



Connecting Places, People, and Time through OpenAtlas



Introduction

- Open source database software
- Acquire, edit, and manage research data
- First developed for use in archaeology
- History - prosopography
- Cultural heritage
- Related scientific data:
 - Radiocarbon dating
 - Isotopic analyses
 - Anthropological results, aDNA

OpenAtlas





Introduction

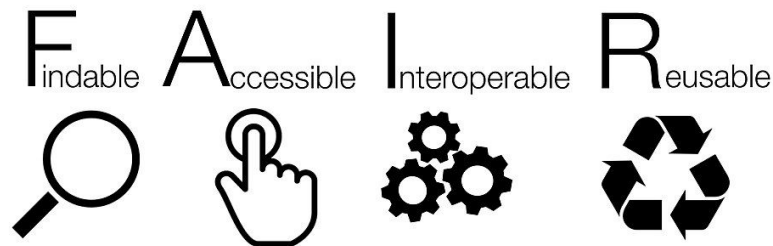
- Initiated by Stefan Eichert
- Alexander Watzinger, lead developer
- Mainly developed at the Austrian Centre for Digital Humanities (ACDH) of the Austrian Academy of Sciences (ÖAW)
- Small interdisciplinary team
 - IT specialists
 - Digital Humanities
 - (Osteo)Archaeologists





Being Open

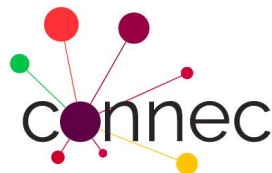
- Completely developed as open source
- Code available on GitHub
- Cooperating projects are required to provide their data open access
- Linked Open Data
- FAIR
 - Findable
 - Accessible
 - Interoperable
 - Reusable





Collaborate

- No own research projects (yet)
- Developed through collaborations with multiple projects from all fields of the humanities



APPROACH NG
BYZANT UM



MEDCEM



MAMEMS





Collaborate

- Each field with its own requirements
- Newly developed features in agreement with partners

Roadmap

8.13.0 OPEN

20 issues (1 closed — 19 open) 5%

Related issues

 Feature #2300: Load form tables dynamically	...
 Feature #2319: OpenAtlas and APIS interface	...
Feature #2372: API: Archiving OpenAtlas with ARCHE	...
Feature #2434: API: Make annotation available	...
 Feature #2439: Text annotation: widget translations	...
Feature #2441: Text annotation: display at annotated entity	...
Feature #2442: Text annotation: show orphans	...
 Feature #2448: Manual: documentation for developers	...
Feature #2463: Tool: Bone Inventory for children	...
 Feature #2464: Refactor OpenAtlas classes	...
 Feature #2466: API: export files with ARCHE RDF metadata	...
Feature #2478: API: Extra format for table views / overviews	...
Feature #2510: Manual: document dates and type_id at links	...
Feature #2525: Reference system API for other OpenAtlas instances	...
 Feature #2551: Admin interface for generating RDF dumps	...
 Feature #2561: FemCare: import pharmacy inventory	...
 Feature #2562: API: 4.9.0	...
 Feature #2563: API: Presentation view improvements	...
 Feature #2568: Admin interface for generating ARCHE dumps	...
Feature #2570: Multiple entries for creators of files	...



Interdisciplinarity

- Data model and UI are the same for all projects
- Customizable types allow for usage by multiple projects
- Pre-set type trees
- Create new type trees or add types to existing ones

THANADOS

Source Event Actor Place Artifact Reference

Type



Standard types

Custom types

Place types

Value types

System types

+ Type hierarchy

Architectural Classification

Type to search

+ Type

Edit

Delete

- └ Church Architecture 0 (798)
 - └ Apses 0 (20)
 - └ Polygonal Choir 3 (11)
 - 5/8 11
 - Rectangular Apsis 1
 - Semi Circular Apsis 5
 - Atypical-trapezoid 1
 - Central-Plan Building 5
 - Rotunda 42
 - └ Single Nave Church 592
 - St. Clement 0
 - Three Aisled Church 78
 - Tribune 59
 - Two-storey Chapel 1



Interdisciplinarity

THANADOS Source Event Actor Place Artifact Reference

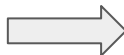
Type

Standard types Custom types Place types Value types System types

+ Type hierarchy

Architectural Classification

Type to search



THANADOS Source Event Actor Place Artifact Reference

Place > + Place

Name *

Alias

Type *

Administrative unit

Architectural Classification

Case Study

Chronology

Church Patronage

Country

Dimensions

Evidence

Historical place

Individual Project Types

Architectural Classification

Type to search

- Church Architecture
 - Apses
 - Polygonal Choir
 - 5/8
 - Rectangular Apsis
 - Semi Circular Apsis
 - Atypical-trapezoid
 - Central-Plan Building
 - Rotunda
 - Single Nave Church
 - St. Clement
 - Three Aisled Church
 - Tribune
 - Two-storey Chapel

