

World-Historical Gazetteer



The University of Pittsburgh

World History Center



University of Pittsburgh



NATIONAL ENDOWMENT FOR THE

Humanities

LINKED OPEN DATA

Version 1 was launched in July, 2020

NEH-funded project at the
University of Pittsburgh's
World History Center (WHC)
(2017-2020)

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Principal Investigator

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Technical Director & Lead Developer

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WHC post-doctoral fellow

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Project consultant

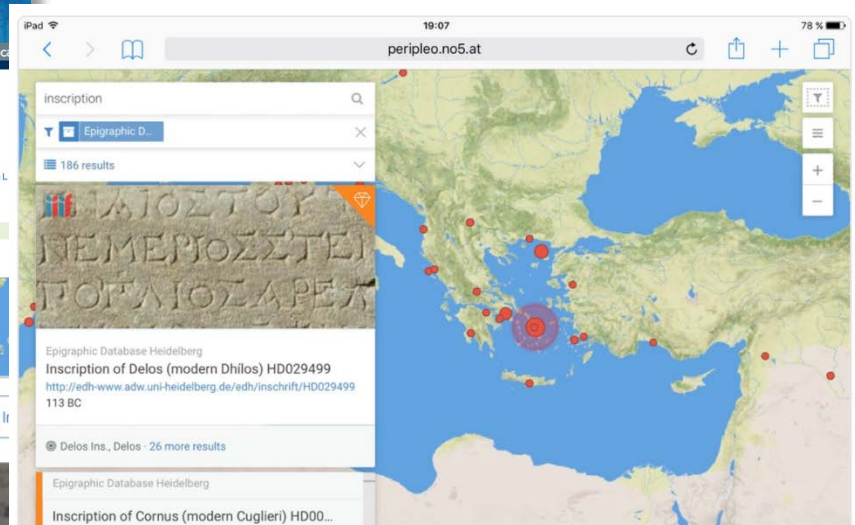
<http://whgazetteer.org>

Following on from Pelagios' **Peripleo**, which was seeded by the **Pleiades** gazetteer

<http://peripleo.pelagios.org>



<http://pleiades.stoa.org>



<http://recogito.pelagios.org>



Aggregating contributed **place** and **trace** data

I don't go into what we mean by **traces** further here, but there is further explanation in the WHG site guide.

Place records

Records of references to place (toponyms, ethnonyms) from historical sources:

- texts of all kinds
- tabular records
- print gazetteers
- old maps



Linked Places format

Trace annotations

Records of historical entities of any kind for which setting (location at time) is of interest, annotated with IDs for relevant places @ time

- people
- events
- works



Linked Traces annotation format

settlements, administrative areas, regions, natural features, peoples, routes

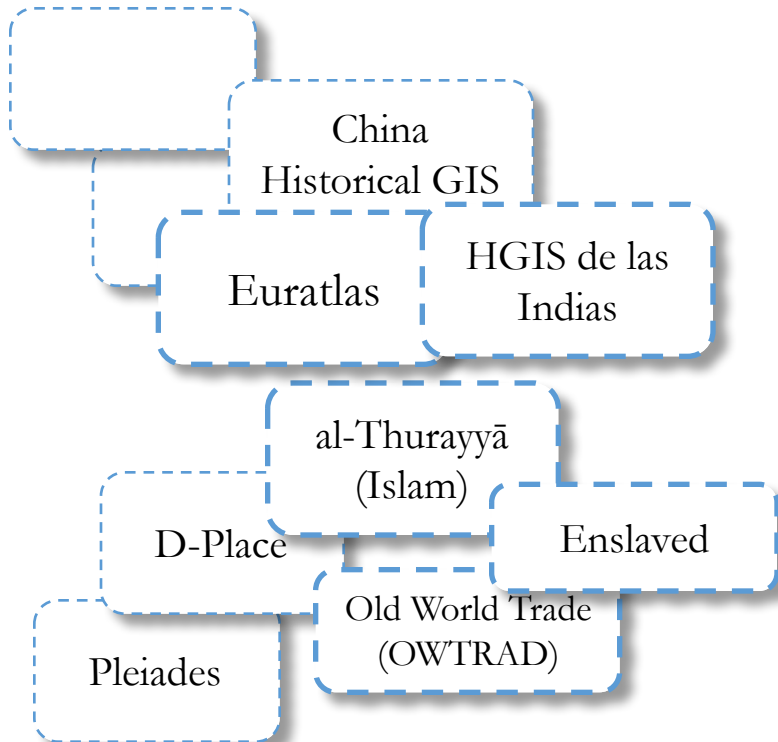
The screenshot displays the World Historical Gazetteer (WHG) interface. At the top, navigation links include 'context', 'place', 'WHG', 'linked places', and 'next'. The main header features the WHG logo, version 'v1.0', and links for 'guide', 'contact us', and 'Twitter'. On the right, there are links for 'Search', 'API', 'Tutorials', 'About', 'Data', and 'Logout'.

The search interface on the left includes a search bar with 'abydos' entered, a search icon, and a 'filters' button. Below the search bar, there are radio buttons for 'Places' (selected) and 'Traces'. The search results are listed as follows:

- SEARCH RESULTS (4)** [filter by type](#)
- Abydos** (inhabited places) [AU] [📍](#)
- Çanakkale** (deserted settlements, inhabited places, archaeological sites) [TR] [📍](#)
var: *Abydos; Abydos; Abydus; Abydus Asia; Chanak; Chanaq; Dardanelles; Kale-Sultanie; ...*
- Ma'bad Abīdūs** (deserted settlements, cities, inhabited places, ruins, archaeological sites) [EG] [📍](#)
var: *Abdju; Abdou; Abedju; Abydos; Abydos; Abydus; Abydus Aegyptiae; Abīdūs, Ma'bad; ...*
- Al 'Arābā al Madfūnah** (ancient sites, towns, inhabited places) [EG] [📍](#)
var: *Al 'Arābah al Madfūnah; Araba al-Madfuna; Arabat El Madune; Arabet Abydos; El Araba El Madfuna; El 'Arāba el Madfūna; El-'Arāba el-Madfūna; العربية المدفونة; ...*

The map on the right shows the Eastern Mediterranean region with three red dots marking the locations of the search results. A yellow box overlaid on the map contains the URL <http://whgazetteer.org>. The map includes a scale bar for 1000 km and navigation controls (zoom in, zoom out, and layers) on the right side. At the bottom right, the map is credited to 'Tiles © MapBox | CC-BY-NC 3.0 | Tiles and Data © 2013 AWMC'.

filtered search, API, private workspace, reconciliation services, contributions



Registered users with place data (individuals or project members) can upload datasets to a private “workspace,” where they are stored in a relational database.

