharan art and – more generally – Buddhist art constitutes a key milestone of the project. Our core vocabulary has been built starting from a limited selection of sources, a prominent one being the DiGA - The Digitization of Gandharan Artefacts Thesaurus Repertorio Terminologico per

la schedatura delle sculture dell'arte gandharica and includes controlled vocabularies for figures, monuments, objects, elements, components, etc. It is published as a SKOS thesaurus for use in LOD applications. In the future, mappings to other resources (Getty AAT, Iconclass, etc.) will be added.



-Right ha



This poster, "Linked Gandhara", by Frederik Elwert, Jessie Pons, (cc) Serena Autiero, and Cristiano Moscatelli, is published under a **Creative Commons Attribution 4.0** license.

UNIVERSITÄTS-BIBLIOTHEK HEIDELBERG









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Federal Ministry of Education and Research

Developing Identifiers for Heritage Collections

Frances Madden, British Library, <u>https://orcid.org/0000-0002-5432-6116</u>

What type of PID does a heritage organisation need?

'Developing Identifiers for Heritage Collections' is a tool aimed at heritage professionals to support decision-making for persistent identifier (PID) use.

The project's 2020 survey found the value of PIDs, for example in creating trustworthy links, was understood but needs to be more clearly addressed directly to decision makers within cultural heritage institutions.

Choosing an appropriate PID can be difficult, so the project developed a description of institutional requirements, defined to several levels of complexity and matched them to the features of various PIDs.



Persistent Identifiers as IRO Infrastructure (Heritage PIDs), a Foundation project in the Towards a National Collection programme, is a 24 month project to investigate the role of persistent identifiers in the construction of a 'national collection' for the UK. tanc-ahrc.github.io/HeritagePIDs/

NATIONAL GALLERY







Findings from the project's survey indicated that the sector would value some practical guidance on how to implement PIDs including how to guarantee persistence, information on how much PIDs cost and how to have resources cited using PIDs.

Identifier	Name	Baseline Implementation	Augment metadata with existing IDs	IDs as links – not persistent	IDs as links – local persistence	Human readable PIDs	Machine readable PIDs	Globally resolvable PIDs	Link
<u>ARKs</u>			•		•	•	•	•	Ľ
CETAF :	DOI		•		•	•	•		Ľ
<u>Dewey</u>	Digital Object Identifier, a globally governed PID infrastructure. DOIs are particularly used for research-related objects. Is globally unique? Yes. Is actionable? Yes. How is persistence guaranteed? Through DOI governance.	tifier, a globally structure. DOIs are	•	-	-	-	-	-	Ľ
DOI		or research-related	•		•	•	•	•	Ľ
EIDR		Yes.	•	-	-	-	-	-	Ľ
FAST S		guaranteed? mance.	•	-	-	-	-	-	Ľ
Geonam	nes	-	•	-	-	-	-	-	Ľ

Which PID does what?

A table describing how different types of PIDs meet each level of requirement. It also includes a brief description of each PID types.

For researchers using GLAM resources:

- Cite the digital version of a resource
- Use a suggested citation where it is provided, it may contain a persistent link different to what is in the browser
- Ask how collections should be cited

Royal Botanic Garden Edinburgh



"How-to" Guidance





What does it mean to publish historical sources today?

Fernanda Olival(ORCID nº: 0000-0003-4762-3451)¹, Barbara McGillivray(0000-0003-3426-8200)², Helena Cameron(0000-0001-7719-6994)³,

Renata Vieira(000-0003-2449-54770)¹, Ivo Santos(0000-0001-5152-6027)¹

An example from The Portuguese Parish Memories

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DE ÉVORA

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- ² King's College London
- ³ Instituto Politécnico de Portalegre; CIDEHUS



What can we do on the data?

What's next?

Annotate, Translate Link,TEI LoD, FAIR Data quality, KB

The Linked Open Data Cloud



What impact do IT advances have on publication of sources?



