

Linked geographical data and web-mapping

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Introduction to Gazetteers



John Norden's map of London published in 1593. Wikipedia

Linked Open Data



A (simplified) recipe for Linked Open Data

- Data have to be available online (preferably as open data).
- They have to be expressed in specific formats, for example RDF.



Cooking, by Leon Zernitsky, 2012

Resource Description Framework

RDF is a family of World Wide Web Consortium (W3C) specifications originally designed as a metadata data model.

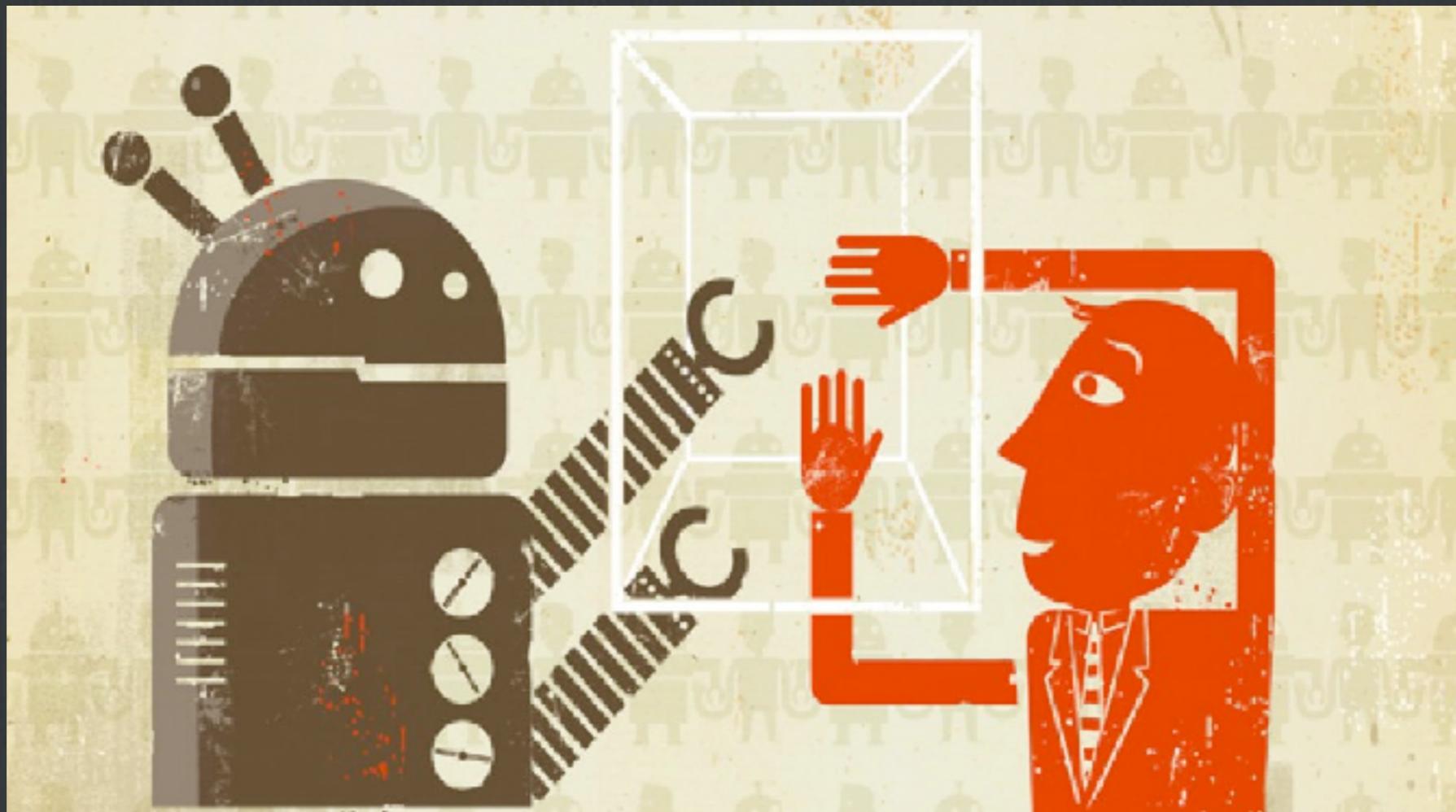


Illustration by Brucie Rosch from: <http://hub.jhu.edu/gazette/2013/february/humans-robots-together/>

Resource Description Framework

RDF is a family of World Wide Web Consortium (W3C) specifications originally designed as a metadata data model.

