Geohistorical inquiry: Connecting place and time and critical thinking

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Abstract: This white paper offers a perspective on linkages between historical and geographic research, similarities in inquiry methods, the importance of local investigations, and a technique for engaging in geohistorical studies.

History by definition carries with it a temporal component: It is a peering into the past and a referencing to the present with potential implications for the future. Although possibly not immediately recognized, history too has a spatial component. The events, people, circumstances, and places of history all have a <u>where</u>: a geography. Much more than this, location carries with it characteristics (natural, social, political, economic, technological and historical) and relationships/interactions with other locations. Stepping into the study of history—including American history, it is impossible to have the temporal investigation without the spatial one (for example, <u>Historical Atlas</u> <u>of the United States</u>, National Geographic Society and "How Does Geography Influence History?" <u>The American Republic to 1877</u>, Glencoe Publishing).

Geography in the grand themes/events of American history

Looking across the sweep of American history, it is easy to be touched by a myriad of prime examples of the interplay of geography and history. Some have helped shape the nation and its story on a grand scale. For instance:

- Lewis and Clark's 1803-1806 expedition was about and dictated by geography: hopes of a Northwest Passage, competing land claims, terra incognita and its geological, biological, and cultural unknowns.
- The Chesapeake Bay was important in helping shape events in the close of the Revolutionary War.



Source: Lewis & Clark 2003: GIS Data/Project Package, ESRI ArcLessons, <u>www.esri.com/arclessons</u>.

- Gold discoveries in central California in the mid-1800s sparked a human migration with dramatic consequences.
- Mississippian mound builders enjoyed a flourishing civilization (1000-1300 CE) at the confluence of major rivers.
- The route of the Transcontinental Railroad was, among other things, determined by landscape, and changed the landscape it touched.
- The Missouri Compromise and the Kansas-Nebraska Act delineated boundaries and lives.

The history and geography of home

Of equal importance to these grand national themes is the history occurring at a more micro level: The stories in localities, in part manifestations of larger events, in part distinctive in nature and implications, but likewise feeding back into and aiding the creation of the greater context—the national story. These are the places of keen personal importance. In the most direct way these are the places where we live—home, neighborhood, community, region. Again, the geographic story permeates the historical. For example:

- A hurricane in 1565, wrecking a small attacking French fleet coupled with subsequent Spanish tactics, essentially ended the French foothold in Florida at Fort Caroline. Nearby Spanish St. Augustine thrived providing protection to the Spanish Treasure Fleet traveling the Gulf Stream back home.
- In 1856 a railroad bridge crossed the Mississippi at Rock Island, IL and Davenport, IA. It changed the settlement patterns of the immediate area and a local disaster because of its placement greatly influenced the future of Abraham Lincoln.



Source: National Park Service data from <u>http://www.nps.gov/timu/indepth/foca/focamap1</u> <u>gulfstream.pdf</u> mapped using ArcView GIS.

• The 20th century Great Migration of African-Americans to the Industrial North dramatically changed rural places like Clarksdale, MS and neighborhoods in cities such as Chicago. Some reverse movements now ensue.

• Before 1874, Jefferson, TX was a principal river port in the state, oddly due to a natural 75-mile long logjam on the Red River. Explosive removal of the barrier to aid navigation disastrously lowered water levels eight feet stopping riverboats and changing the future of the town.

While these are but a few of the nation's local stories, pausing to view our own locales and neighborhoods through a temporal and spatial prism will net similar findings. In other words, history and geography are everywhere including our own backyards, and they form a powerful study combination.

Historical and geographical inquiry

Besides the "facts" presented in the above snippets, the more compelling aspects to consider are the questions they engender. Rereading any of them leads to any number of questions framed by temporal and spatial boundaries. In the asking, come a series of next steps in two very similar methods of inquiry where process and content are partners.