Search term

5000 km | 3000 mi

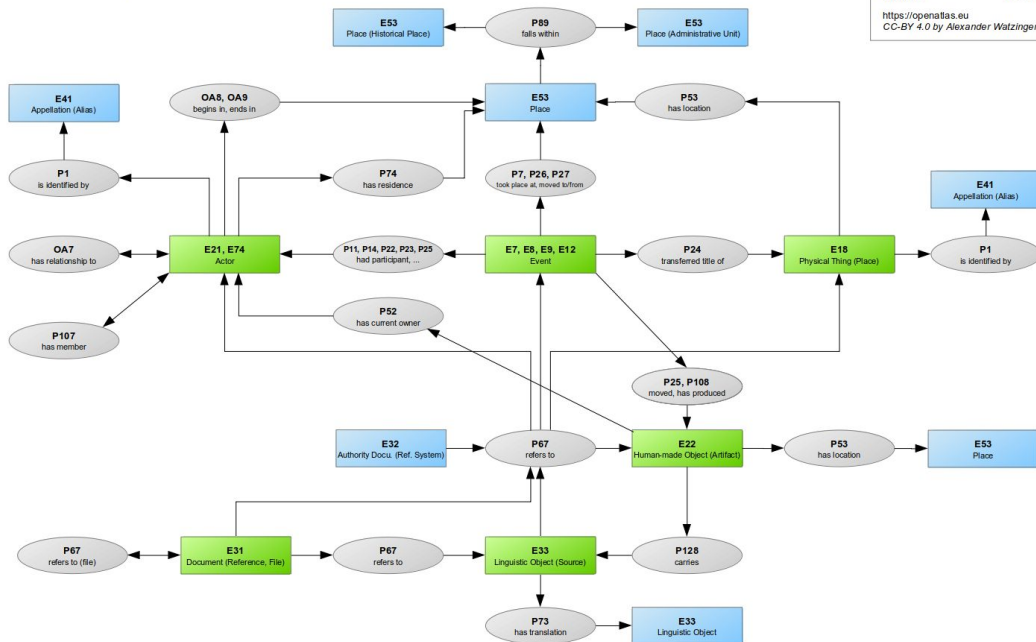
Leaflet | © OpenStreetMap contributors, Tiles style by Humanitarian OpenStreetMap



Data Model

- CIDOC CRM
 - Widely used ontology in DH
 - International standard (ISO)
 - Facilitates re-use of data
 - Enhances interoperability





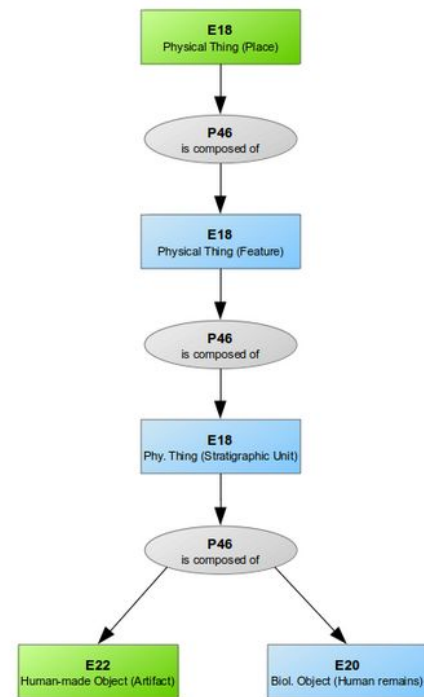
Author: Alexander Watzinger
Concept: Stefan Eichert