SUBJECT

PREDICATE

OBJECT

London

isPartOf

United Kingdom

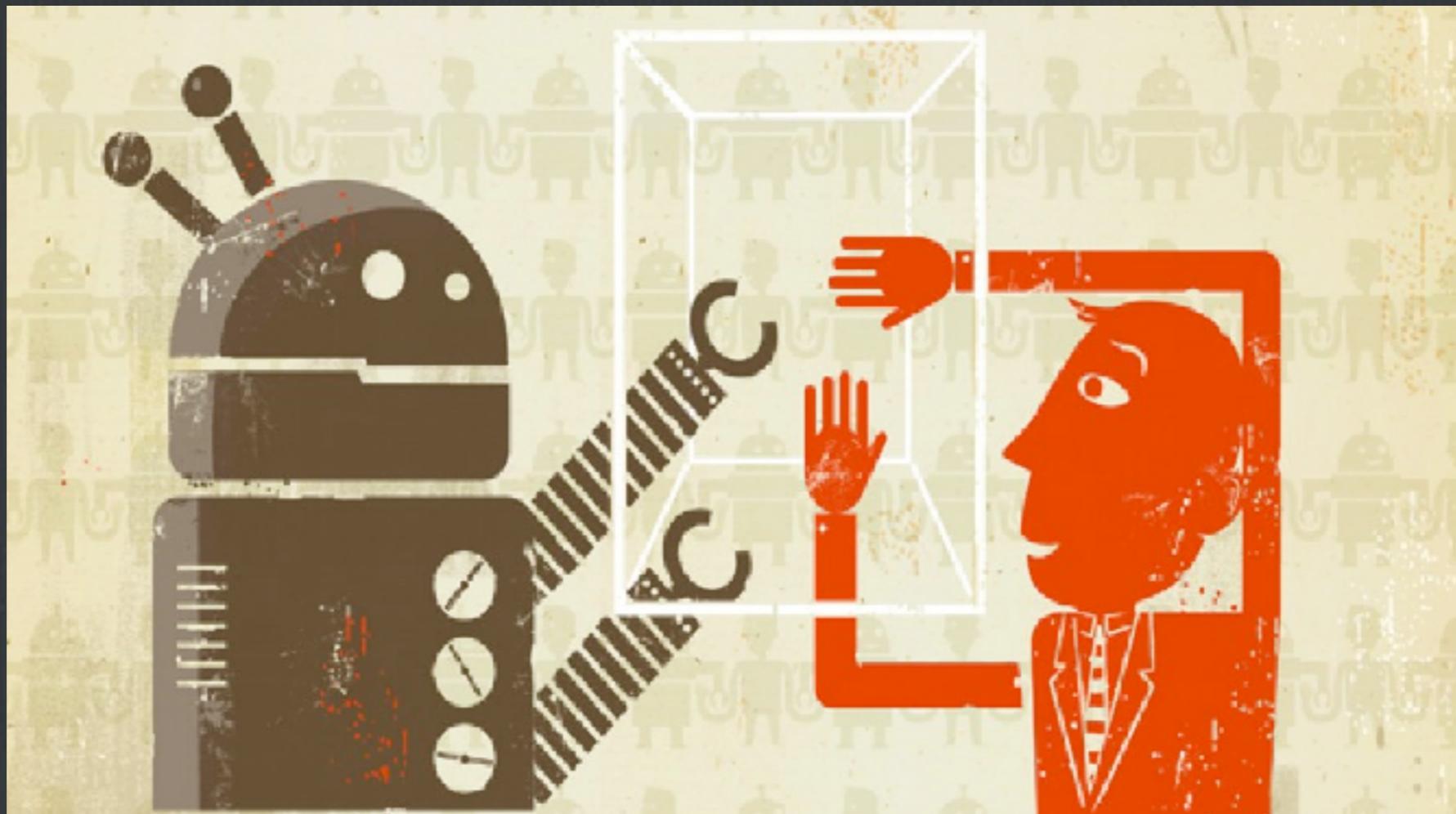


Illustration by Brucie Rosch from: <http://hub.jhu.edu/gazette/2013/february/humans-robots-together/>

A (simplified) recipe for Linked Open Data

- Data have to be available online (preferably as open data).
- They have to be expressed in specific formats, for example RDF.
- Use stable URIs to refer to entities (like people, places, dates, concepts).



