

Spatial Humanities: An Introduction to Space and Place in Digital Scholarship

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What I'm Talking About Today

- Tobler's First Law of Geography
- Spatial Thinking
- Spatial Turn in Digital Scholarship
- Spatial (Info) Literacy
- Examples

Tobler's First Law of Geography

Everything is related to everything else, but near things are more related than distant things.

-Waldo Tobler



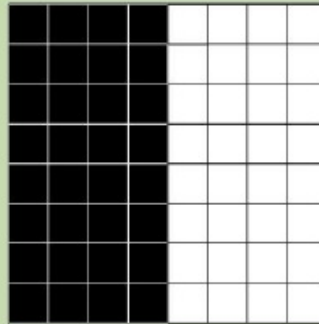
- Also called 'spatial dependence'
- True with continuous data, somewhat true with discrete data
- **Core concept to understanding geographic information**

• Image : <http://southwesterngis.blogspot.com/2014/02/toblers-first-law-of-geography.html>

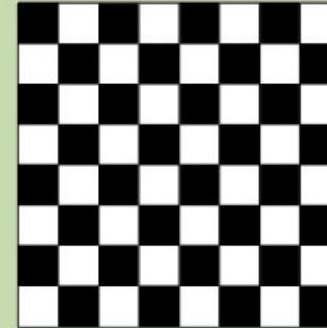
Autocorrelation

Autocorrelation

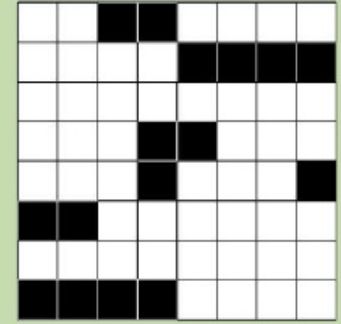
Tobler's First Law of Geography "All things are related, but nearby things are more related than distant things" (1970)



Positive
Autocorrelation



Negative
Autocorrelation



No Autocorrelation

(O'Sullivan and Unwin, 2002)

Spatial Thinking (Defined)

- Finds meaning in the shape, size, orientation, location, direction or trajectory of objects, processes or phenomena
- Finds meaning in the relative spatial positions of multiple objects, process or phenomena



<https://goo.gl/images/1nRtrJ>

Spatial Turn: The 'Why' of 'Where' in the Humanities

“Where things happen is critical to knowing how and why they happen.”

Warf, Barney and Santa Arias. “Introduction: The Reinsertion of Space Into the Social Sciences and Humanities,” in *The Spatial Turn: Interdisciplinary Perspectives* (Routledge, 2009). p. 1.

- People & Landscapes = Where
- Context / Networks = Relationships
- Space-Time & Visualizations
- Multi- and Interdisciplinary
- GeoLiteracy - New tools allow for new analysis & increased understandings

Spatial Information Literacy:

Spatial Relationships

- **SIMPLE:**

- Location
- Distance
- Direction
- Movement
- Boundaries
- Region
- Shape
- Adjacency
- Enclosure/Within

- **COMPLEX:**

- Distribution
- Pattern
- Dispersion
- Clustering
- Density
- Buffer
- Scale

- Taken From: Golledge, et al 2008 / adapted by Jo & Bednarz, 2009 / Frameworks Table1 in Mohan and Mohan (2013) Spatial Thinking About Maps: Development of Concepts and Skills Across the Early Years and from Sinton (2011)