OpenAtlas version	7.5.0
CIDOC CRM version	7.1.1
Modified	2022-06-15

<https://openatlas.eu>
CC-BY 4.0 by Alexander Watzinger

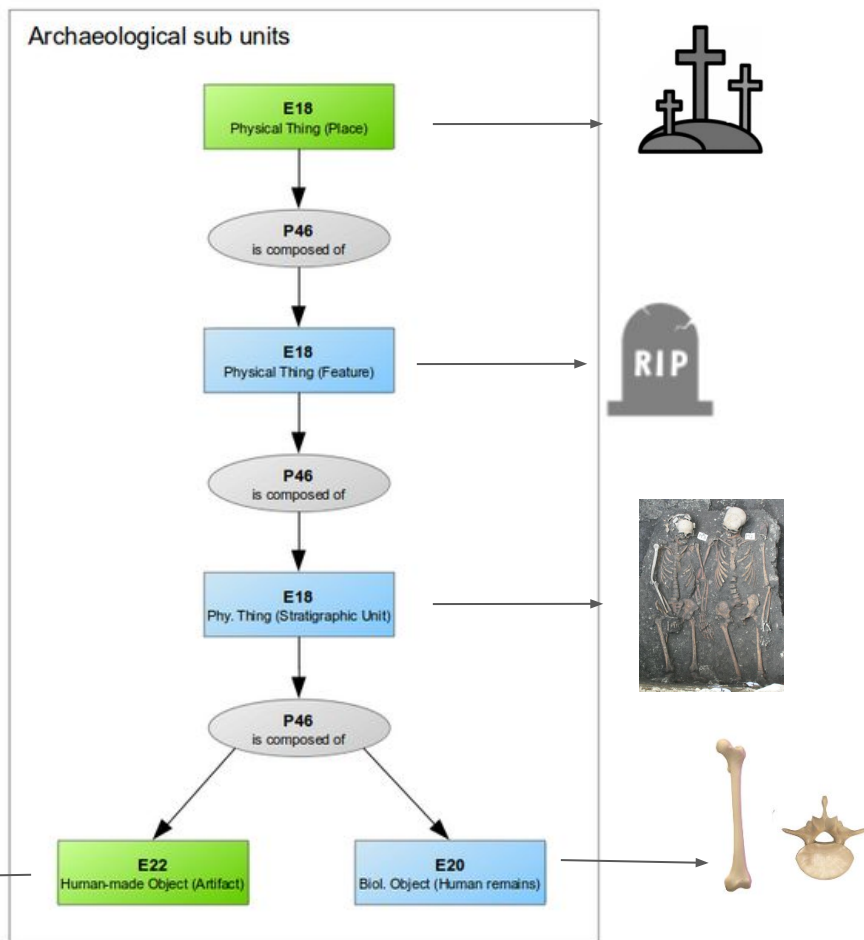


Archaeological sub units





Data Model

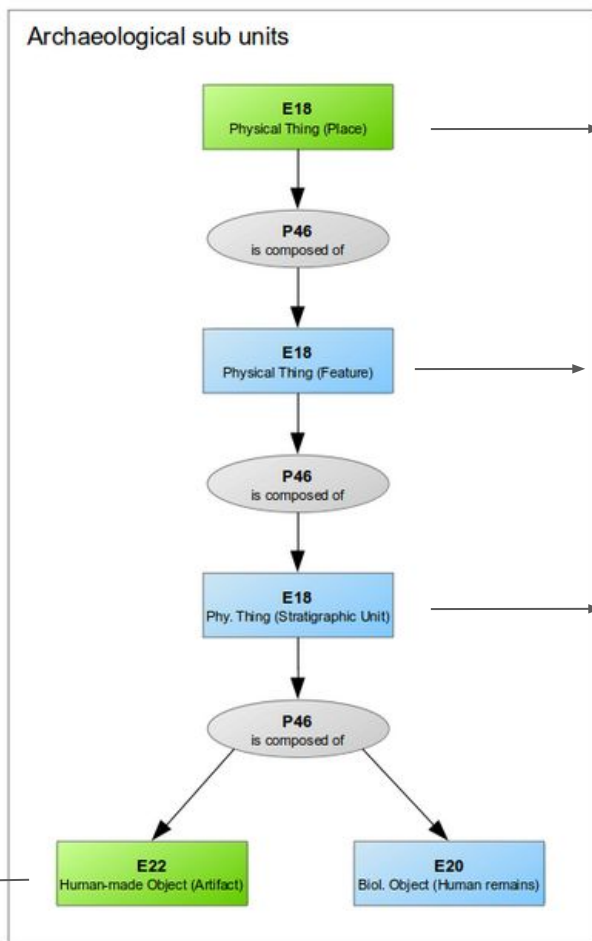




Data Model



Room



Settlement



Street



House



Actors and Events

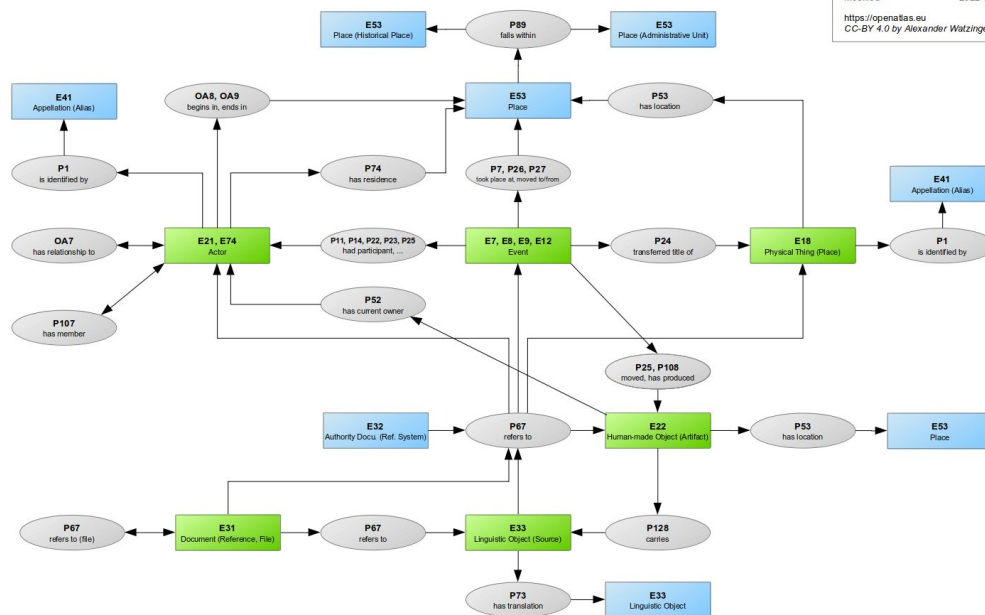
- Connecting locations with

- Actors

- Owners
- Inhabitants
- Architects

- Events

- Construction
- Remodeling
- Demolition



Author: Alexander Watzinger
Concept: Stefan Eichert
OpenAtlas version 7.5.0
CIDOC CRM version 7.1.1
Modified 2022-06-15
<https://openatlas.eu>
CC-BY 4.0 by Alexander Watzinger



Geolocation



Source Event Actor **Place** Artifact Reference Type File

Search term



CA

DE

EN

ES

FR



[Place](#) > + Place

Demo 8.12.0

Name * Bamberg

Alias Babenberg

Bambärbch

班贝格

Type 1 City

Clear

Administrative unit 1 Germany x

Change

Historical place 1

Change

GeoNames 1 2952984

Precision

Wikidata 1 Q3936

Precision

Date 1 Show

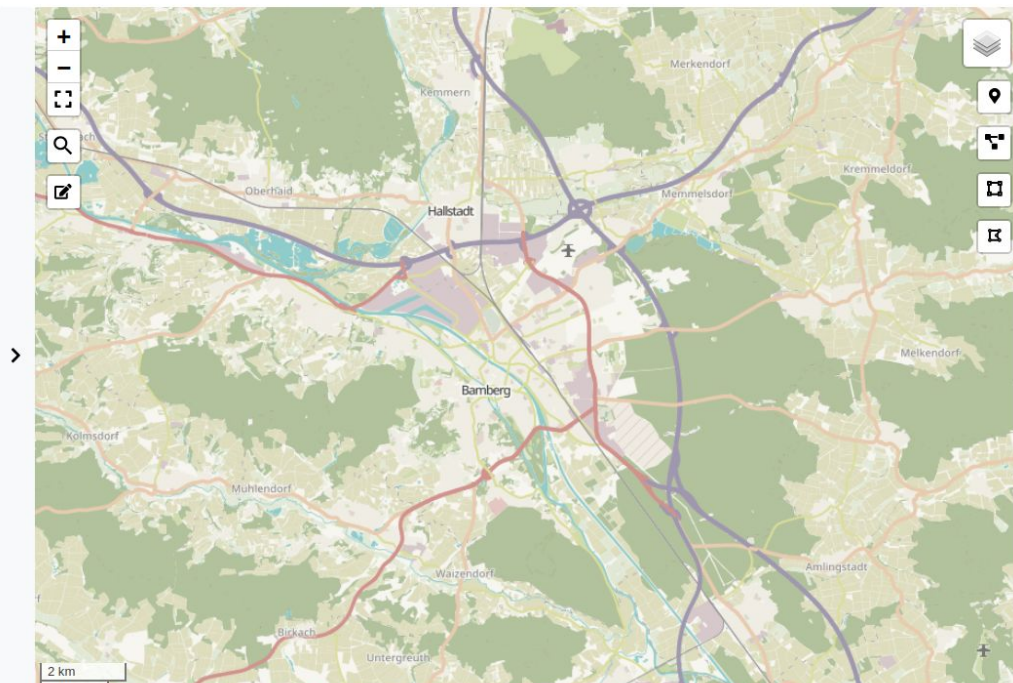
Description Kreisfreie Stadt in Bayern.