Saul Steinberg, illustration from *The Passport* 1951



What is a gazetteer?

a geographical
index or directory
describing
locations instances

Map of the United Kingdom from Nations Online



GeoNames URI: 2643743

Map of the United Kingdom from regnounito.net



GeoNames URI: 2643743

Map of the United Kingdom from Nations Online



GeoNames URI: 2643743

Map of the United Kingdom from regounitio.net



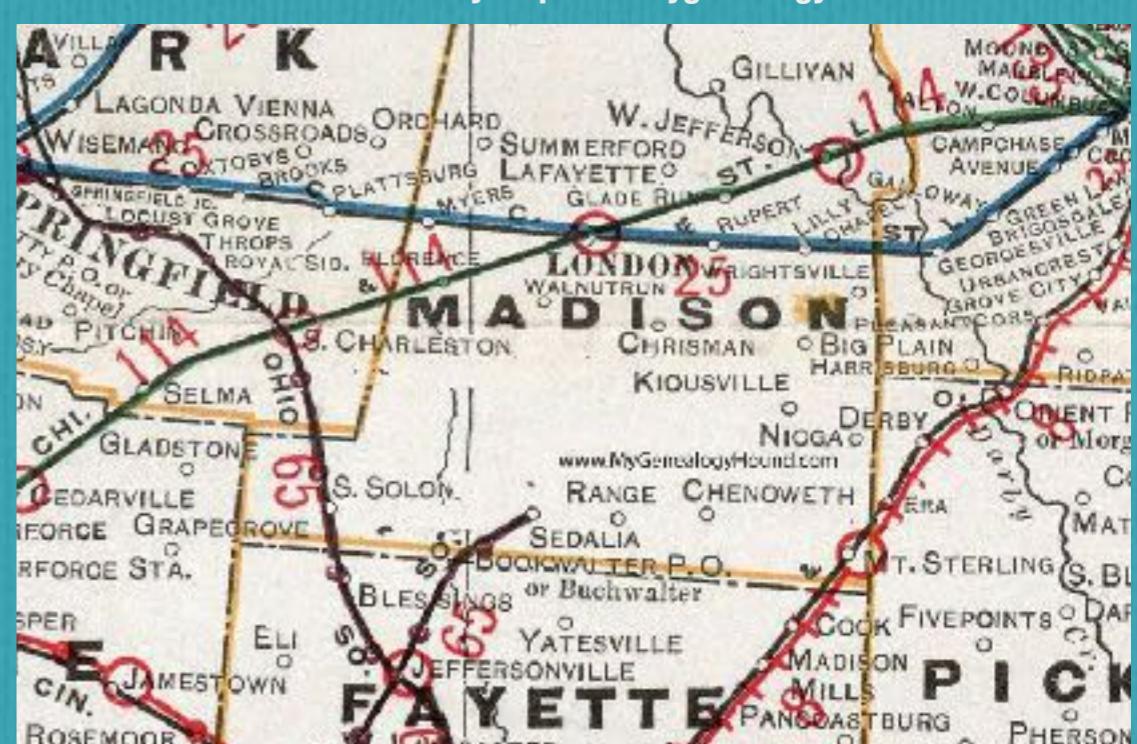
GeoNames URI: 2643743

Map of the United Kingdom from Nations Online



GeoNames URI: 2643743

Ohio County Map from mygenealogy



GeoNames URI: 4517009

Digital Gazetteers

More powerful than simple lists, they help us:

- Disambiguate place references in semantic annotations.
- Record and formalise our knowledge and understanding of places, especially in diachronic perspectives.
- Improve metadata.