World Historical Gazetteer v1.0 guide | contact us | Search API Tutorials About Data Logout

Datasets Study Areas Public Datasets

+ add new

My Datasets

id	name	label	created (utc)	# rows	status
725	croniken 20	croniken20_g7	21 Sep 2020, 16:19	20	reconciling
9				20	uploaded
2				20	uploaded

World Historical Gazetteer v1.0 gu

Create dataset

Title

Label

Description

Creator(s)

URI base

Web page

Public?

initial file

File No file chosen

Format

License [CC BY 4.0](#)

PostgreSQL

World Historical Gazetteer v1.0 [guide](#) | [contact us](#) | [Twitter](#) Search API Tutorials About ▾ Data Logout

D-PLACE Metadata Browse Reconciliation Sharing Log & Comments

Delete dataset

	count	added
Records	112	
Unreviewed hits	0	
Name variants	0	
Links	0	
Geometries	0	

ID / label: 2 / dplace
 Title: D-PLACE ([webpage](#))
 URI base: <https://d-place.org/society/>
 Description: D-PLACE (the Database of Places, Language, Culture, and Environment) contains cultural, linguistic, environmental and geographic information for over 1400 human 'societies'. A 'society' in D-PLACE represents a group of people in a particular locality, who often share a language and cultural identity. All cultural descriptions are tagged with the date to which

Public?
 Dataset status
 Creator
 Current data file
 Revision
 File
 File status
 Uploaded
 Data type
 Format
 License

They can view and manage their datasets... which principally involves reconciling their data against the Getty TGN, Wikidata, and ultimately the WHG index itself...

World Historical Gazetteer v1.0 [guide](#) | [contact us](#) | [Twitter](#) Logout

D-PLACE Metadata Browse Reconciliation Sharing Log & Comments

Tiles © MapBox | CC-BY-NC 3.0 | Map data © OpenStreetMap contributors, CC-BY-SA, Imagery © Mapbox

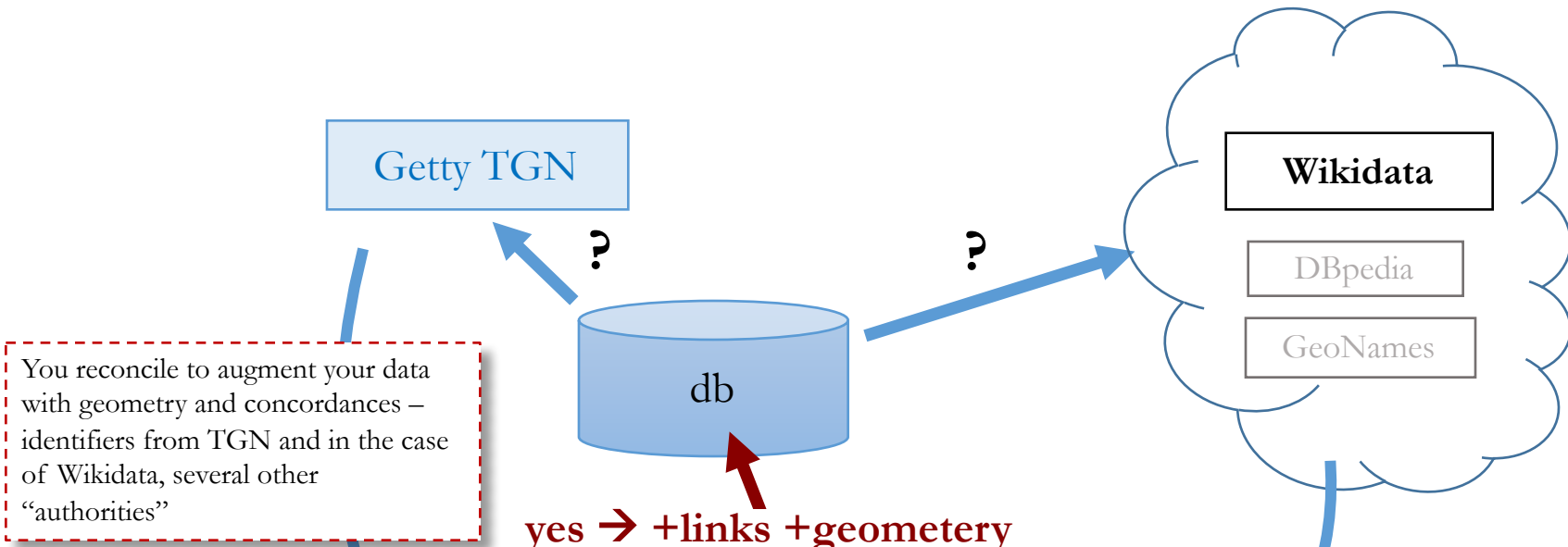
Show 10 entries Search:

pid	src_id	title	ccodes	geom?
124653	Aa1	!Kung	BW,NA	
124654	Ab1	Herero	NA	
124655	Ad31	Duruma	KE	
124656	B296	Kuskowagmut	US	
124657	B322	Syilx	CA,US	
124658	B335	Round Lake Ojibwa	CA	
124659	B339	North Albany Ojibwa	CA	
124660	B340	Waswanipi Cree	CA	
124661	B341	Wegamon Ojibwa	CA	
124662	B350	Mountain Dene	CA	

Title: **!Kung**
 Variants: Was Nyae; Kung Bushmen; !Kung (Was Nyae); !Kung;
 Types: society; ([cultural group](#))
 Linked records: [closeMatch](#); [[dbp:!Kung_people](#)]

Description: The !Kung, also spelled !Xun, are a San people living in the Kalahari Desert in Namibia, Botswana and in Angola. They speak the !Kung language, noted for its extensive use of click consonants. The '!K' in the name '!Kung' is a click that sounds something like a cork pulled from a bottle. However, th ...

Showing 1 to 10 of 1,428 entries Previous **1** 2 3 4 5 - 143 Next



World Historical Gazetteer

Reconciliation Review: mydataset01 > tgn

Undo last save Save < first previous Record 9 of 9

Villa San Carlos

WHG place id: 6503539
Source id: 9000720
Name variants: Villa de San Carlos; San Carlos;
Modern countries: Argentina (Argentina);
Place type(s): Poblacion (village);

skos:closeMatch?

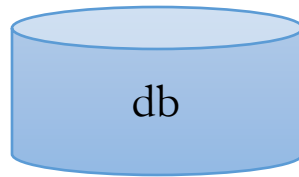
Title/Preferred: San Carlos
TGN ID: 1019985
Variants: San Carlos
Types: [inhabited places (aat:300008347)]
Parents: Salta > Argentina > South America > World

Title/Preferred: San Carlos
TGN ID: 1136458
Variants: San Carlos;
Types: [inhabited places (aat:300008347)]
Parents: Corrientes > Argentina > South America > World

Title/Preferred: San Carlos
TGN ID: 1136459
Variants: San Carlos;
Types: [inhabited places (aat:300008347)]
Parents: Mendoza > Argentina > South America > World

Augmenting by Reconciliation

The accessioning step involves adding data to the WHG index (now rich with as much geometry and as many authority ID matches as possible)



yes → child

no → new record

skos:closeMatch?