Insert

Insert and continue

Insert and add feature





Geolocation

Name * Bamberg

Alias Babenberg +
Bambärbch -
班贝格 -

Type 1 City Clear

Administrative unit 1 Germany x Change

Historical place 1 Change

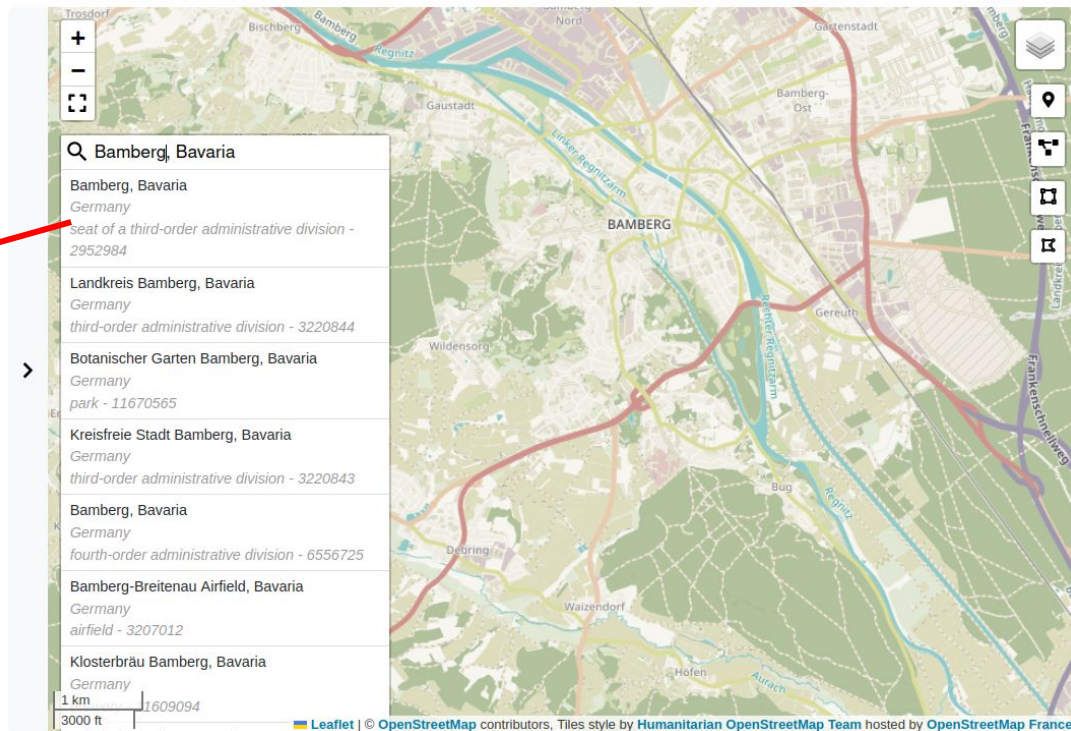
GeoNames 1 2952984 Precision

Wikidata 1 Q3936 Precision

Date 1 Show

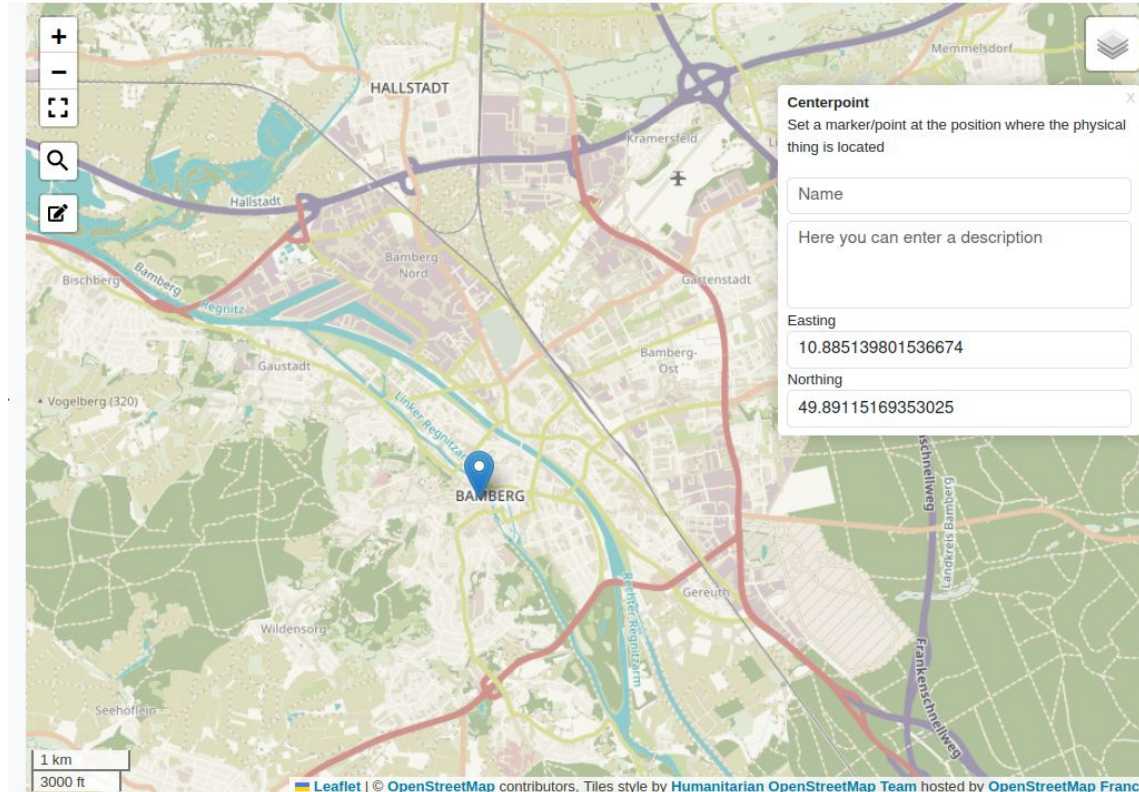
Description Kreisfreie Stadt in Bayern.