GAZETTEER - INDEX of THE WORLD											
Country	Date	Index	Capital	Area in sq. miles	Population	Divisions	Date	Index	Capital	Area in sq. miles	Population
Afghanistan	1931	16.5	Kabul	20,000	2,225,000	Punjab	1931	16.6	Mazar-i-Sharif	15,000	1,115,000
Algeria	1931	16.7	Algiers	42,000	3,000,000	Oran	1931	16.8	Oran	10,000	1,115,000
Angola	1931	16.9	Lisboa	40,000	1,000,000	Luanda	1931	17.0	Luanda	10,000	1,000,000
Argentina	1931	17.2	Buenos Aires	10,000	12,000,000	Salta	1931	17.3	Salta	10,000	1,000,000
Armenia	1931	17.5	Erevan	17,700	4,000,000	Yerevan	1931	17.6	Yerevan	10,000	4,000,000
Aruba	1931	17.7	Willemstad	14,700	1,000,000	Barbados	1931	17.8	Kingston	10,000	1,000,000
Armenia	1931	17.9	Yerevan	10,000	1,000,000	Bonaire	1931	17.9	Oranjestad	10,000	1,000,000
Armenia	1931	18.0	Yerevan	10,000	1,000,000	Bolivia	1931	18.1	Santa Cruz	10,000	1,000,000
Armenia	1931	18.2	Yerevan	10,000	1,000,000	Bolivia	1931	18.3	La Paz	10,000	1,000,000
Armenia	1931	18.4	Yerevan	10,000	1,000,000	Bolivia	1931	18.5	El Alto	10,000	1,000,000
Armenia	1931	18.6	Yerevan	10,000	1,000,000	Bolivia	1931	18.7	San José de Chiquitos	10,000	1,000,000
Armenia	1931	18.8	Yerevan	10,000	1,000,000	Bolivia	1931	18.9	Quito	10,000	1,000,000
Armenia	1931	19.0	Yerevan	10,000	1,000,000	Bolivia	1931	19.1	La Paz	10,000	1,000,000
Armenia	1931	19.2	Yerevan	10,000	1,000,000	Bolivia	1931	19.3	El Alto	10,000	1,000,000
Armenia	1931	19.4	Yerevan	10,000	1,000,000	Bolivia	1931	19.5	Quito	10,000	1,000,000
Armenia	1931	19.6	Yerevan	10,000	1,000,000	Bolivia	1931	19.7	La Paz	10,000	1,000,000
Armenia	1931	19.8	Yerevan	10,000	1,000,000	Bolivia	1931	19.9	El Alto	10,000	1,000,000
Armenia	1931	20.0	Yerevan	10,000	1,000,000	Bolivia	1931	20.1	Quito	10,000	1,000,000
Armenia	1931	20.2	Yerevan	10,000	1,000,000	Bolivia	1931	20.3	La Paz	10,000	1,000,000
Armenia	1931	20.4	Yerevan	10,000	1,000,000	Bolivia	1931	20.5	El Alto	10,000	1,000,000
Armenia	1931	20.6	Yerevan	10,000	1,000,000	Bolivia	1931	20.7	Quito	10,000	1,000,000
Armenia	1931	20.8	Yerevan	10,000	1,000,000	Bolivia	1931	20.9	La Paz	10,000	1,000,000
Armenia	1931	21.0	Yerevan	10,000	1,000,000	Bolivia	1931	21.1	El Alto	10,000	1,000,000
Armenia	1931	21.2	Yerevan	10,000	1,000,000	Bolivia	1931	21.3	Quito	10,000	1,000,000
Armenia	1931	21.4	Yerevan	10,000	1,000,000	Bolivia	1931	21.5	La Paz	10,000	1,000,000
Armenia	1931	21.6	Yerevan	10,000	1,000,000	Bolivia	1931	21.7	El Alto	10,000	1,000,000
Armenia	1931	21.8	Yerevan	10,000	1,000,000	Bolivia	1931	21.9	Quito	10,000	1,000,000
Armenia	1931	22.0	Yerevan	10,000	1,000,000	Bolivia	1931	22.1	La Paz	10,000	1,000,000
Armenia	1931	22.2	Yerevan	10,000	1,000,000	Bolivia	1931	22.3	El Alto	10,000	1,000,000
Armenia	1931	22.4	Yerevan	10,000	1,000,000	Bolivia	1931	22.5	Quito	10,000	1,000,000
Armenia	1931	22.6	Yerevan	10,000	1,000,000	Bolivia	1931	22.7	La Paz	10,000	1,000,000
Armenia	1931	22.8	Yerevan	10,000	1,000,000	Bolivia	1931	22.9	El Alto	10,000	1,000,000
Armenia	1931	23.0	Yerevan	10,000	1,000,000	Bolivia	1931	23.1	Quito	10,000	1,000,000
Armenia	1931	23.2	Yerevan	10,000	1,000,000	Bolivia	1931	23.3	La Paz	10,000	1,000,000
Armenia	1931	23.4	Yerevan	10,000	1,000,000	Bolivia	1931	23.5	El Alto	10,000	1,000,000
Armenia	1931	23.6	Yerevan	10,000	1,000,000	Bolivia	1931	23.7	Quito	10,000	1,000,000
Armenia	1931	23.8	Yerevan	10,000	1,000,000	Bolivia	1931	23.9	La Paz	10,000	1,000,000
Armenia	1931	24.0	Yerevan	10,000	1,000,000	Bolivia	1931	24.1	El Alto	10,000	1,000,000
Armenia	1931	24.2	Yerevan	10,000	1,000,000	Bolivia	1931	24.3	Quito	10,000	1,000,000
Armenia	1931	24.4	Yerevan	10,000	1,000,000	Bolivia	1931	24.5	La Paz	10,000	1,000,000
Armenia	1931	24.6	Yerevan	10,000	1,000,000	Bolivia	1931	24.7	El Alto	10,000	1,000,000
Armenia	1931	24.8	Yerevan	10,000	1,000,000	Bolivia	1931	24.9	Quito	10,000	1,000,000
Armenia	1931	25.0	Yerevan	10,000	1,000,000	Bolivia	1931	25.1	La Paz	10,000	1,000,000
Armenia	1931	25.2	Yerevan	10,000	1,000,000	Bolivia	1931	25.3	El Alto	10,000	1,000,000
Armenia	1931	25.4	Yerevan	10,000	1,000,000	Bolivia	1931	25.5	Quito	10,000	1,000,000
Armenia	1931	25.6	Yerevan	10,000	1,000,000	Bolivia	1931	25.7	La Paz	10,000	1,000,000
Armenia	1931	25.8	Yerevan	10,000	1,000,000	Bolivia	1931	25.9	El Alto	10,000	1,000,000
Armenia	1931	26.0	Yerevan	10,000	1,000,000	Bolivia	1931	26.1	Quito	10,000	1,000,000
Armenia	1931	26.2	Yerevan	10,000	1,000,000	Bolivia	1931	26.3	La Paz	10,000	1,000,000
Armenia	1931	26.4	Yerevan	10,000	1,000,000	Bolivia	1931	26.5	El Alto	10,000	1,000,000
Armenia	1931	26.6	Yerevan	10,000	1,000,000	Bolivia	1931	26.7	Quito	10,000	1,000,000
Armenia	1931	26.8	Yerevan	10,000	1,000,000	Bolivia	1931	26.9	La Paz	10,000	1,000,000
Armenia	1931	27.0	Yerevan	10,000	1,000,000	Bolivia	1931	27.1	El Alto	10,000	1,000,000
Armenia	1931	27.2	Yerevan	10,000	1,000,000	Bolivia	1931	27.3	Quito	10,000	1,000,000
Armenia	1931	27.4	Yerevan	10,000	1,000,000	Bolivia	1931	27.5	La Paz	10,000	1,000,000
Armenia	1931	27.6	Yerevan	10,000	1,000,000	Bolivia	1931	27.7	El Alto	10,000	1,000,000
Armenia	1931	27.8	Yerevan	10,000	1,000,000	Bolivia	1931	27.9	Quito	10,000	1,000,000
Armenia	1931	28.0	Yerevan	10,000	1,000,000	Bolivia	1931	28.1	La Paz	10,000	1,000,000
Armenia	1931	28.2	Yerevan	10,000	1,000,000	Bolivia	1931	28.3	El Alto	10,000	1,000,000
Armenia	1931	28.4	Yerevan	10,000	1,000,000	Bolivia	1931	28.5	Quito	10,000	1,000,000
Armenia	1931	28.6	Yerevan	10,000	1,000,000	Bolivia	1931	28.7	La Paz	10,000	1,000,000
Armenia	1931	28.8	Yerevan	10,000	1,000,000	Bolivia	1931	28.9	El Alto	10,000	1,000,000
Armenia	1931	29.0	Yerevan	10,000	1,000,000	Bolivia	1931	29.1	Quito	10,000	1,000,000
Armenia	1931	29.2	Yerevan	10,000	1,000,000	Bolivia	1931	29.3	La Paz	10,000	1,000,000
Armenia	1931	29.4	Yerevan	10,000	1,000,000	Bolivia	1931	29.5	El Alto	10,000	1,000,000
Armenia	1931	29.6	Yerevan	10,000	1,000,000	Bolivia					

