

Making the Invisible Visible:

A geospatial history of the pre-World War II Japanese Community in Tacoma, Washington

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Theory

This project is a collaborative effort under the umbrella of historical preservation research being conducted by Dr. Lisa Hoffman and Dr. Mary Hanneman at the University of Washington, Tacoma. Prior to World War II, the downtown area of Tacoma, Washington was the hub of a vibrant Japanese American community, which is now in need of recognition and preservation. The purpose of this project was to discover the ways in which the Pre-World War II Japanese community's spatial perspective of Tacoma and current spatial perspectives of Tacoma intersect to create knowledge that will enhance historic preservation. The reason for the project is based on an interest in the recognition and protection of diverse communities, honoring cultural heritage, and contributing to the emerging field of historical geography through GIS. Basic research questions are 1) In what way do Pre-WWII Japanese community members' spatial perspectives of Tacoma and current spatial perspectives of Tacoma converge? and 2) What meaning can we pull out of the data we collect and the maps we create to analyze past and current perceptions of landscape value in order to recognize important spaces?

The theories explored in historical GIS are numerous, but some that were focused on during this project concerned the construction of a database. These databases are highly revered in historical GIS, as they enable further research to be conducted. However, as DeBats (2008) notes, "Building historical databases

suitable for GIS study is time consuming” (p. 18). The construction of our database was concerned with the types of information needed to answer beginning-level urban analysis questions. These fields are explored later.

Another important theory for this historical research concerned the nature of the question asked. Oftentimes in historical GIS research the question aims at disproving orthodoxies. However, our question was less defined, seeking to identify spatial patterns for preservation purposes. The theory that the identification of spatial patterns by historians becomes much easier with the use of GIS can be observed in this project’s final analysis.

Other theories that concern feminist and critical GIS are an integral part of this project, as it is focused on critical, depth-of-place data. Rose-Redwood (2009) states, “recent work in critical GIS and feminist geography can bring a much needed ‘critical’ perspective to bear on historical GIS scholarship” (p. 396). Feminist, along with Marxist, geographers were among the first groups to expand the critical nature of GIS. Many have been critical of GIS’ ability to work with qualitative and critical data effectively. This project is a perfect example of the inclusion of qualitative data in the form of historical research. Narratives, photographic and written, were included in the final GIS output, along with choropleth maps symbolizing significant routes and areas. Although the project dealt with many qualitative forms of data there were many constraints in depicting this data in GIS – it was achievable, but difficult.

Planning process

Planning for historical GIS is similar to planning for an earthquake: because the specific outcome is unknown planning is preparatory at best and must be flexible to constant, unexpected changes. In order to prepare for potential changes numerous sources on historical GIS and the pre-WWII Japanese community in Tacoma were found and investigated. Because the field of historical GIS is relatively new and time consuming, few articles have been published on the viability of historical GIS methods. Gregory and Ell (2008) note, "although historical GIS has been around since the late 1990s, much of the early work was concerned with the development of databases...Only relatively recently have finished papers appeared" (p. 184). Due to this reality, research limitations existed from the project's outset. Although limited existing research compounded some problems, being a part of the first wave of researchers to pursue historical GIS offset the difficulties.

Concurrently, a data diagram was created, visualizing the types of data that would be necessary to the completion of the project. Newspapers, photos, written research, audio interview archives, personal interview archives, historic maps, and surveys were included as data sources. At this time the challenges of each data type were not known and thus planning for these challenges was not possible within the project's limited time frame. For example, newspapers were an excellent source of narrative, depth-of-place information, but oftentimes did not give a complete spatial description. This meant that newspaper research then had to be reexamined using other sources, such as telephone directories, which was time consuming. In addition to the data limitations, some necessary data was not initially planned for

because the outcome of the project was initially undefined. This unplanned for and necessary data included an orthophoto of the University of Washington, Tacoma campus and a map of the university's master plan.

A word flow was also created as a part of the planning procedure, depicting the different processes this data would undergo before it came together as a finished research product. Once again, the planning limitations for historical GIS were present in this stage of planning; possessing a limited understanding of the project's potential outcomes weighed heavily on our ability, as researchers, to follow this outline of processes. For example, numerous steps were not planned for in the initial outline of processes, such as georeferencing and georectifying digitized images.

A significant part of planning for this project was executed via the creation of an attribute table. By thinking through what types of data might be necessary, time consuming problems of backtracking for new data was avoided. This process also minimized research efforts for future projects, as necessary data may already be included for spatial analysis. Gregory and Ell (2008) confirm the importance of this step, stating, "a large GIS database is built on the assumption that it will provide infrastructure for further research" (p. 184). Although pursuing this recommendation was time-consuming the initial efforts will provide long-term benefits.

Methods and Implementation

The Sanborn maps had to be avoided as a source due to digitizing problems – the fragile maps were too big to photograph at a detailed scale. Consequently, this accurate data source was not digitized and mental maps were used instead.

Mental maps, as a data source, are oftentimes not accurate representations of the physical past, but are accurate representations of the *remembered* past. Because memory often changes, due to trauma and old age, among other things, mental mapping is often a conflicting data source. Although some of the data conflicts spatially, the names and information about businesses and places are invaluable.