Insert Insert and continue Insert and add feature



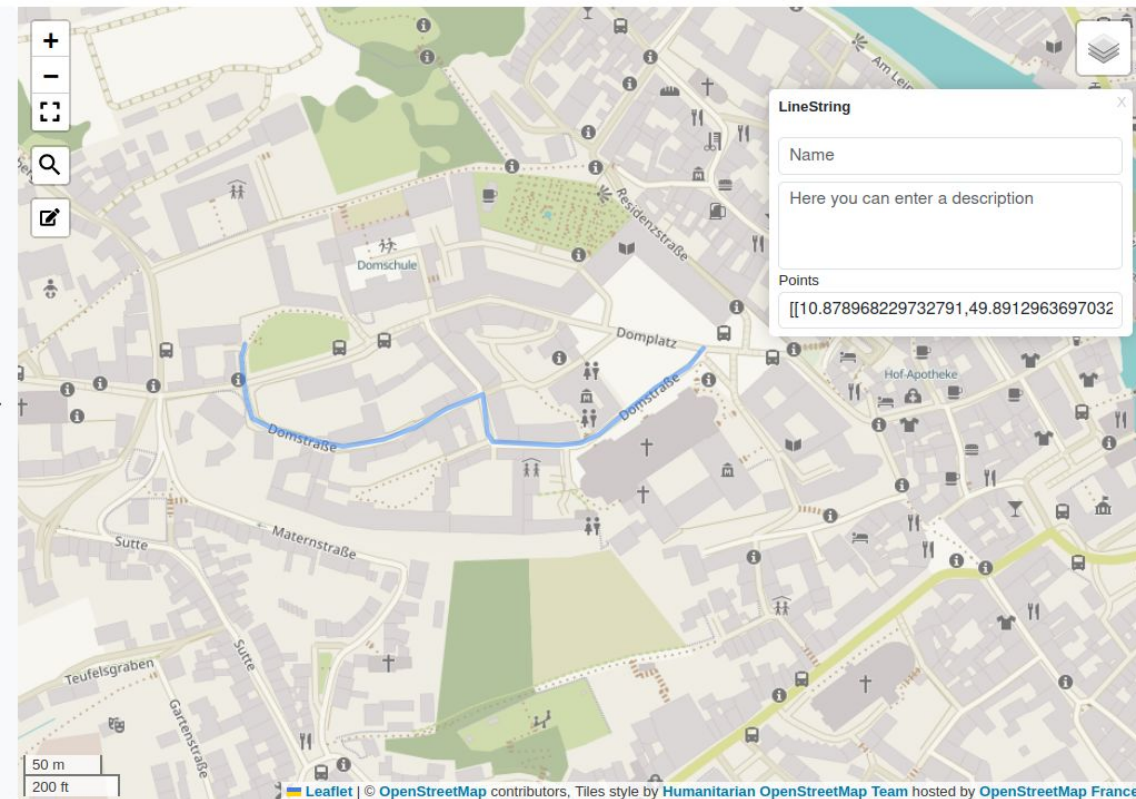


Geolocation





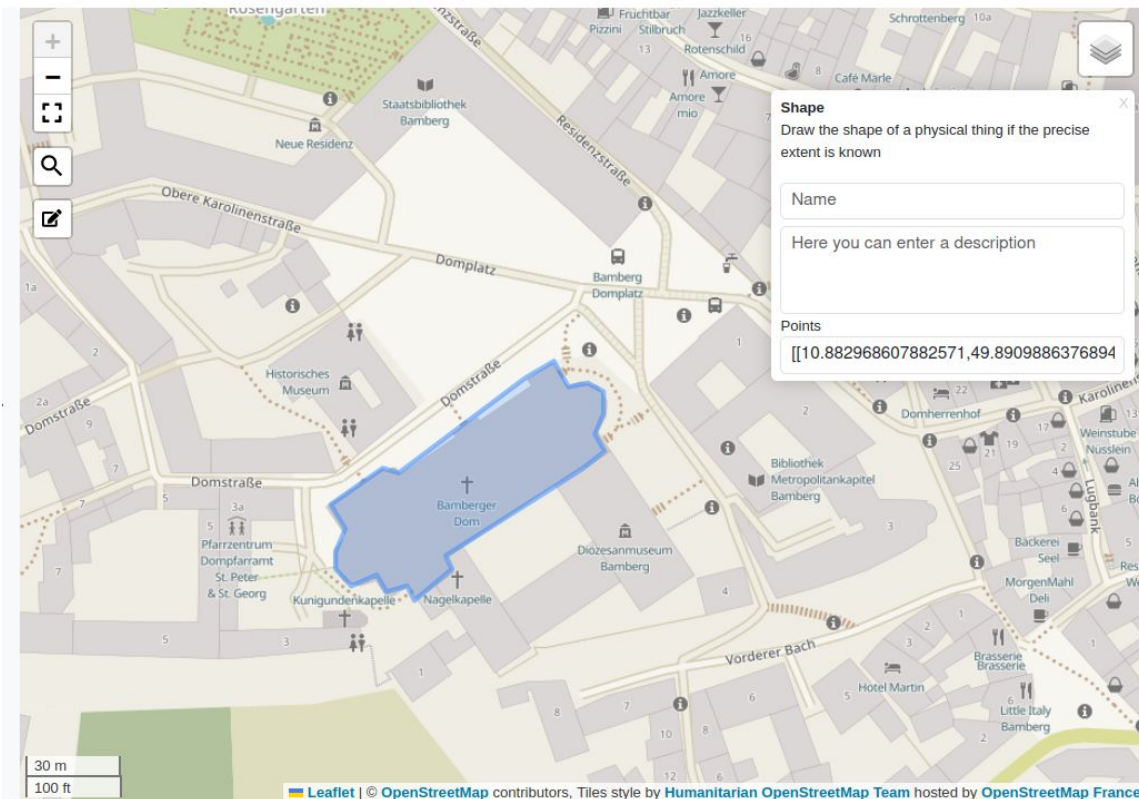
Geolocation



Domstraße



Geolocation





Place > Oberleiserberg > G001 > Edit

Thanados 8.13.0

Name * G001

Type *  Single Grave Clear

Case Study		Change
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Chronology ⓘ