There is London and London...

The Pleiades Gazetteer of the Ancient World

PLEIADES

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You are here: Home → Ancient Places → Londinium/Augusta

Londinium/Augusta

a Pleiades place resource

Creators: A.B. Esmonde Cleary
Contributors: DARMC, Brady Kiesling, R. Talbert, R. Wimer, Jeffrey Becker, Sean Giles, Tom Elliott
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Last modified Mar 09, 2020 11:05 PM — History

Tags: `class:ancient=1`, `class:major=1`, `class:feature:major_settlement`

Roman London was established ca. A.D. 43.

Canonical URI for this page:
<https://pleiades.stoa.org/places/79574>

Representative Point (Latitude, Longitude):
51.513335, -0.068949

Locations:

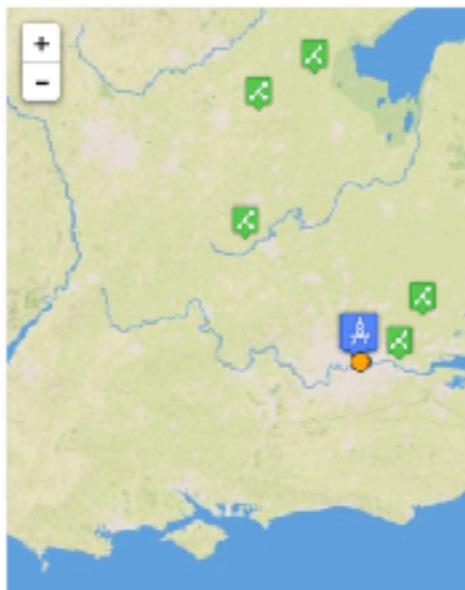
- DARMC location 20441 (30 BC - AD 640)