Historical inquiry: In brief, from the <u>National Standards for History</u> for grades 5-12, Historical Thinking Standard 4—Historical Research Capabilities (<u>www.sscnet.ucla.edu/nchs/</u>), the historical inquiry sequence is:

- Formulate historical questions
- Obtain historical data
- Interrogate historical data
- Identify gaps in historical data
- Analyze historical data and topics
- Create interpretations with historical evidence

"...true historical understanding requires students to engage in historical thinking: to raise questions and to marshal solid evidence in support of their answers; to go beyond the facts presented in their textbooks and examine the historical record for themselves; to consult documents, journals, diaries, artifacts, historic sites, works of art, quantitative data, and other evidence from the past, and to do so imaginatively..."

Source: National Standards for History, <u>Historical Thinking Standards in History for Grades 5-12</u>, <u>www.sscnet.ucla.edu/nchs/standards/thinking5-12.html</u>

Geographic inquiry: On the geographic side, the research method is mirrored. From <u>Geography for Life: National Geography Standards, 1994</u> (<u>www.nationalgeographic.com/education/standards.html</u>), the geographic skill set is:

- Ask geographic questions
- Acquire geographic information
- Organize geographic information

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- Analyze geographic information
- Answer geographic questions

As displayed in the figure below, a variant of this progression can be found in the ESRI paper, <u>Geographic Inquiry: Thinking Geographically,</u> (www.esri.com/lewisandclark/geo_inquiry.html):



This investigative mode of thinking is about directly engaging the physical and human geographic world as it is (or has been), working with and through real-world observations and then acting upon the knowledge gained—quite probably resulting in the next question.

Given that <u>geography</u> is the study of the world and all that is in it: its peoples; its land, air, and water; its plants and animals; and all connections among its various parts, there are boundless questions. These questions along with problem statements, hypotheses, and hunches, in fact, represent the fuel of inquiry-based study—geographic or otherwise.

Engaging students and teachers in historical and geographical studies does include gaining knowledge of facts, dates, places, events, and the like. However to provide students their greatest potential and achievement, the need is equally great, if not more important, to help them learn to build questions, observations, analyses, and actions using the historical and geographic puzzle pieces under review. Knowing what things are (e.g., the components of a watch) and what to do with what is learned from them (e.g., how to build a watch) are two very different things.

Engaging teachers and students in geohistorical inquiry: A method

The History Channel's slogan is "where the past comes alive." For the National Geographic Society, the mission is "for the increase and diffusion of geographic knowledge."

Making history come alive means more than just being entertaining. Increasing and diffusing geographic knowledge means more than just creating pictures and maps. For these organizations and others, the effort is about capturing the imagination, sparking curiosity, feeding the ability to make connections...that lead to more questions, more investigations, more interpretations and conclusions. The engine of inquiry properly fed goes into perpetual motion and is insatiable.

One method that can move students and teachers beyond the simple collection of geohistorical facts, foster solid problem-solving and inquiry skills, and meet broader educational outcomes (including a deeper appreciation for history and geography) is performing local geohistorical research in a thematic context: <u>Integrative Geohistorical Inquiry</u>.

Integrative Geohistorical Inquiry has five key components:

- 1. Frame geohistorical research in key themes
- 2. Engage in local geohistorical studies
- 3. Shift between local outcomes and larger contexts
- 4. Apply findings to the present and the future
- 5. Transfer knowledge and skills to other places, times, and themes

<u>1. Frame geohistorical research in key themes.</u> Mastering chronology becomes important in ordering history and geography, such as in exploring the story that is the United States. However, in considering these through a thematic filter, it is possible to tag subjects that speak not only broadly to both time and space but span national, local, and global contexts.

The story of the United States (or any other nation or locality) involves people, landscape, interactions, and time.

- <u>People</u> bring into focus such broad themes as *culture, politics, economics,* and *technology*.
- <u>Landscape</u> is made up of components and layers of relationships including *water, landforms, resources, climate,* and *biota*.
- <u>Interactions</u> of people, land, and time lead to themes of *exploration*, *settlement*, *conflict*, *boundaries*, *networks*, and *change*.