Fundação

para a Ciência

e a Tecnologia



POLITÉCNICO **DE PORTALEGRE**



Documentation and conceptual modeling of historical information of the interactive scenario of the Block's 15 immersive production Georgia Kakouti

Postgraduate student

Digital Methods for the Humanities. Athens University of Economics and Business

Block 15

· Project developed by the Department of Informatics of Athens University of Economics and Business.

•Co-funded by the German Federal Foreign Office and the Greek Ministry of Culture and Sports.

•Immersive Virtual Reality experience.

•Focuses on Block 15 of the Haidari Concentration Camp in Western Athens.



2015 Anna Maria Droumpouki, All rights reserved

•The first production of immersive technologies on difficult heritage in Greece.

Scenario

 Dramaturgical narrative. The 24-hour (morning of the 9th to the morning of the 10th of August 1944) experience of a prisoner in Block 15 of the Haidari Concentration Camp.

•Based on primary and multimedia archival sources.

Faithfull to historical sources and events.

More about **Block 15 Demo** of the production Interactive Scenario of the VR production (In Greek)

Documentation

Documentation aims at achieving as accurately as possible correspondence between historical information of the Scenario and historical information found on bibliographic sources that it was based on. The collected data from 21 bibliographic sources were 665 in total. These were categorized as primary and secondary and depending on their form and language.



Database

 A database has been created employing Protégé, an ontology editor that is free and open-source.

• Queries expressed in SPARQL query language have been defined for the retrieval of historical information.

A conceptual model for historical information of the Scenario and historical information of the documentation has been developed using part of CIDOC CRM, a formal ontology intended to facilitate the integration, mediation and interchange of heterogeneous cultural heritage information. In order to highlight important historical information found on the scenario and bibliography ten new classes and fourteen new properties have been added - for the purposes of this master thesis- to the ontology as subclasses and subproperties of the preexisting classes and properties of CIDOC CRM.



The conceptual model is enriched in a way that can represent crucial details of significant historical importance. In this way, it is also highlighted the extensibility of CIDOC CRM. In this case, CIDOC CRM ontology supports extensions for more specialized needs such as historical information of a site of difficult heritage.

Conceptual model

RELEVEN

Re-evaluating the Eleventh Century with Linked Events and Entities

Aleksandar Anđelović and Lewis Read Principal Investigator: Professor Tara Andrews Department of History | University of Vienna

THE MODEL EXPLAINED

Our new digital model is the STAR (STructured Assertion Record) model for historical assertions, which is essentially a modified LOD model, where each piece of information is represented as an entity known as an assertion. The assertion is the only entity that may be the subject of an LOD triple. There are five relationships, each of which links to another sort of entity: a subject, a predicate, an object, a source, and an authority. Any of these entities, including assertions themselves, may be the objects of an LOD triple.



The data is, therefore, strictly a set of assertions, linked to each other through sharing of subjects, predicates, objects, sources, or authorities. The model therefore allows a user to make assertions about sources or even about predicates. This significantly increases the flexibility of expression around the information associations that historians need to make. It also means that existing LOD triples can easily be imported into the data model, simply by reifying the predicates defined in the associated ontologies and attaching source and authority information to the triple. When the data collection has been done, different 'views' of the data can be exported in the old format, filtered by the sources, or authorities, that a user wishes to consider.

THREE THEMATIC STRANDS

THE HISTORICAL

The historical objective of the RELEVEN project is to explore the

connections between people and ideas across cultures and

polities in the eleventh century Christian world, especially in its

eastern areas where the majority lived and in the areas of the heaviest interregional interchange. Despite this period being

one of major change and transition for Western Asia, the

Eastern Mediterranean and Eastern and Central Europe, the

eleventh century has been predominantly viewed with a

One of the claims at the core of this project is that western

Europe, an area which did not exert very much influence on

events outside its own borders before the advent of the

Crusading movement, is represented in modern scholarship

vastly out of proportion to its significance before 1095. The

objective of the RELEVEN project is to contribute to rectifying

this imbalance of attention and scholarly effort by recentering

this focus to other parts of the Christian world and begin to

explore vast networks of exchange and interconnectedness.