Names:

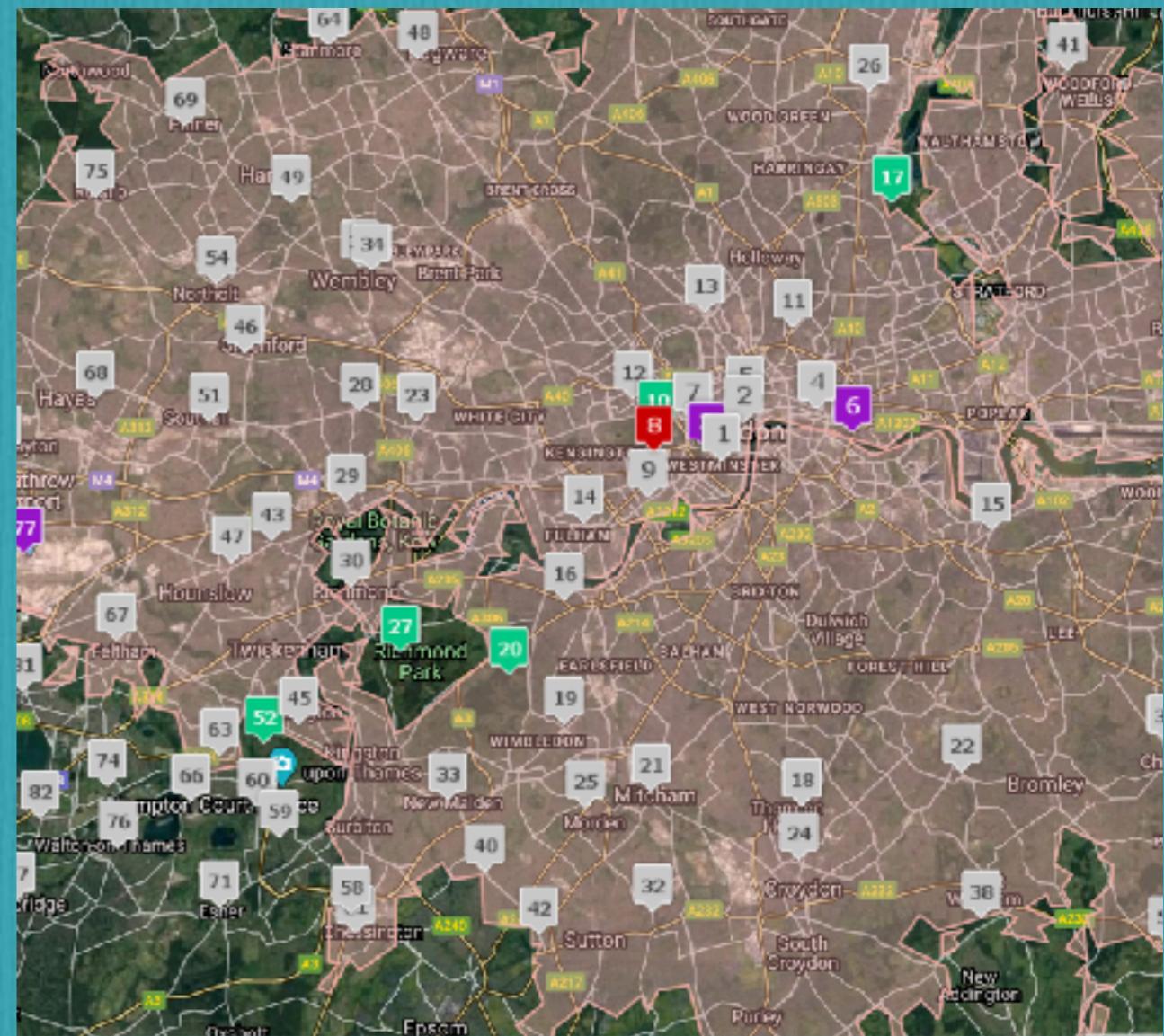
- Augusta (Latin, AD 300 - AD 640)
- Londinium (Latin, 30 BC - AD 640)
- London (English, modern)
- Londra (Italian, modern)

Londinium/Augusta makes connections with:

- Londinium/Augusta → connection → Britannia/Albion (island) (unspecified date range)
- Londinium/Augusta → connection → Eumenae Street (unspecified date range)
- Londinium/Augusta → connection → Tamesis (river) (unspecified date range)



The GeoNames contemporary gazetteer



URI: pleiades.stoa.org/places/79574

URI: www.geonames.org/2643743/london.html

A closer look at Pleaides



pleiades.stoa.org

What is a Pleiades place made of?