Dimensions ⓘ ➤

Grave Characteristics Earth pit Flat grave Change

Individual Project Types Change

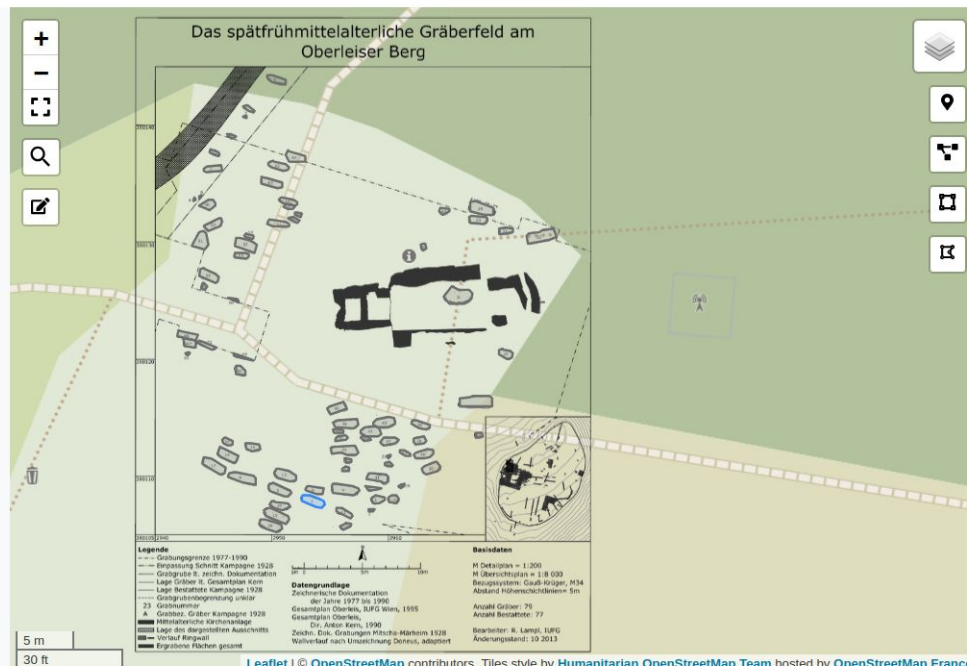
Individual Project Value Types >Minimal Number of Individuals ⓘ >

Super *

Zbiva	najdisce/grobisce/1000000	exact match
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Date

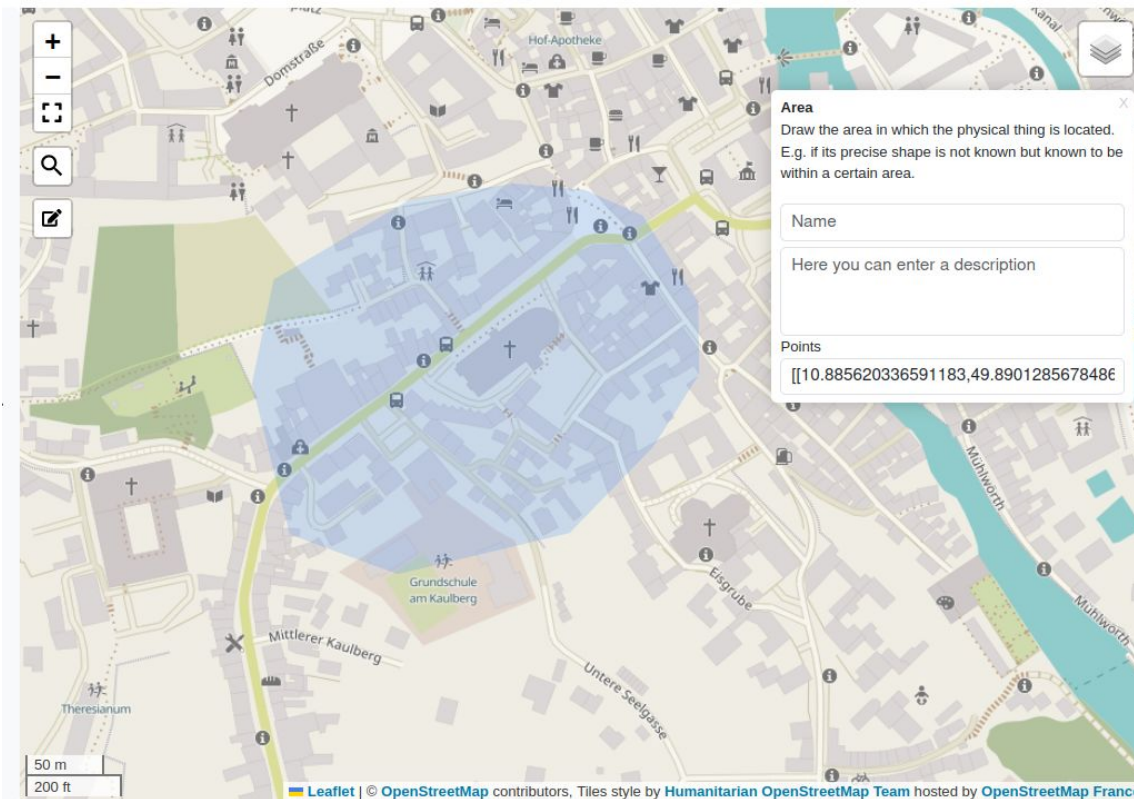
Begin 900 01 01 comment



Leaflet | © OpenStreetMap contributors, Tiles style by Humanitarian OpenStreetMap Team hosted by OpenStreetMap France