Topological Spatial Relationships

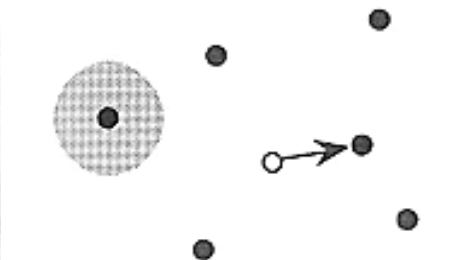

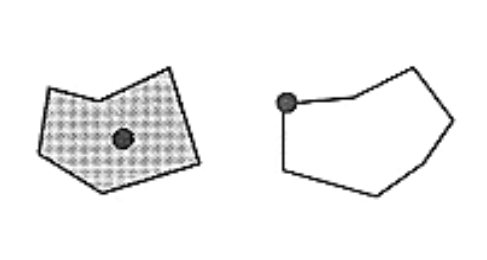
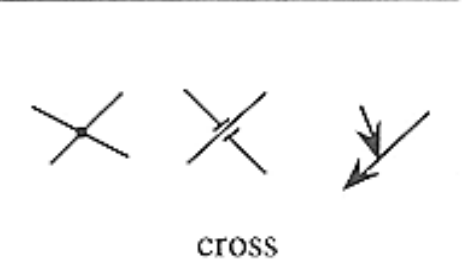
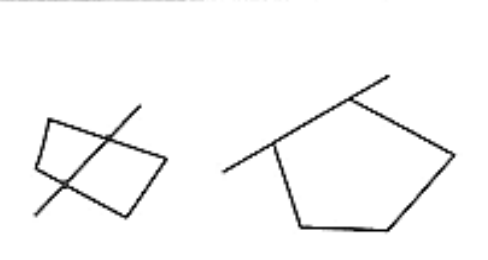
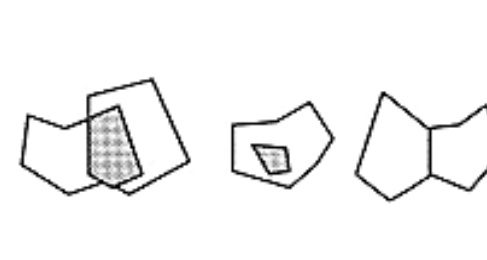
Point - Point	Point - Line	Point - Area
 <p>is within nearest to</p>	 <p>on line nearest to</p>	 <p>in area on area</p>
Line - Line	Line - Area	Area - Area
 <p>intersect cross flow into</p>	 <p>intersect border</p>	 <p>overlap inside adjacent to</p>

Figure 2.4 Topological Relationships Between Spatial Objects

Spatially Aware Digital Scholarship

- With this visualization, what new questions are now possible to ask?
- What concepts are being presented? What is missing?
- How is the Humanistic inquiry manifested?
- What spatial patterns and relationships are now made visible?
- Does this clarify or refute previously held understandings?
- Is this presenting a new research methodology?

Geospatial digital humanities projects to know about

- Authorial London (authorial.stanford.edu)
- ReVilna: Vilnius Ghetto Project (revilna.org)
- Slave Revolt in Jamaica (revolt.axismaps.com)
- Extensive list at geohumanities.org/gis

Incorporate SHOM

Spatially literate individuals should possess **spatial habits of mind (SHOM)**:

- 1. Pattern recognition:** When you use maps showing things such as population density, election results, or highways, do you try to recognize spatial patterns?
- 2. Spatial description :** Do you use spatial terms such as location, pattern, or diffusion to describe phenomena?
- 3. Visualization :** Do you find that graphs, charts, and maps help you understand new topics better than just written material?
- 4. Spatial concepts :** Do you use spatial concepts, such as location, central place theory, water cycle, or land use, to describe, explain, and solve societal problems?
- 5. Spatial tools :** Do you appreciate and use spatial tools such as maps, Google Earth, GIS, and GPS?

Adapted from Minsung Kim and Robert Bednarz, Effect of a GIS Course on Self-Assessment of Spatial Habits of Mind (SHOM), Journal of Geography, 112 (4), July-August 2013, 165-177.
<https://people.uwec.edu/ivogeler/SpatialHabitsofMind.html>