- Place: The idea of a place. The notion of its existence, either in historical or literary contexts.
- Names: How a place was called, by different people and/or at different times.
- Locations: Where a place used to be, according to different sources.
- Relations: what other places are related to it (as parents or children)



City of Cairo, Piri Reis. Source: Wikipedia

What if we don't have all these pieces of information?

- ▶ **Place only**
We know that a place existed (or was supposed to exist) but we may or may not know its location or name.
- ▶ **Name only**
We found attestation of a name but we don't know to what it refers, or where the referent was located.
- ▶ **Location only**
We know that a place existed (thanks to archaeological data) but we don't have enough historical knowledge about it and we ignore its name.



A. Kauffman, Calypso calling heaven and earth to witness her sincere affection to Ulysses.
Source: Wikimedia



What about cities?

The Temple of Apollo or the House of the Dwarves?

 **Temple of Apollo**
a Pleiades place resource

Creators: Valeria Vitale
Contributors: Jeffrey Becker
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Last modified Dec 21, 2016 08:45 AM — [History](#)

tags: Corinthian, Apollo

The Temple of Apollo (VII,7,32) in Pompeii is one of the city's oldest cults, dating to the sixth century BC. The sanctuary assumed its present appearance in the second century BC.

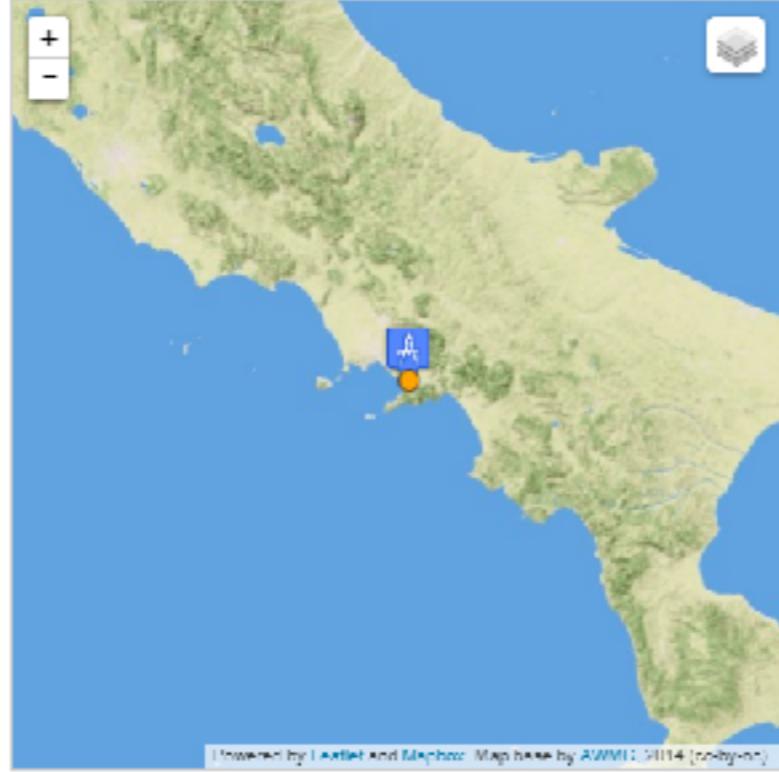
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Red titles indicate drafting-state items. Orange titles indicate pending-state.