World Historical Gazetteer v1.0 guide | contact us | Search All

Reconciliation Review: mydataset01 > tgn PASS 3 task id: a22b02a

Undo last save Save < first previous Record 9 of 9

Villa San Carlos closeMatch no match

WHG place id: 6503539
Source id: 9000720
Name variants: *Villa de San Carlos; San Carlos;*
Modern countries: Argentina (Argentina);
Place type(s): Poblacion (village);

closeMatch no match

Title/Preferred: San Carlos
TGN ID: 1019985
Variants: San Carlos;
Types: [inhabited places (aat:300008347)]
Parents: Salta > Argentina > South America > World

closeMatch no match

Title/Preferred: San Carlos
TGN ID: 1136458
Variants: San Carlos;
Types: [inhabited places (aat:300008347)]
Parents: Corrientes > Argentina > South America > World

closeMatch no match

Title/Preferred: San Carlos
TGN ID: 1136459
Variants: San Carlos;
Types: [inhabited places (aat:300008347)]
Parents: Mendoza > Argentina > South America > World

Accessioning
to
WHG index



Istanbul

Attestations

Istanbul [pid: [227537](#); dataset: [gn500](#)]

Variants: *Bizanc*; *Bizânc*; *Byzance*; *Byzantium*; *Byzanz*;
Constantinoble; *Constantinopla*; *Constantinople*; *Constantinopolen*;
Constantinopoli; *Constantinopolis*; *Costantinopoli*; *Estambul*; *IST*; *Istamboul*;

Types: *populated place*

Links: *none* *none* [loc:n79034985](#) [tgn:7002473](#) [viaf:135931454](#) [tgn:7002473](#)
[wd:Q406](#)

İstanbul [pid: [5991423](#); dataset: [tgn_filtered_01](#)]

Variants: *Byzantium*; *Byzantium*; *Constantinople*; *Constantinopoli*;
Constantinopolis; *Costantinopoli*; *Estambul*; *Istamboul*; *Istambul*;
Konstantinopel; *Konstantinoupolis*; *Kustantiniyah*; *Mikligard*; *New Rome*;

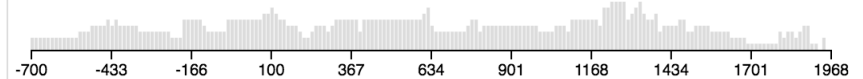
Types: *inhabited place*; *port*; *city*; *religious center*Links: *none*Related: *Within İstanbul*, *Türkiye*, *Asia*, *World*Istanbul [pid: [85196](#); dataset: [black](#)]Variants: *Byzantium*; *Istanbul*Types: *settlement*

Links: [dbp:Istanbul](#) [gn:745042](#) [gn:745044](#) [loc:n79034985](#) [tgn:7002473](#)
[viaf:135931454](#) [wd:Q406](#)

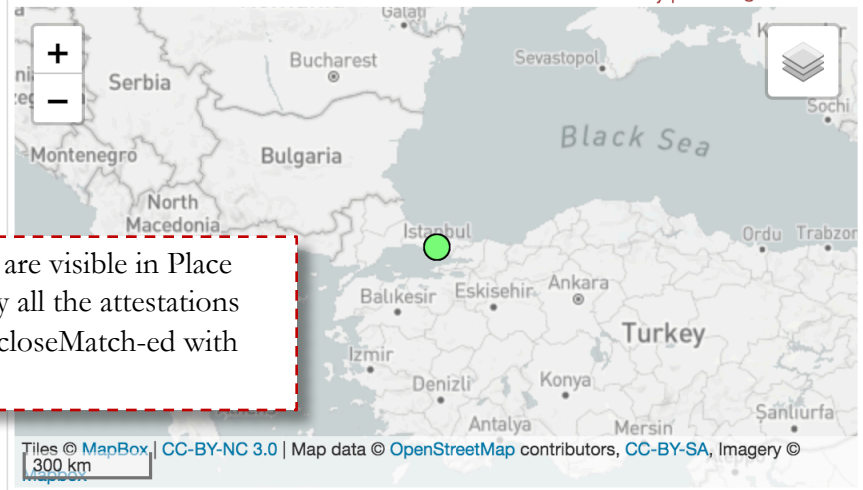
Temporal: [1947, 1968] | [1945, 1952] | [1914, 1918] | [1939, 1942] | [1942, 1945]

Constantinople [pid: [83140](#); dataset: [black](#)]

TEMPORAL ATTESTATIONS



GEOGRAPHY

nearby places (300 max) 

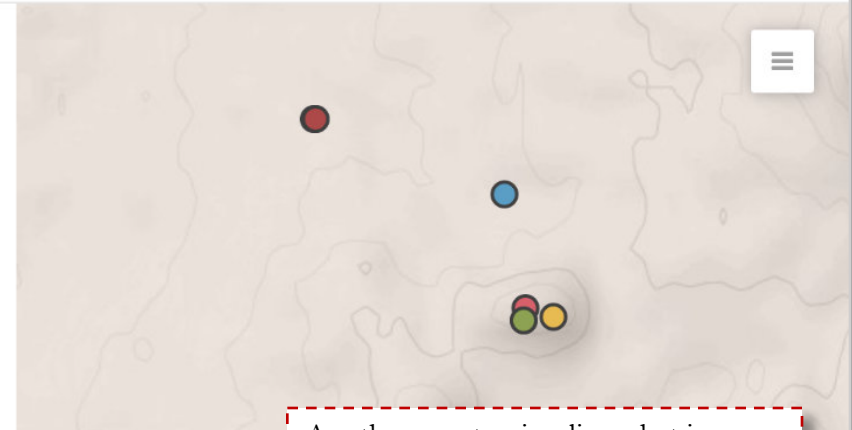
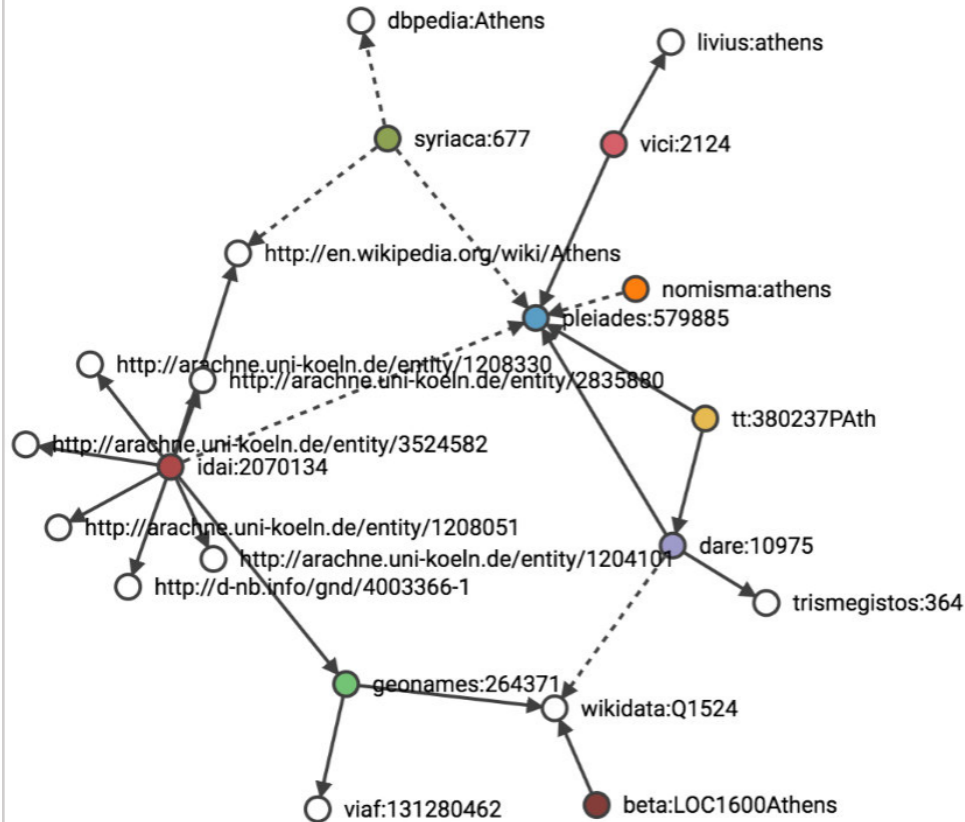
The results of these steps are visible in Place Portal pages, which display all the attestations of a place that have been closeMatch-ed with each other.