We intend to analyse this information with the help of digital

methods across three thematic and interrelated strands.

western-focused perspective.

The three thematic strands are intended to connect relatively isolated works of scholarship and the diverse array of primary sources, in order to gain a better overall sense of eleventh-century realities and perspectives and to make these realities and various perspectives legible to modern scholars through well thought-out data analysis and visualizations.

PEOPLE AND MOVEMENT

OFOIA

Here the aim is to record information about the people who lived during this time, with a view to studying their perceptions of others – especially those from outside their own community - and their movements. The existing prosopographies already provide quite a lot of relevant information, which must nevertheless be cast in the form of historical assertions that can be compared and contrasted with other assertions.

PLACE AND SPACE

Our approach to this question will draw, first of all, on the movements of people as they are recorded in the textual sources: how did these flows of travel change, and how closely (or not) did they follow the changes in rulership that are used today for periodization of the history of these places? The second source of information will be the mention of places in texts of all kinds: who was mentioning them, writing in what language, and in what context?







THE DIGITAL

The methodological objective of the RELEVEN project is to demonstrate how, when carried out with proper attention to the working methods used by historians, digital technologies can help to bridge the disciplinary gaps that must be tackled in order to provide any sort of integrated trans-regional perspective.

For research where historical data is very often contested, the typical LOD/ontology model is not sufficient for providing the complexity and nuance required when researching medieval historical sources. Moreover the factoid model, which has been employed in several medieval prosopographical collections, also falls short of providing a solution. It does not provide for recording scholarly consensus about whether a particular factoid should indeed be accepted or contested, nor does it allow for recording evidence ex silentio. In short it is critical to find a model which can represent nuanced assertions, grounded in both the context of often conflictual primary sources and secondary scholarly debate.

TEXTS

Just as information about people on a relatively large scale is a useful means of tracing the social trends of a period, so information about texts is a useful means of tracing certain intellectual trends. The question we aim to answer in this strand is, what sorts of texts were being produced in the period 1025-1095, and for whom?

WHAT CAN ARTIFICIAL INTELLIGENCE TELL US ABOUT HISTORICAL BIAS?

Social biases are constructed and transmitted through processes of interlinked social learning.

Our project focuses on **3 proxies** to analyse these processes between 1800 and 1940:



MASS COMMUNICATION	EDUCATION	REGULATION
Magic lantern slides	Illustrated children's literature	Police reports
Transnational: Western Europe	Regional: Dutch language area	Local: Antwerp
Eleonora Paklons	Paavo Van der Eecken	Lith Lefranc
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4 intersectional axes of bias

- Multimodal
 - Images:
 - Text:
- Data-driven

Interdisciplinary

- Philosophy

Artificial intelligence technology is sensitive to **bias**. We can use this sensitivity to our advantage.

Image classification & object detection - People & faces - Scene-level bias - Associated objects

Handwritten text recognition, named entity recognition, word embeddings

• Refrain from directly annotating bias into the data • Bias as over- or underrepresentation Co-occurence of biases

• History, literature, intermedial studies • Digital humanities

EPIGRAPHY

Tom Gheldof (KU Leuven), Petra Hermankova (Aarhus) & Steering Committee Members

Epigraphy.info is an international community pursuing a collaborative environment for FAIR & Open digital epigraphy. Epigraphy.info serves as a landing point for digital tools, practices and methodologies for managing collections of inscriptions.

- We currently have more than 38 international partners, representing the field of digital epigraphy. We welcome all kinds of collaboration, partners and members!
- 2

We have several working groups that are actively meeting:

- <u>EpiOnt</u> WG
 develop common epigraphic ontologies (EpOnt OWL: version 0.1)
- <u>Vocabularies</u> WG
 update and create linked vocabularies (based on EAGLE)
- <u>Funding WG</u> = advice and support proposals for projects in digital epigraphy
- Social Media WG => inform about the latest news and interact on social media
- 3
- We hold annual meetings and workshops which everyone <u>can join</u>. The next meeting (workshop 7) will be held in Leuven in late 2022.

For more info go to www.epigraphy.info or follow us on Social Media!