These sweeping themes offer excellent starting points for formulating questions and research problems and provide a practical way in which to frame and move between national and local contextual scales.



Source: Library of Congress, American Memory—<u>New trans-continental map of the Pacific R.R. and routes</u> of overland travel to Colorado, Nebraska, the Black Hills, Utah, Idaho, Nevada, Montana, California and the Pacific Coast, 1877 (<u>http://lcweb2.loc.gov/ammem/gmdhtml/gmdhome.html</u>).

On the national scale, for example, the story of changing transportation networks travels through explorer routes and trails, shipping routes, rivers, canals and channels, post and stage roads, railways, highways, airways, and associated hubs/places all changing over time and geography. In the broad picture, these are part of the national story. For instance, the Transcontinental Railroad connected the nation as never before. It is part of the grand context and fits into a theme that asks us to examine and understand how transportation in its many forms has affected, related to, and influenced the history and geography we observe around us. Likewise, we are asked in that examination to potentially leap beyond the present and begin to make predictions of how similar phenomena might affect the future.

At the local or regional level, transportation networks have been equally sweeping in effect and have contributed to the larger chronicle. Corridors have been created, meandered, stopped, started again, been replaced by another mode. Cities and towns have been born, flourished, and at times died because of the intent and vagaries of such networks and their relationship to other interactions. At these more microscopic levels, it can be easier to not only see the theme under investigation but also more rapidly make connections across other historical and geographic components.

<u>2. Engage in local geohistorical studies.</u> In the above example, the geohistorical theme is networks, understanding their importance, structure, and impact in general can be seen and set inside the larger national context.

However, as noted, the same theme exists locally. At this scale, the topic because of proximity, local knowledge, and personal relationship can become more approachable, more tangible, more interesting.

As a research context, the geography and history of home opens the door to levels of problem- and outcome-based learning in ways remote events and places may not. Students' educational experiences can become personal; connecting them more viscerally to the phenomena they investigate and the outcomes they encounter.

Some examples include:

- Local history research performed in Raleigh, NC that embraced the study of the larger theme of African-American history through the exploration of changes witnessed in a local school and its community (see "Oral History, GIS, and the Web: Putting African American History on the Map", GIS in the Classroom, Marsha Alibrandi, 2003).
- Analysis of town history and geography by students at Jenifer Junior High School in Lewiston, ID as part of the Lewis & Clark Rediscovery Project (<u>http://www.lewiston.k12.id.us/sbranting/newport/home.htm</u>).
- The wide range of community historical and other research projects at the Orton Family Foundation's Community Mapping portal (<u>www.communitymap.org</u>, select "Gallery of Projects" searching "category" <u>Social/Historical</u>). NOTE: Also, the growing community listing includes themes such as culture, technology, settlement, and change.
- The presence of <u>place-based education</u> in communities of all sizes.
 - The Rural School and Community Trust features it largely at its Web site (<u>www.ruraledu.org</u>, select "Practice," select "*Encouraging Place-Based Learning*" including community research projects by the Appalachian Rural Education Network).
 - For the City of Phoenix the approach is a marriage of service learning with GIS in its AuThenTiCITY: Youth Mapping Community Solutions program (http://phoenix.gov/EDUCATION/youthsol.html).

The History Of a Town

The town of Lyndonville has many historical places. Most of these places are still in existence today. Places like some of the covered bridges, the famous Wild Boar Fountain, and Lyndon Institute. Places like the Shores Museum, which is no longer used as a home but a historical museum full of all the things that people used to use back when the town was first established.

The whole town is full of history, and also full of places of remembrance, for example, Memorial Park, a place dedicated to all the men from the area who fought for their country and died in battle.



Source: Orton Family Foundation, <u>www.communitymap.org</u>.