Geolocation/Fuzzy Data





Fuzzy Data

- 100% confidence
- Make range big enough
- Location
 - Precise location or area
- Dates
 - Add exact dates or time spans
 - Ranges for beginning and end

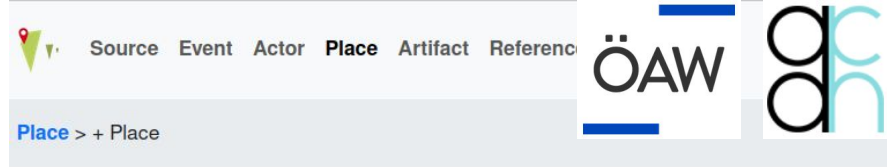
Date ⓘ Hide

Begin	900	MM	DD	comment
	950	MM	DD	
End	1200	MM	DD	comment
	1299	MM	DD	



External References

- Wikidata and GeoNames
- Freely choose additional ones
 - Digital/analogue
 - Vocabularies
 - Gazetteers
 - Inventory numbers
 - Card catalogues



Form fields for external references:

- Name *: Bamberg
- Alias: Babenberg, Bambärbch, 班贝格
- Type: City
- Administrative unit: Germany
- Historical place:
- GeoNames: 2952984
- Wikidata: Bamb
- Date:
- Description:

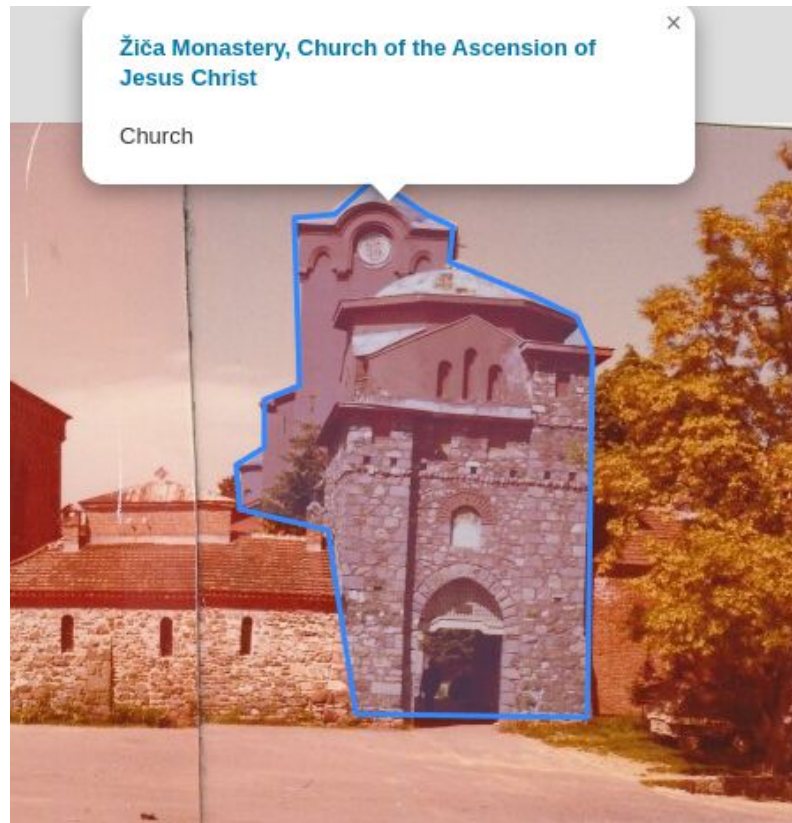
Each field has a 'Change' button. The Wikidata field has a dropdown menu showing suggestions:

- Bamberg - town in Bavaria, ... Q3936
- Bambusa - genus of clumpin... Q311331
- Bambusoideae - subfamily o... Q670887
- Bambuseae - tribe of bambo... Q35922
- Bambecque - commune in N... Q610030
- Bamberger - family name



What else?

- Add files such as photos or maps
- Add citation
- Add scientific data such as 14C or dendro dates
- Image and text annotation

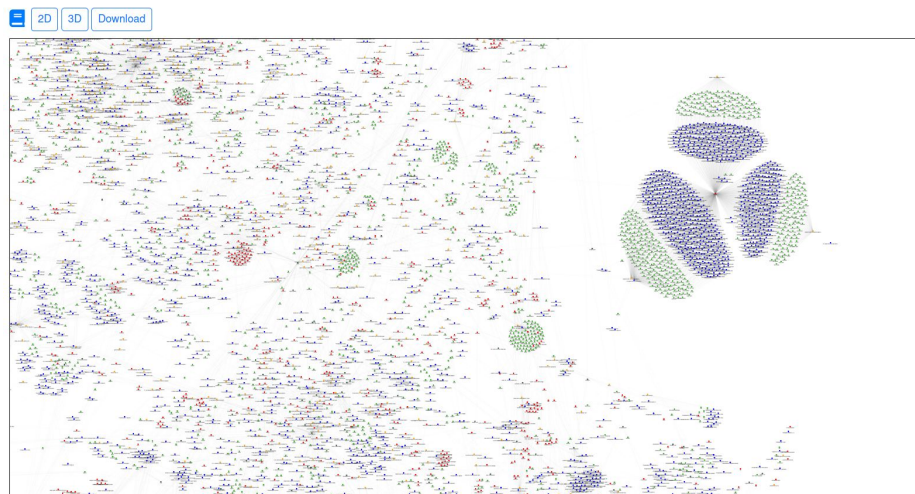


Bernhard Koschiček-Krombholz



What else?

