Karl Grossner is an independent GIScience researcher working to develop novel models, standard formats, and semantically-enabled software and systems supporting the emerging genre of digital historical atlases. A founding co-chair of the GeoHumanities SIG within the Alliance for Digital Humanities Organizations (2013), Grossner is an active member of that global and trans-disciplinary community. He is currently renewing the activities of World Heritage Web, a non-profit corporation he founded in 2003 to support digital research and education in world-historical geography. After earning a Ph.D. in Geography at the University of California, Santa Barbara in 2010, Grossner worked for five years as a digital humanities research developer at Stanford University, building several significant interactive scholarly web applications in partnership with faculty members. He is currently working on a few related projects: a World-Historical Gazetteer just under way at the University of Pittsburgh, GeoJSON-T, a temporal extension to the GeoJSON data standard, and Linked Places, experimental web software for representing, sharing, and analyzing data about historical geographic movement, including journeys, flows, and named routes.

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Linked Places, Linked Pasts

It is interesting to note the three fundamental questions put before this meeting’s participants refer not to discovery of spatial data per se—as was the explicit goal of the 2014 and 2015 meetings—but of research data and objects generally. Spatial discovery in many institutions is (so far) taken to mean discovery of paper maps, satellite imagery, and other spatial datasets having coverage for a given place and time, relevant to a particular topic. Now we are talking about discovery of any research data and objects meeting those search criteria.

From my perspective this expansion is most welcome and suggests a couple of things: that an increasing volume of research data across many disciplines have either intrinsic spatial attributes or important spatial metadata; and that libraries are increasingly interested in providing data repository services. The third question is an exciting area of inquiry, and aligns with a position I expressed at the 2014 meeting: that “spatial search” often is—and will increasingly become—“geographic search.” That is, search criteria incorporating all three dimensions of geographic information per Berry’s geographic matrix, space, time and theme. This is also reminiscent of the next-stage geolibrary Mike Goodchild wrote of in 2004 as the ADL project wound down.

Spatial discovery for historical research data and objects presents some distinctive challenges, as compared to that for current or recent periods. The two most commonplace identifiers, name and location, are problematic in most historical data. Names change and locations are hard to pin down.
Much of the data required to create true historical gazetteers remains locked in texts and on historical maps, is being extracted piecemeal by individual research projects, and has been, until recently, not readily shared. The temporal attributes of historical data become more uncertain (imprecise, absent) the further back in time one goes. Many historical objects can be dated only to a named period likely to have contested extents. The Pelagios Commons project is a focal point for the growing global initiative by historical researchers to build a distributed network of linked gazetteers for both places and named periods. In my view, efforts at improving spatial discovery capabilities should account for historical data.

I am currently serving as a co-coordinator of the Linked Pasts Working Group within Pelagios Commons. Linked Pasts will facilitate the collaborative development of a technical infrastructure and best practices for linking any and all historical data, moving beyond the search dimension of place, to include periods and data about people, artifacts, and events. A large distributed system along those lines would enable the thematic spatial searches suggested by Question #3. Many of these will be of the form “where has this been so?” as opposed to (or in combination with) “what exists or happened here?” This is beginning to occur at limited scale within individual projects. For example, one might search for data about artifacts and events of particular types associated with places along the path of a particular journey; an event in the life of the “who” of the journey provides a “where” and “when,” which are the basis of a spatial-temporal “what” query. And so on!