TRACES (related persons, events, works, objects)

- person ['deathplace_of (0565-11-14)']:
[Justinian](#)
- event ['waypoint (1147/1149)']: [show trace places](#)
[Second Crusade \(Louis VII of France\)](#)

Linked Data View

- skos:exactMatch
 - - - - -> skos:closeMatch



Athina

9 records

 Athenae

<http://pleiades.stoa.org/pleiades/579885>
 Athenae, Athína

<http://dare.ht.lu.se/dare/10975>
 Athens (Attica)

<http://topostext.org/place/380237PAth>
 Athenae

<http://vici.org/vici/2124>
 Athens

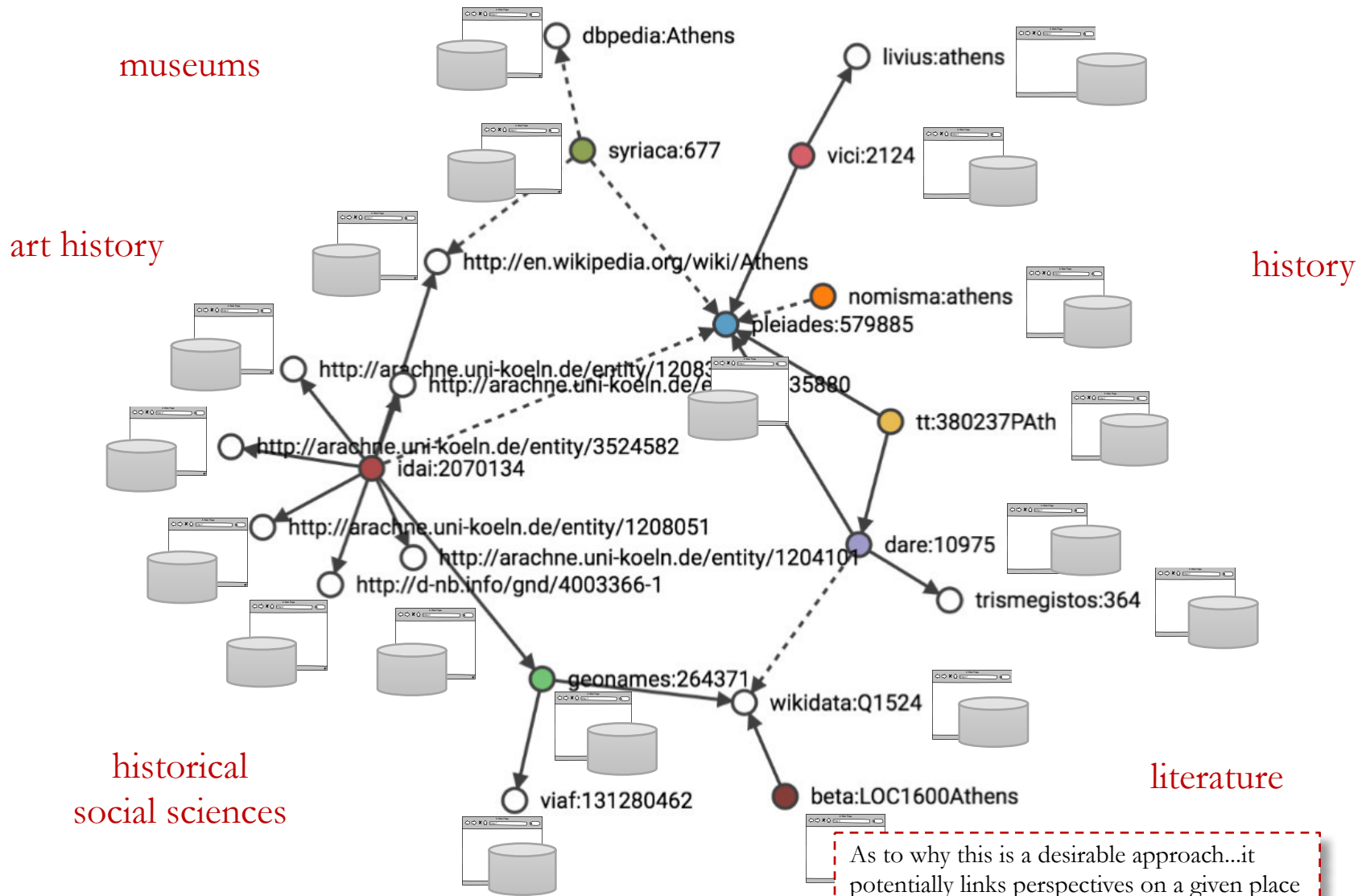
<http://nomisma.org/id/athens>

Another way to visualize what is happening in the WHG index...the definition of a single place – like Athens in this case, is comprised of all the attestations of Athens received to date.

This visualization is from Peripleo, the architecture of which is almost the same as WHG

<http://peripleo.pelagios.org>

archaeology



museums

art history

history

historical
social sciences

literature

As to why this is a desirable approach...it potentially links perspectives on a given place from many fields

Linked Places

A model and a format

The properties of place derived from existing data exemplars. name(s), type(s), when, and location(s) serve to uniquely identify a place, AS ASSERTED BY A HUMAN!