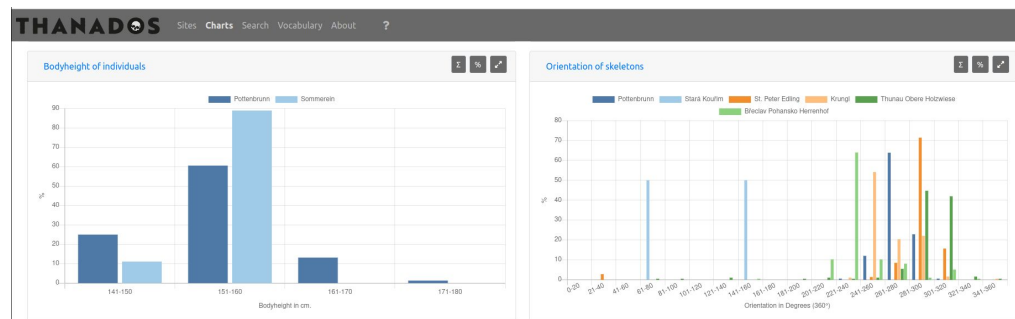
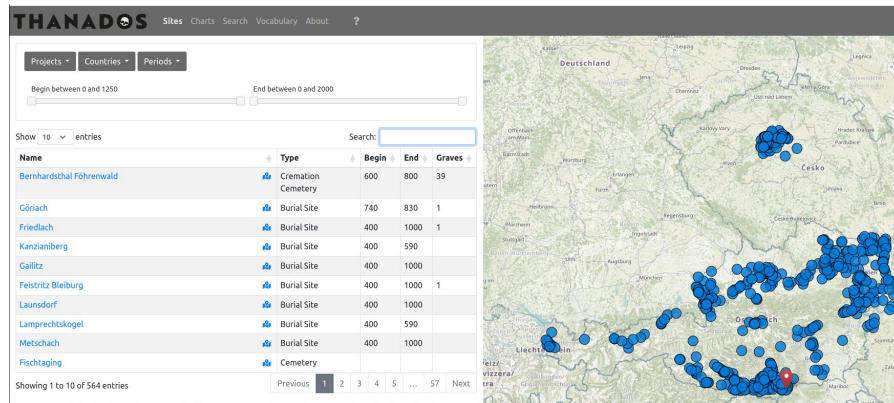
- Basic network visualization
- Structured workflow
- Vocabularies
- Data integrity checks
- Manual and technical documentation
- Download options and API





Data Visualisation

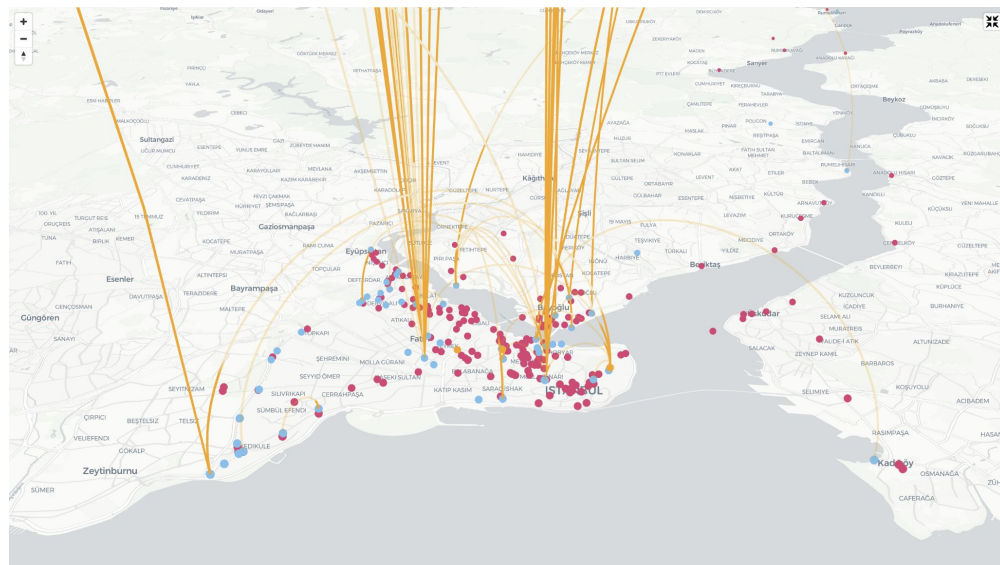
- OpenAtlas not meant for data presentation
- Can be used as backbone for a presentation site
- Project specific
 - Maps
 - Queries
 - Diagrams
 - 3D
 - Catalogues
 - ...





Data Visualisation

- Generic - OpenAtlas discovery
 - To be used by all collaborations
 - Without much needed extra development



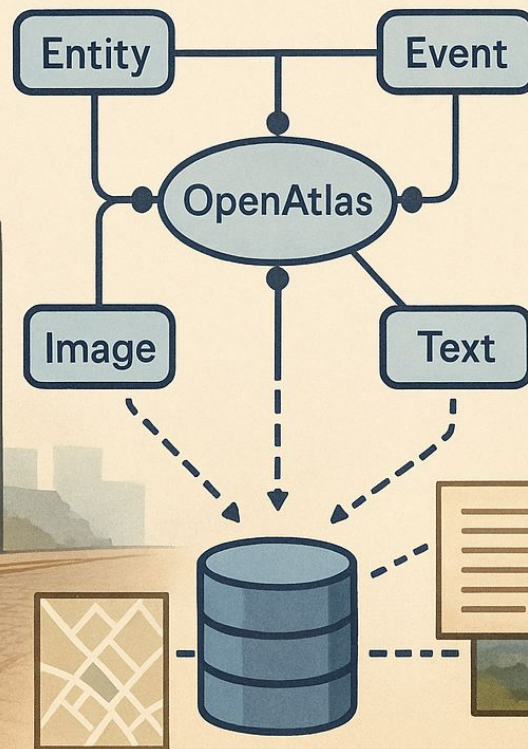
<https://approaching-byzantium.openatlas.eu/>



Conclusion

- Collect, edit, manage data
- Multidisciplinary
- Completely open source
- “Work in progress” - actively developed

Tracking Urban Development with OpenAtlas



Thank you for your kind attention!

<https://openatlas.eu>

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