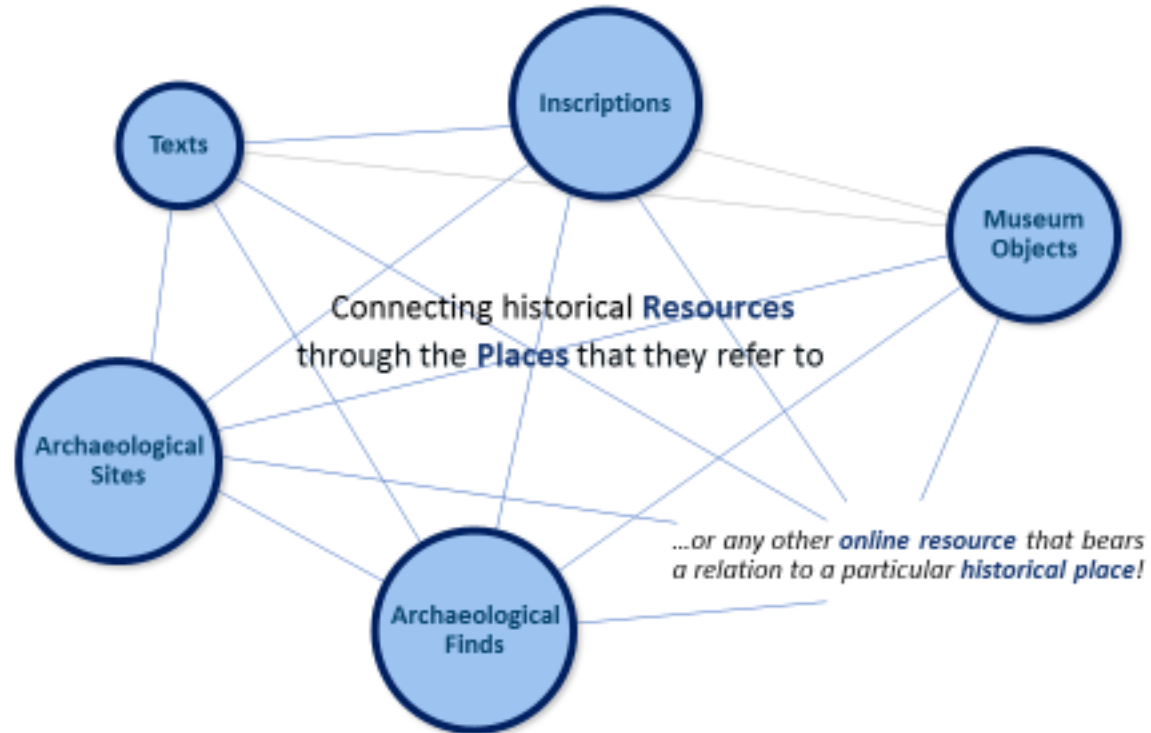


- Spatial literacy requires:
 - 1) Good knowledge of fundamental spatial concepts
 - 2) Spatial ways of thinking and acting (SHOM)
 - 3) Proficiency in the use of spatial tools and technologies

Digital Scholarship Example: Pelagios

- @PelagiosProject Commons.Pelagios.org

Pelagios | Connecting online resources via places in common



Pelagios: URI-based Gazetteers (The Semantic 'Glue')

Secure <https://pleiades.stoa.org/places/256177> Log in

PLEIADES

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You are here: [Home](#) → [Ancient Places](#) → [Gadeira/Gades/Col. Augusta Gaditana](#)


Gadeira/Gades/Col. Augusta Gaditana


a Pleiades place resource


Creators: Jr., F.H. Stanley, R.C. Knapp
Contributors: R. Talbert, Johan Åhlfeldt, Jeffrey Becker, Tom Elliott, DARMC, R. Warner, Sean Gillies, David Mimno
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Last modified Dec 19, 2016 09:48 AM — [History](#)

tags: dare:ancient=1, dare:major=1, dare:feature=major settlement

Gadeira/Gades/Col. Augusta Gaditana (modern Cadiz, Spain) is an ancient city of Spain and one of the oldest continuously occupied cities of Europe. Its origins may be Phoenician (Gadir (Phoenician: גִּדִּיר)).

Canonical URI for this page:
<https://pleiades.stoa.org/places/256177> 


Representative Point (Latitude, Longitude):
36.52898544, -6.29361434 

 **Locations:**

- [DARE Location](#) (750 BC - AD 640)
- [DARMC location 20272](#) (750 BC - AD 640)
- [DARMC location 20271](#) (750 BC - AD 640)
- [location of Roman theater](#) (30 BC - AD 300)
- [location of Casa del Obispo](#) (30 BC - AD 300)

Names:

- [Cadiz](#) (modern)
- [Col. Augusta Gaditana](#) (750 BC - AD 640)
- [Gadeira](#) (750 BC - AD 640)
- [Gades](#) (750 BC - AD 640)
- [Urbs Iulia Gaditana](#) (750 BC - AD 640)



Powered by Leaflet and Mapbox. Map base by AWMC, 2014 (cc-by-nc).
[Show place in AWMC's Antiquity À-la-carte](#), [Google Earth](#), or [Pelagios](#)

Search

Search Site

[Advanced Search...](#)

Photos

This place has no portrait photo. One from the list of related photos could be suggested for the [Pleiades Places group on Flickr](#).

0 other related photos...

Use this tag in Flickr to mark depictions of this place's site(s):

[pleiades:depicts=256177](#)

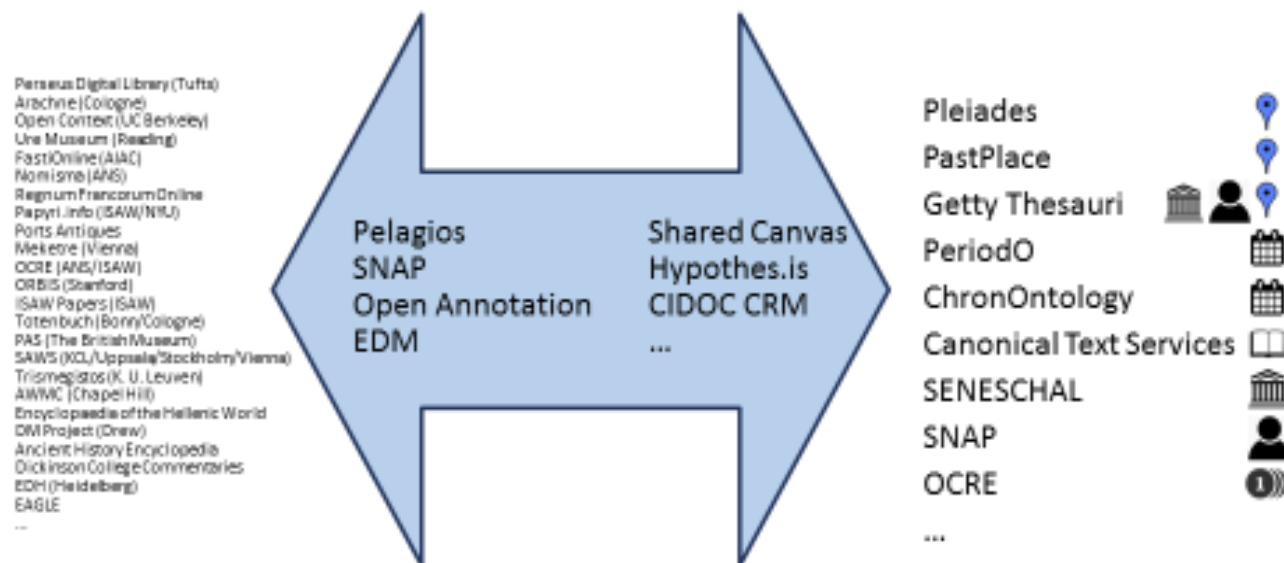
or this one to mark objects found here:

[pleiades:findspot=256177](#)

Related Content from Pelagios

Linked Pasts: An Emerging Digital Ecosystem

Linked Pasts | An Emerging Digital Ecosystem



Linked Pasts IV: Mainz, Dec 10-14, 2018 – JOIN US!

Linked Data for Libraries Production Cartographic Materials (LD₄P-CM)

- Purpose
“ ...explore best practices for creating native Linked Data descriptions for library cartographic resources including printed maps, atlases, digital geospatial datasets, and other cartographic information resources...”
- Project Wiki: <https://wiki.duraspace.org/display/LD4P/Cartographic+Extension>

Geospatial and Cartographic Resources Ontology (GCRO)

- Intended to extend and supplement BIBFRAME and bibliotek-o to support LOD description of geospatial and cartographic resources
- Re-use existing LOD ontologies where appropriate (RDA, GeoSPARQL, Web Annotations, DCMI Metadata Terms, FOAF)
- Recommendations for selecting supporting entity vocabularies (GeoNames, Wikidata, FAST, VIAF, id.loc.gov)
- OWL-based ontology – currently available as Beta version https://github.com/LD4P/Cartographic_Materials/blob/master/ontologies/cm_target-ontologies/geo_cart_ont.owl

Primary Ontologies used with GCRO for LD4p-CM project

Primary ontologies used with GCRO for LD4P-CM project

Descriptive Area	Model/Ontology
Works ; Instances ; Items	BIBFRAME
Activities ; Titles ; Content/Carrier/Media ; Subjects ; Notes and Annotations	bibliotek-o
Scale ; Relief ; Projection ; Coordinates ; Types of Cartographic Resources	GCRO
Prime Meridians	rdau
Measurements	ArtFrame-RareMat

More Info about LD₄P- CM

- Project wiki: <https://wiki.duraspace.org/display/LD4P/Cartographic+Extension>
- Project update for ALA: <http://tiny.cc/ld4pcmALA18>

ALCTS-CaMMS/MAGIRT Cartographic Resources Cataloging Interest Group meeting

- Sunday, June 24, 2018
- 8:30-10:00 AM
- Morial Convention Center, Rm 203

Spatial Info-Lit

Where are we?

- ACRL Framework for Information Literacy for Higher Education (2015)
 - Spatial literacy is not explicit in the Framework
 - Concepts to consider
 - Assessing bias in map (point of view)
 - Spatial search
 - Cartographic principles of symbology, projection, scale
 - Quality/extent of metadata
- **We need to increased spatial concepts in library information literacy sessions!**
 - see Nicole Kong's article in *College & Undergraduate Libraries* 24, 2017:376-392.

Now What?

- Think spatially.
 - Observe spatial relationships in your everyday life.
 - Think critically about maps and the information that they convey.
 - Use precise terminology to describe spatial phenomena.
 - Bring these concepts into your instruction and research collaborations
 - SHOM!

Where to learn more?

- ALA DSS
- ThatCamp
- HILT (Humanities Intensive Learning and Teaching)
- ACH (Assoc for Computers in Humanities)
 - Conference in Pittsburg next year!
- ADHO – Alliance of Digital Humanities Organizations
 - GeoHumanities SIG
 - Libraries & DH SIG
- Variety of Humanities conferences

References

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<https://media.nationalgeographic.org/assets/file/SpatialThinkingK-5FullReport.pdf>
- Sinton, D.S. (2011). "Spatial Thinking" in *21st Century Geography: A Reference Handbook*, ed by J. Stoltman (Sage)
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<http://wtlab.iis.u-tokyo.ac.jp/~wataru/lecture/rsgis/giswb/vol1/cp2/cp2-4.htm>)
- TeachSpatial.org (website)