Making local historical research all the more satisfying is the incorporation of primary documents. The February 2004 issue of Social Education magazine

from the National Council for the Social Studies is devoted to the topic. As editor, Michael Simpson notes:

"Primary documents that launch students on a voyage of historical discovery increase their general interest in reading about history and researching past events and eras. Teachers who are experienced and skilled in the use of primary documents know that student performance improves as a result. Teachable documents exist for all periods of U.S. history."

Included among such documents is the wide range of historical maps and geographic images from the Library of Congress' American Memory collection (<u>http://lcweb2.loc.gov/ammem/gmdhtml/gmdhome.html</u>). These become powerful in helping see change, as in the case the earlier Mississippi River bridge example. Below is a clip from an 1855 railroad map of Illinois showing the terminus of the Rock Island Railroad at the Mississippi River (with an odd inset of Ohio to the west), and a similar example from an 1861 railroad map showing some of the impact of the 1856 bridge's jump across the river.



Source: Library of Congress, American Memory—<u>D.B. Cooke & Co's railway quide for Illinois showing all</u> <u>the stations with their respective distances connecting with Chicago</u>, 1855 (<u>http://lcweb2.loc.gov/ammem/gmdhtml/gmdhome.html</u>).

While the value of geohistorical community endeavors seems self-evident, articles and research show that community-based research projects of various kinds have positive effects on student achievement. For instance:

 Learning in Deed (<u>www.learningindeed.org</u>) provides a number of references to the impacts of service learning on youth, schools and communities.

- The Wisconsin Department of Public Instruction stated "more than 25,000 Wisconsin students...conducted service-learning projects...while improving their academic achievement and helping them learn the habits of good citizenship" (see www.dpi.state.wi.us/dpi/dltcl/eis/achfacts.html).
- The Texas Education Agency and the Region 14 Education Service Center have created a statewide initiative, the Texas Center for Service Learning (<u>www.txcsl.org</u>), seeking "to improve student achievement through service-learning... [integrating]...community service with powerful academic learning."
- Community research case studies and discussion chapters in <u>GIS in</u> <u>Schools</u>, Richard Audet and Gail Ludwig editors, 2000, point to linkages between the inquiry approach evident in the GIS-enhanced classroom and fulfillment of educational standards and education reform.
- Other research into the academic value of community projects and service learning is found in the work of the groups such as the Constitutional Rights Foundation (<u>www.crf-usa.org</u>), the National Council for the Social Studies (<u>www.ncss.org</u>), and the National Council for Geographic Education (<u>www.ncge.org</u>).



Source: Library of Congress, American Memory—<u>Sectional map of the state of Illinois</u>, Leopold Richter, State Topographer, Springfield, IL 1861 (<u>http://lcweb2.loc.gov/ammem/gmdhtml/gmdhome.html</u>).

Students too endorse the value of a community research approach:

 "[Place-based learning] is a great way to learn, because when you first learn to know yourself by learning about your own community, you can then learn anything. You can learn Shakespeare, you can learn world history...anything...because you know how to learn.—Texas student" (Source: Rural School and Community Trust, <u>www.ruraledu.org</u>.)

• "I think it is important for everyone to learn and know about the place [in which] they live. Without that knowledge, there would no community, because people would have no common ground to stand on.—Vermont student" (Source: Making Community Connections 2004, ESRI Press, p. xx.)

The result of such efforts is that students become citizen researchers, community participants, and active learners.

<u>3. Shift between local outcomes and larger contexts.</u> In return, the local research can and should lead back to the larger story, e.g., linkages to themes of U.S history. Likewise, aspects of the larger story should become triggers to new and varied local questions and studies. Like two basketball players passing the ball back and forth down the court toward the basket, the goal, so to should local geohistorical research play between what's visible "on the ground" locally, and what is critical from larger perspectives.

Engaging in local geohistorical research offers an opportunity to help students begin to sort out their community's place in the larger story. In some ways this means identifying how their community or the local topic under investigation...