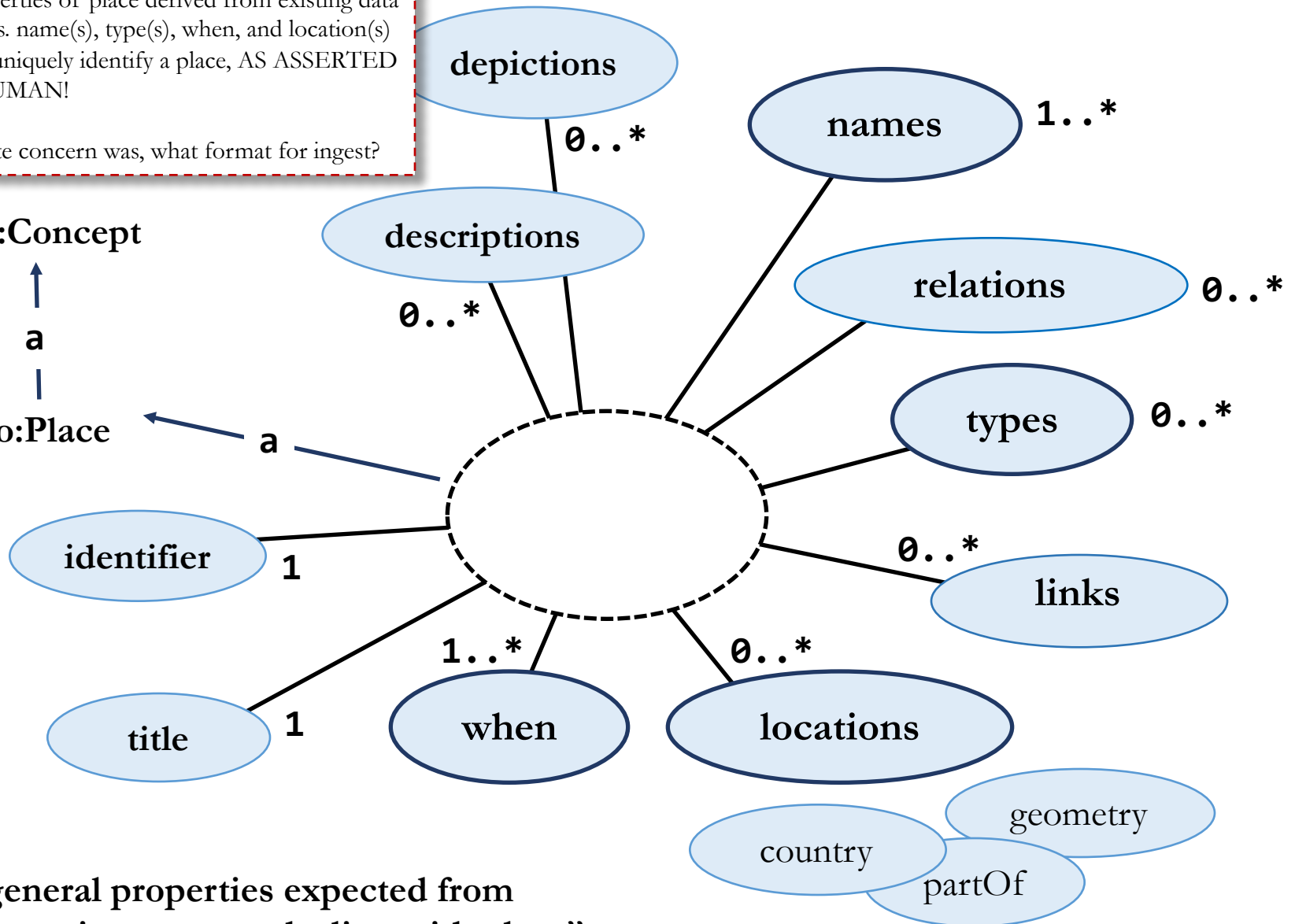
Immediate concern was, what format for ingest?