Linked Pasts VII, December 14 (Ghent)



Cuneiform in the LOD cloud: Connecting 2D and 3D representations of philological objects with linguistic concepts

Linked Pasts VII – Ghent Centre for Digital Humanities and CLARIAH Flanders Open Humanities Service Infrastructure consortium, December 2021

Timo Homburg¹, Hubert Mara², Kai-Christian Bruhn¹

Cuneiform LOD Cloud

We present an ontology model that was developed in the research project "Digital Edition of Cuneiform Texts from Haft Tappeh (Iran).

The focal point of the model is the cuneiform tablet as an archaeological artefact with its philological features, of which different representations are provided:

- Transliteration (textual)
- 3D model (meshes)
- 3D renderings (2D visualisations computed from the 3D model)
- Photographs

All representations are enriched with metadata and medium-specific annotations highlighting different features relevant for philological research and beyond.

Existing standards such as CIDOC-CRM (CIDOC, 2006) and CRMtex (Murano et al. 2021) for the representation of the archaeological artefact, Ontolex-Lemon for the representation of words, the W3C Web Annotation Data Model (Sanderson 2017) for the representation of annotations and other domain-specific annotation as well as palaeographic description vocabularies are used to create the ontology model.

Metadata

We capture the following metadata on the digital mediums:

- Transliteration Metadata: Metadata schema conforming to the Cuneiform Digital Library Initiative (CDLI) allowing a seamless integration
- 3D meshes: Capturing and mesh metadata according to (Homburg, et.al 2021)
- Renderings: Metadata on the rendering and creation process in TTL (Homburg, et.al 2021)
- Photographs: XMP metadata about the creator, the photo's content and license as well as technical EXIF metadata.

The metadata will be published CC0 along with the other data products of the Haft Tappeh project.



Annotations

Annotations on digital mediums represent precise ways of scientific discourse which we wish to enhance for a variety of research communities.

We distinguish:

- Linguistic Annotations on transliterations using a customized OliA (Chiarcos 2015) vocabulary
- Annotations on 2D renderings: Areas of interest (Cuneiform signs, Paleography, extralinguistic features)
- Annotations in 3D: Currently generated as a transformation from 2D annotations in renderings (current internship project).

To make annotations interoperable all annotations conform to the W3C Web Annotation data model.

Data products

The Haft Tappeh project works on the digital scholarly edition of more than 600 cuneiform tablets. In supplement to the aforementioned source data, the digital edition environment CuneiformWorkbench provides the following data products:

- An Ontolex-Lemon (McCrae et al. 2017) LOD dictionary from the given transliteration resources
- A glossary from the given corpus •
- A sign list of all cuneiform signs in the corpus
- A small collection of annotated renderings in 2D and its equivalents in 3D

The ontology will be published together with the data at the end of the project in August 2022.





Diaital Edition of Cuneiform Texts from Haft Tappeh (Iran)

Project webpage: https://i3mainz.hs-mainz.de/en/ projekte/hafttappeh/

GEPRIS: https://bit.ly/3E9wsb8

Bibliography: https://bit.ly/3I7KQCZ

Institutions: ¹Hochschule Mainz University of Applied Sciences ²Martin-Luther-Universität Halle-Wittenberg

DOI: https://doi.org/10.5281/ zenodo.5745175



Forschungsgemeinschaft





Implementation of Linked Open Data Principles in DH_Lab Projects Collaboration

Joana Vieira Paulino (IHC, NOVA FCSH / IN2PAST) Daniel Alves (NOVA FCSH)



DH_Lab (IHC, NOVA FCSH / IN2PAST), formally created in 2019, collaborates in the development of academic (and non-academic) projects. Among the several services provided (construction of databases, spatial analysis and network analysis), it helps to build web platforms.



One of the platforms used to develop the websites is **Omeka S**. It enables:

- Researchers to promote their studies and to disseminate the sources made available in the platform;
- The DH_Lab team to have all the websites centralized in the same platform;
- The DH_Lab team to better manage all the websites.