- Has been shaped by...
- Is a manifestation of...
- Is shaping/creating...

...the larger national or international context.

Actually, the observation will probably be that it is a combination. In the process, students can begin to get a sense of connection and hopefully gain a picture of their community and themselves as being of consequence.

History (U.S. or otherwise) is more than a timeline upon which is charted a linear progression of events, places, people, and phenomena. It is also a series of feedback loops and interconnections especially when seen below the 50,000-foot view. While surrounded in grand sweeping themes that tell a story, it is possible to miss the, at times, quieter stories and the connected bits which work to make history the sum and the interactions of its parts: Vital work in helping students become inquiry-focused geohistorians.

4. Apply findings to the present and the future. In focusing on the past, it is nearly impossible **not** to reference the present. The question of "*what was* _______ like 200 years ago?" quickly gets the addendum "...and what's _______ like today?" Temporal and spatial benchmarks quickly become applied. The old community morphs into the one that students experience today. In the process of adding the geography and structure of the present to the topic under investigation, change has entered the picture, which brings in the questions of how and why.



Source: Library of Congress, American Memory—<u>Dallas, Texas. With the projected river and navigation</u> <u>improvements viewed from above the sister city of Oak Cliff</u>, 1892 (<u>http://lcweb2.loc.gov/ammem/gmdhtml/gmdhome.html</u>).

For instance, Dallas, TX, like other U.S. cities, has been visited by much change in its history. Two geographic images of the downtown area indicate some of that change. One image is from 1892, showing a panoramic birds-eye view with actual features and "projected river and navigation improvements." No time window is indicated as to when or if the improvements would occur. The second image is a GIS map segment displaying major roads in and around the central business district and the Trinity River as it is today. With the exception of the continuous presence of the river, its shape bears limited resemblance to what was present and envisioned over 100 years earlier. A closer inspection of the GIS map would also show the presence of a major levee framing the river.

With the review of these map images other questions jump to the forefront:



Source: Dallas, TX. US Census Bureau, TIGER 2000 and USGS Digital Elevation Model data mapped using ArcView GIS.

Were the projected improvements from 1892 ever accomplished? What parts of the 1892 illustration were factual? How did the river become the shape and design it is today? What other geohistorical information would help?

The next easy leap is the future. With change in the picture, stepping from past to present opens the door to the future. Just as the Dallas Lithographic Company was presenting its factual and forecasted picture of the river, students can include their own predictions about what they might expect to see based on the past, the current state of the river, and its relationship to other aspects of the city



Source: City of Dallas, Texas, Trinity River Corridor Project, Folded Insert Maps, <u>www.trinityrivercorridor.org</u>.

and the region. Also, if city leaders in 1892 were hoping for changes in the future, what might leaders of today be working toward? In this case, students might explore the Trinity River Corridor Project Web site (<u>www.trinityrivercorridor.org</u>) to learn about the possible predictions for the near future, which include park and aquatic environments visible in the 1892 illustration but actually not in place today.

The full continuum of time can make geohistorical research personal. Gaining a sense of the actions and lives of people in the past, students can put those observations next to the present they experience in their community. They can begin to not only include predictions about the future, but more importantly put themselves in that future.

5. Transfer knowledge and skills to other places, times, and themes. Framed within the inquiry method is an expectation, actually a natural progression, that students will discover that they have the abilities to transfer what they have learned to other places, times, and topics. In these inquiry-based approaches students are not simply learning to spew back information but more importantly they are becoming critical thinkers and problem solvers. With such abilities in place, the world is literally open to them. They can in fact question, observe, analyze, and act. The transference of the knowledge and skills becomes part of their make-up whether the topic is history, geography, or any of a range of subjects. This kind of multidimensional problem solving is a key quality needed today and tomorrow. Without it, our youth of today will not be adequately ready to help sustain our world.

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