skos:Concept

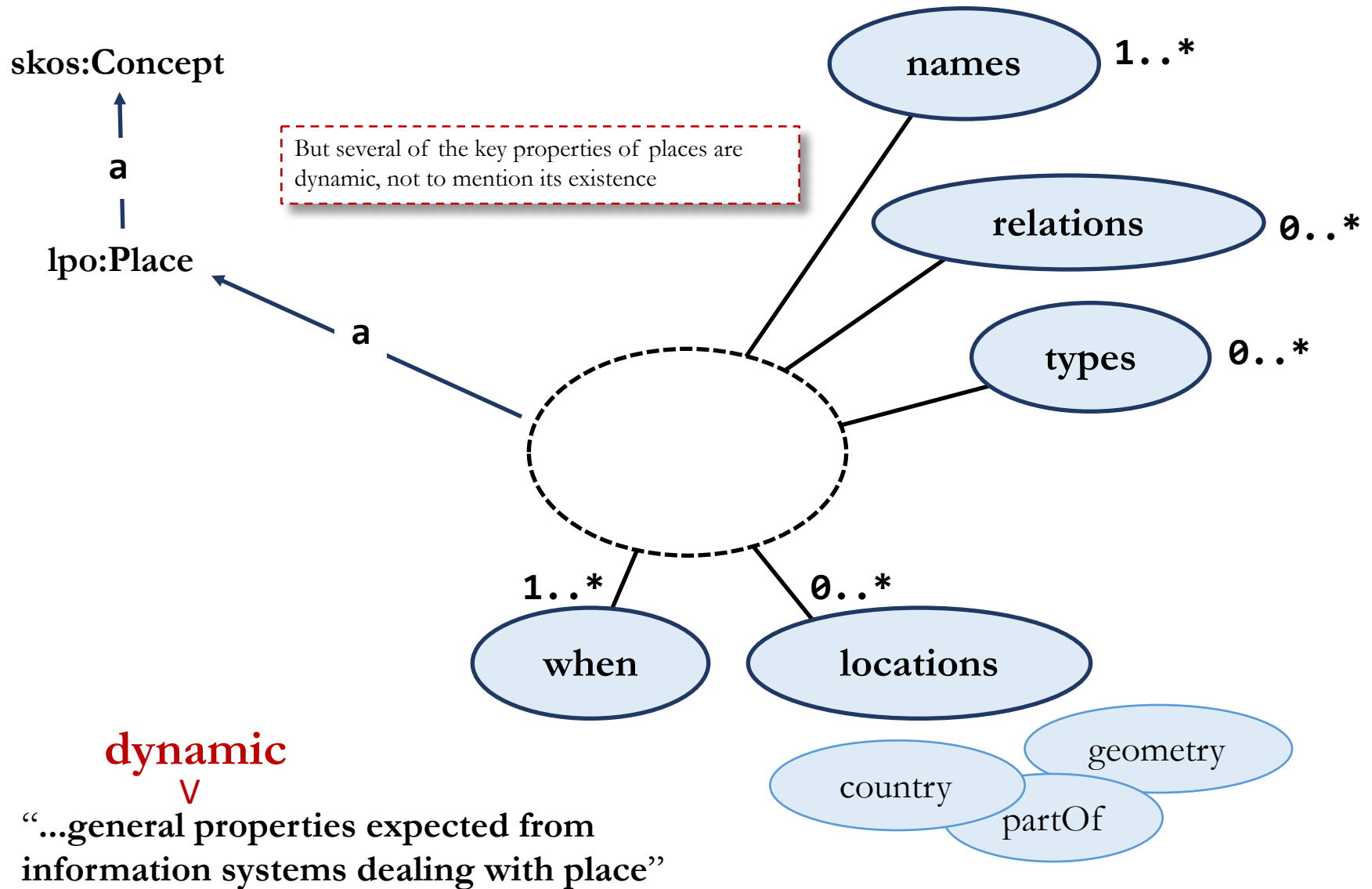


lpo:Place

a

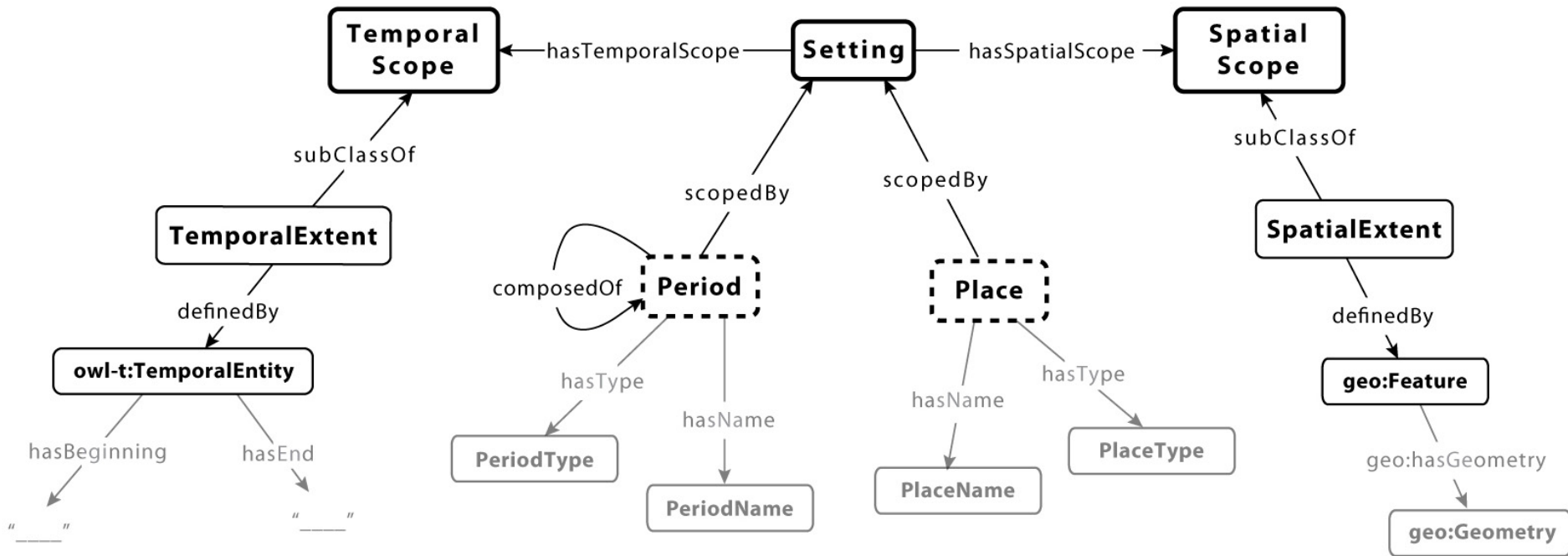


“...general properties expected from information systems dealing with place”



Setting pattern

A few years before the WHG project began, I did some work with Krzysztof Janowicz and Carsten Keßler, developing an ontology design pattern for setting, reflecting the fact that both places and historical periods have spatial and temporal scopes and extents. Trying to model the way that the answer to where is often “here, then” and the answer to when can be “then, here”



K. Grossner, K. Janowicz & C. Keßler (2014)

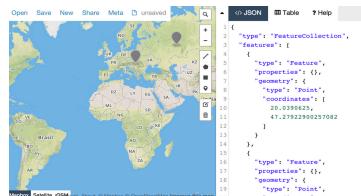
Place, Period and Setting for Linked Data Gazetteers
in Berman, Southall, Mostern (Eds.) *Placing Names*

GEOJSON

<https://geojson.org/>

I needed a data format to join space and time – why start from scratch? GeoJSON is very widely used for web mapping applications.

“ GeoJSON is a format for encoding a variety of geographic data structures.



geojson.io




```
{ "type": "FeatureCollection",  
  "features": [  
    {  
      "type": "Feature",  
      "properties": {    },  
      "geometry": {    },  
    },  
    ...  
  ]  
}
```

GeoJSON models Features in FeatureCollections, with only three required properties: type, geometry, and properties. Properties is free-form, intentionally. Geometry is further specified. New elements can be added, with some restrictions, called “foreign members.”

GeoJSON

```
{ "type": "FeatureCollection",  
  "features": [  
    {  
      "type": "Feature",  
      "properties": {      },  
      "when": {      },  
      "geometry": {      }  
    },  
  ]  
}
```

So why not add “when” – at the level of the entire feature. In 2017 I began drafting a GeoJSON-T spec. It is still draft and provisional, though it has been getting more attention and traction recently.

GeoJSON-T

```

{ "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "properties": {    },
      "when": { },
      "geometry": {
        "type": "GeometryCollection",
        "geometries": [{
          "type": "MultiPolygon",
          "properties": {    },
          "coordinates": [    ],
          "when": { }
        }
      ], ... ]
    }
  ]
}

```

And if the geometry is itself a collection of geometries, why not allow a “when” for each?