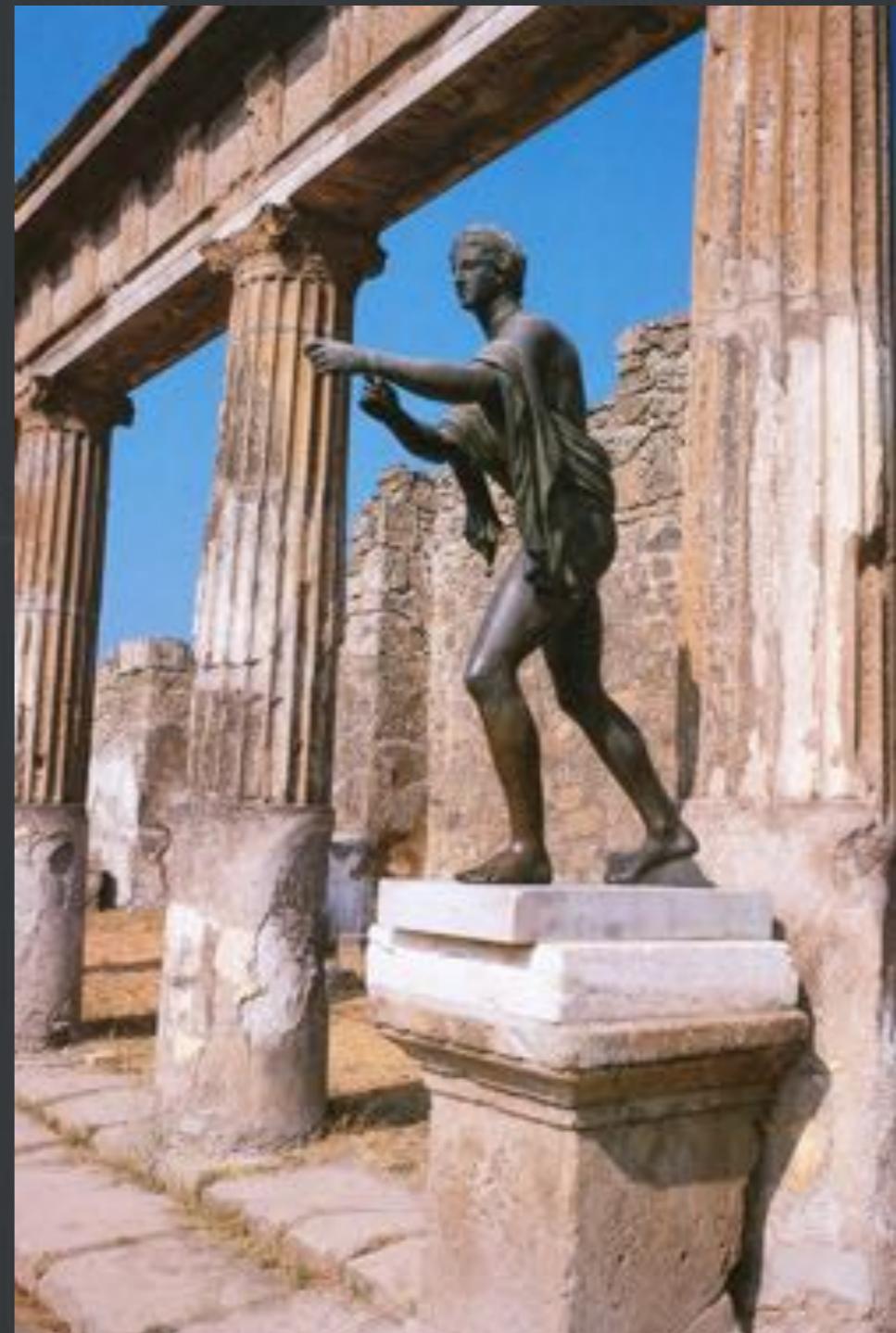
Representative Point (Latitude, Longitude):
40° 740.0478, 14° 48'47.68" 

 Locations:
▪ OSM location of so called "Tempio di Apollo" (750 BC - AD 300)
[Add Location](#) ▾

 Names:
▪ [Aedes of Apollo](#) (English, modern) [drafting by Valeria Vitale]
▪ [Aedes of Venus Pompeiana](#) (English, modern) [drafting by Valeria Vitale]
▪ [House of the Dwarfs](#) (English, modern) [drafting by Valeria Vitale]
▪ [Tempel der Ceres](#) (German, modern) [drafting by Valeria Vitale]
▪ [Tempel der Ceres und Venus](#) (German, modern) [drafting by Valeria Vitale]
▪ [Tempio di Apollo](#) (Italian, modern)
▪ [Tempio di Mercurio e Maia](#) (Tempio di Mercurio e Maia; Italian, modern) [drafting by Valeria Vitale]
▪ [Tempio di Venere Fisica](#) (Italian, modern) [drafting by Valeria Vitale]
▪ [Tempio di Venere Physica Pompeiana](#) (Italian, modern) [drafting by Valeria Vitale]
▪ [Tempio di Venere e collegio dei Veneri](#) (Tempio di Venere e collegio dei Veneri; Italian, modern) [drafting by Valeria Vitale]
▪ [Tempio ipetoro](#) (Italian, modern) [drafting by Valeria Vitale]
▪ [Temple of Bacchus](#) (Temple of Bacchus; English, modern) [drafting by Valeria Vitale]
▪ [VII 7,32](#) (Italian, modern) [drafting by Valeria Vitale]
[Add Name](#)



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Show place in AWMCAW114's AntiquityA to Z, or [Google Earth](#), or [Pelagos Portico](#).
Show area in [GeoNames](#), [Google Maps](#), or [OpenStreetMap](#).



Recording information about disappeared and disappearing cultural heritage



Disappearing built heritage in Benghazi traced in Open Street Map