We pay attention to use internationally accepted metadata schemes and web ontologies, like Dublin Core, making the items linkable and interoperable with national and international platforms and projects.

HLAB	Vocabulário					Importar novo vocabulário
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2 Sites	Ontologia bibliográfica		/ 🗊	blbo	58	67
	BIO: A vocabulary for biog	aphical information	✓ 8 ···	bio	42	33
	Country representation		/ 6	leo-er	12	25
Conjuntos de itens	Dublin Core			dcterms	22	55
Modelos de recursos	Tipo Dublin Core			dctype	12	0
DMIN	FRAD model		✓ ± …	frad	12	138
	FRBRer model		/ ii	frbrer	10	206
	Amigo de um Amigo		/ ū	foaf	13	62
	Global Legal Entity Identifi	r Foundation Base Ontology	✓ ā …	Gleif-L1	12	36
Definições	Global Legal Entity Identifie	r Foundation Base Ontology 2	/ 8	gleif-base	14	57
Logs	GND Ontology		/ 6	gnd	63	239
ónu os	Language representation		/ ā	loc-Ir	39	14
Bulk Import	RDA		2 ā	rdvocab	10	455
	Тетро		/ 6	tempo	20	58



DH_Lab collaborates in the technological development of Rossio Infrastructure – Social Sciences, Arts and Humanities, which platform will make available digital resources from different national cultural and academic institutions.

Among those, there are the websites developed by the DH_Lab, which will be aggregated through OAI-PMH protocol. A module with that functionality was installed in Omeka S, making it possible to extract the metadata from our websites into ROSSIO's platform (and related to the thesaurus produced by the project).

UNIVERSIDADE

DE ÉVORA

Fundação para a Ciência e a Tecnologia

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Agentes ROSSIO					
Alfabético	Hierarquia				
-Universidade NOVA de Lisboa. Lab Humanidades Digitais					

DE HISTÓRIA CONTEMPORÂNEA

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IN2PAST



One Dataset, Many Moving Parts

A.L. McMichael, Michigan State University

Assembling a Linked Open Dissertation

One humanities dissertation is becoming a series of tiny, sharable Linked Open Data contributions. It is a case study in how small interventions contribute to big data through the interdisciplinary digital afterlife of an analog project.



Art History Data

Humanities dissertations often explore a **unique** corpus of objects, but too often each complete catalog of items and metadata is relegated to Appendix 1 in a flat PDF.

Here interdisciplinary methods reframe humanities research as linked open data. For on-site data collection + library research, I used the *catalogue raisonné* practice in art history with archaeology field training. Issues included location data with multiple levels of specificity and inadequate existing controlled vocabularies. Now I have a new, extensible workflow, so next time research can be formatted as data from day one.

Linked Pasts VII Poster Session (December 2021) For more information and the link to a text-only version: https://byzantinedata.org/one-dataset-many-moving-parts/

A.L. McMichael. PhD

Director, Lab for Education & Advancement in Digital Research Department of History and Department of Anthropology Michigan State University

Training

Data literacy and data-specific skills training events:

- Linked Ancient World Data Institute (LAWDI)
- Institute for Digital Archaeology Method and Practice
- **Digging Up Data workshops** (Open Context + ASOR) •

Improved data: new unique identifiers, 5 location designations, 4 LOD columns for disambiguation, alternate names, a reusable controlled vocab, data source (field or literature), and selected bibliography.



Byzantine monumental crosses can be found on the ceilings of 125 rockcut dwellings from the 6-10 centuries in the region of Cappadocia (central Turkey). LEFT: St. Basil Church in the Gomeda Valley.



The peer reviewed dataset will be available via Open Context: https://doi.org/10.6078/M7N58JFG The open access dissertation is online via CUNY Academic Works: https://academicworks.cuny.edu/gc_etds/2553/

Data Collaborations

Contributions to and uses of nine (and counting!) existing datasets, controlled vocabularies, and open repositories with stable URIs.





Open Context, Pleiades, PeriodO, GeoNames, OpenStreetMap, Wikidata, CUNY Academic Works, WorldCat, Zotero