GeoJSON-T

```
"when": {
  "timespans": [
    {
      "start": { "in": "nnnn-nn" },
      "end": {
        "earliest": "-nnnn",
        "latest": "nnnn-nn-nn"
      },
    }
  ],
  "periods": [
    {
      "name": "Hellenistic Period",
      "uri": "http://n2t.net/ark:/99152/p0mn2ndq6bv"
    }
  ],
  "duration": "P100Y",
  "follows": "http://mygaz.org/p_00123",
  "label": "for a century in the Hellenistic period"
}
```

I then proposed some standard properties of “when” objects: timespans, named periods, duration, follows for sequences, and a label

<https://github.com/kgeographer/geojson-t>

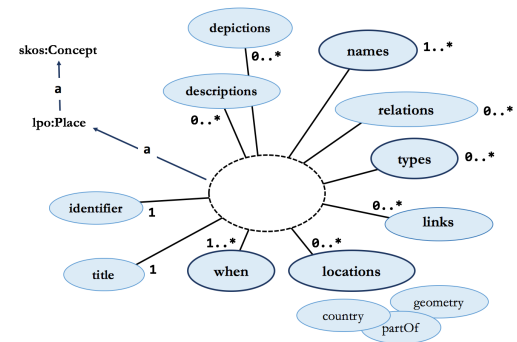
GeoJSON-T

```

{
  "type": "FeatureCollection"
  "@context": http://linkedpasts.org/lp-context.jsonld,
  "features": [
    {
      "type": "Feature",
      "properties": { "id": " ", "title": " " },
      "geometry": { ..., "when": { } },
      "when": { },
      "names": [{ ..., "when": { } }],
      "types": [{ ..., "when": { } }],
      "relations": [{ ..., "when": { } }],
      "links": [{ }],
      "descriptions": [{ }],
      "depictions": [{ }],
    }, ...
  ]
}

```

When it came time to develop a standard contribution data format for WHG, I extended GeoJSON-T, and threw in JSON-LD compatibility to make it RDF. You can see *optional* “when” objects can be used to temporally scope an entire feature, singleton geometries or collections, names, types, and relations with other places.



Linked Places

<https://github.com/LinkedPasts/linked-places>

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LinkedPasts / linked-places Unwatch 14 Unstar 33 Fork 4

Code Issues 16 Pull requests Actions Projects Wiki Security Insights

master 1 branch 0 tags Go to file Add file Code About

README.md

The Linked Places format (LPF)

v1.1, 9 May 2019

NOTES (14 Jul 2019)

- An [alternative TSV-format](#) will be supported by World-Historical Gazetteer, appropriate for relatively simple place records, e.g. those without temporally scoped names, geometries, etc., and without multiple name variants including citations.
- LPF v1.1 is implemented in current versions of World-Historical Gazetteer and Pelagios projects, including Recogito. There is a need to make improvements in a Version 2 and to develop/write the underlying ontology. Please consider joining a small working group in that effort.

Linked Places format is in use for WHG and for Pelagios projects, and is specified in a github repo README file

"@context": <http://linkedpasts.org/lp-context.jsonld>,

```
{
  "@context": {
    "id": "@id",
    "type": "@type",
    "rdf": "http://www.w3.org/1999/02/22-rdf-syntax-ns#",
    "rdfs": "http://www.w3.org/2000/01/rdf-schema#",

    "lpo": "http://linkedpasts.org/ontology/lpo_latest.ttl#",
    "lawd": "http://lawd.info/ontology/",
    "gvp": "http://vocab.getty.edu/ontology#",
    "aat": "http://vocab.getty.edu/aat/",
    "tgn": "http://vocab.getty.edu/tgn/",
    "crm": "http://erlangen-crm.org/current/",
```

```
    "features": {
      "@id": "lpo:hasFeature",
      "@type": "geojson:Feature",
      "@container": "@set"
    },
    "properties": "geojson:properties",

    "geometry": "geojson-t:geometry",
    "geometries": {
      "@id": "lpo:setting",
      "@type": "lpo:Setting",
      "@container": "@set"
    },
    "geo_wkt": "http://www.opengis.net/ont/geosparql#asWKT",
    "periodo": "http://n2t.net/ark:/99152/#",
    "ccode": {"@id": "gn:countryCode"},

    "when": {"@id": "lpo:when"},
    "timespans": {
      "@id": "lpo:timespan",
```

"lpo": "http://linkedpasts.org/lpo_latest.ttl"

There is a draft context file, which refers to a Linked Pasts Ontology (lpo)...

lpo: <http://linkedpasts.org/ontology#>

```
## LPO version 1.1. Richard Light, started 13 March 2020
```

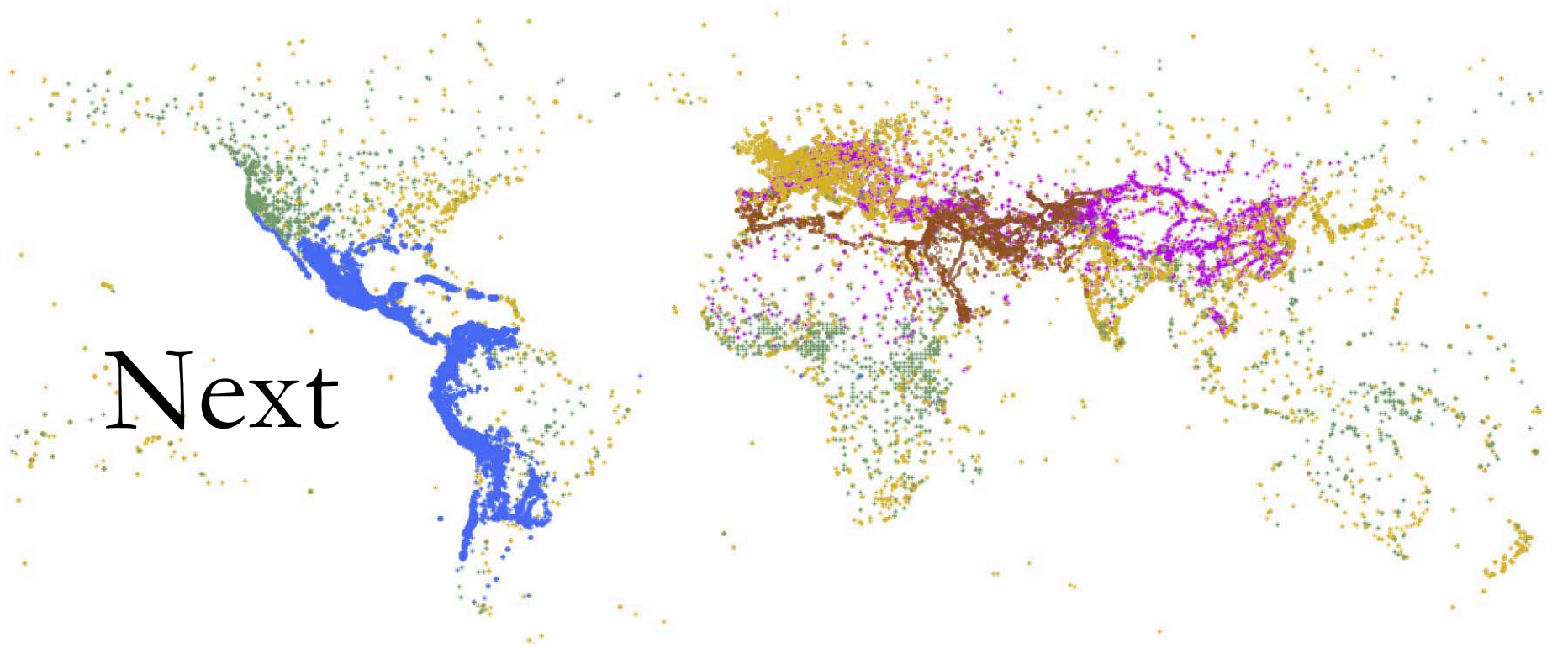
```
@prefix lpo: <http://linkedpasts.org/ontology#>.
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>.
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#>.
@prefix owl: <http://www.w3.org/2002/07/owl#>.
@prefix skos: <http://www.w3.org/2004/02/skos/core#>.
@prefix time: <http://www.w3.org/2006/time#>.
@prefix xml: <http://www.w3.org/XML/1998/namespace>.
@prefix xsd: <http://www.w3.org/2001/XMLSchema#>.
```

```
lpo:when a owl:FunctionalProperty ;
  rdfs:range lpo:Timespan ;
  rdfs:comment "Relates an instance of an entity or
for a period of time it existed or was valid. For
association with a particular name, its spatial lo
place. That TemporalScope could be metric (a time:
defining a named historical period (e.g. a Period0
```

```
lpo:timespan a owl:ObjectProperty ;
  rdfs:range lpo:Timespan .
```

```
lpo:has_start a owl:ObjectProperty ;
  rdfs:subPropertyOf time:intervalStartedBy ;
  rdfs:domain lpo:Timespan ;
  rdfs:range time:ProperInterval ;
  rdfs:comment "" .
```

The Linked Pasts Ontology is essentially aspirational at this point. I realized as this process went along that the order of development was unusual, or unorthodox, or both. There is a format in use to describe places, which has an underlying formal model that has not yet been committed to valid RDF. I'm not sure what to make of that – except that the model works, and that the ontology will eventually be recorded properly. We (Rainer Simon and I) know what we mean by the terms we've adopted, but haven't yet formalized their semantics.



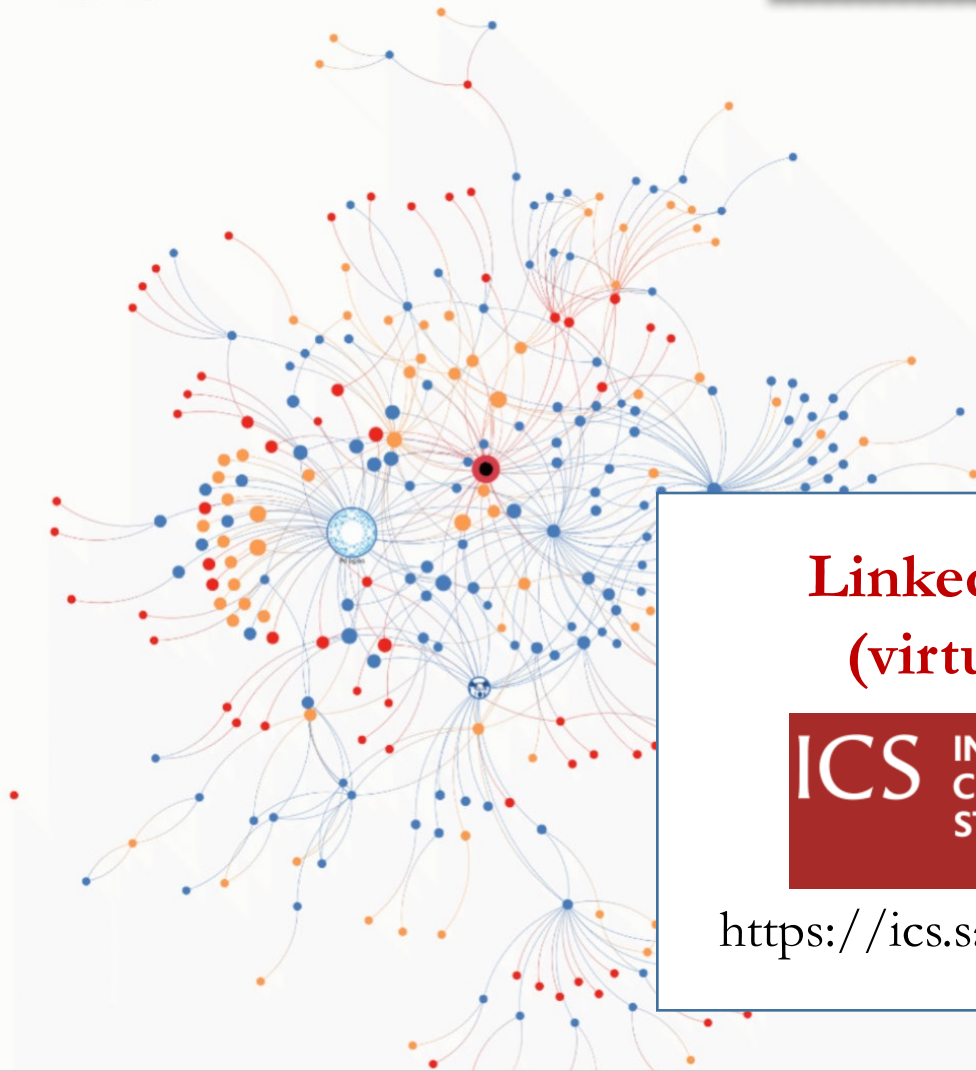
Next

There are several aggregators of historical data devoted to particular domains. These data include places, but also typically people and texts. WHG has been in conversation with each of these four about future contributions of their place data.

- Biographies of the Enslaved (Henry Louis Gates and Steven Niven) [View project data](#)
- Free Black Database (Brian Mitchell) [View project data](#) | [View this journal data article](#)
- Legacies of British Slave-ownership (Keith McClelland) [View project data](#)
- Louisiana Slave Database (Gwendolyn Midlo-Hall) [View project data](#) | [View this journal data article](#)
- Maranhão Inventories Slave Database (Walter Hawthorne) [View project data](#) | [View this journal data article](#)
- Voyages: The Trans-Atlantic Slave Trade Database (David Eltis) [View project data](#)

One place that groups like these meet is the
Linked Pasts symposium, now in its sixth year.

A Emerging Linked Pasts Network



Linked Pasts I London

Linked Pasts II Madrid

Linked Pasts III Stanford, CA

Linked Pasts IV Mainz

Linked Pasts V Bordeaux

Linked Pasts VI: London (virtual 2-16 Dec 2020)

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ADVANCED STUDY
UNIVERSITY
OF LONDON

<https://ics.sas.ac.uk/events/event/22792>



Start a huge, foolish project
Like Noah

– Rumi

A poet's directive I have always taken to heart.

Note that not all huge projects are foolish!

<http://whgazetteer.org>

<https://github.com/LinkedPasts/linked-places>

<https://github.com/kgeographer/geojson-t>

@WHGazetteer

@kgeographer



karl@kgeographer.org