Research complications associated with data sources, such as the phone directories and personal interviews were based on error, uncertainty, and missing data. For example, searching for Japanese businesses was not fully executed, as some Japanese immigrants changed their names to avoid discrimination. Some Japanese businesses were under American names because the Japanese were unable to own land, which further complicated research. In order to overcome the handling of uncertainty in regard to business ownership other sources were visited. One such source was a local historian, Ron Magden, who stated, "a local priest would buy and own the land for the Japanese , but give them full control of the land in order to bypass discriminatory immigration and race-based laws" (personal interview, April 24, 2010). Personal interviews were handled in a similar fashion by checking the information with other sources. Checking sources for spatial accuracy is time consuming, but a necessary part of historical GIS research.

The development of space, such as street, address, and building changes is another critical portion of historical GIS research methodology. Schlichting (2008) states, "locating documents with historic street addresses is only the first step. Next, a historian must locate or create the accompanying street map. Street patterns change over time, especially in American cities that have undergone vast upheaval ...The street pattern and addresses referenced in the historical documents

may no longer exist. In that case, it is necessary to re-create a digital version of the historical street pattern—a task that requires time and resources” (p. 192). Had there been a spatial understanding of the pre-WWII Japanese community in Tacoma and sufficient time such a map could have been created using the Sanborn maps. Instead development changes were handled by consulting the Tacoma Historical Society, which provided sufficient information for the current research question.

One of the most important parts of the research and this project overall was the creation of fields in an attribute table. The creation and completeness of this data table is an important element in historical research because it enables further research to be completed. However, completing the data records is time consuming. So, with a limited time frame only certain types of data were included. Specific fields were created to enable a beginning level urban analysis. Fields, such as the attributes name, business owner, archive address, date in use, type of space, role in community, data source, and field notes were included. Most of these fields had similar entry words to enable the selection by attribute feature in GIS. The most important fields for this initial project are the ‘parced out’ address fields. The ‘ARCHIVEADDRESS’ was ‘parced out’ into address fields to enable geocoding and future historical research

Methods used to achieve a spatial analysis of the pre-WWII Japanese community in Tacoma include digitizing, georeferencing, georectifying, geocoding, overlaying digital layers, narration, and symbolizing different attributes to create a choropleth map. Using these methods I was able to spatially compare and contrast different information to recognize patterns within the Japanese community. Those

patterns were then compared and contrasted to current spatial understandings to produce new knowledge for historic preservation.

One of the most useful methods for historical GIS research during this project has been georeferencing and then digitizing images. Without these two tools past historic research would have been more difficult to record and input in a spatial form in ArcMap. Historic mental maps of the Japanese community in Tacoma, an orthophoto, and a map of the University of Washington, Tacoma's (UWT) Master Plan were georeferenced. This process was used for UWT's Master Plan. The image was georeferenced so that the buildings could be individually digitized for further analysis. This process was also used for an orthophoto of the UWT to compare the use of space in the past by the Japanese community to the current use of space.

Georeferencing the image of the UWT's Master Plan enabled the accurate digitizing of the images' space. This process was used for the UWT's Master Plan. The buildings were individually digitized, so that they could be intersected with the existing Japanese buildings in Tacoma to evaluate historic preservation hazards imposed by the UWT. As building information regarding the Master Plan was limited by the UWT the attribute information included was minimal, but enough to allow for an analysis of hazard.

Once the buildings on the UWT's Master Plan had been digitized they were intersected with another layer, which portrayed buildings from the pre-WWII Japanese community that still existed. Another layer was created that only showed the buildings that intersected with existing Japanese buildings. Three additional layers were created based on the attribute table updated during the digitizing

process. These layers were based on the level of hazard imposed by the UWT to existing Japanese buildings.

Once an analysis of the hazard had been completed a choropleth map could be created. Unfortunately, due to the University's limited information in the Master Plan it is difficult to accurately distinguish the level of threat present. One point of analysis through the use of the attribute table was the buildings' shape – if the shape had changed it indicated a total demolition of the space. Thus, building shape that did not visualize shape change indicated some level of preservation and was therefore classified as a medium level of hazard and symbolized using orange. The buildings whose shape had completely morphed or no longer existed indicated the destruction of historic space and were thus classified as a high level of hazard and were symbolized using red. Buildings that had already been preserved by the university were classified as low hazard as they had already been preserved and were symbolized using yellow.

As previously stated, an orthophoto was also georeferenced to the Tacoma Street shapefile to allow for digitizing and further spatial analysis. Different feature classes were created and each visualizes specific cultural phenomena within the Japanese community. Lines were created to visualize festivals, work routes, and school routes. Polygons were digitized to visualize residential areas, the center of the community, and the Nihonmachi area. Points were digitized to show important cultural areas, such as the first farmer's market in Washington State. By overlaying the orthophoto with these feature classes an analysis of past and present space could be conducted.

Geocoding was another important method and tool used to achieve spatial analysis. Points and their information were recorded in an excel sheet that was added to ArcMap via the 'Geocode' tool. The 'Address Locator' was used to find the excel table and save it as a feature dataset. The addresses were then reviewed using the 'Rematch Addresses' tool. Both Judy and I had separate tables that were then merged. This process was used to create a layer that consisted of existing Japanese buildings that had been 'ground truthed,' which was then intersected with the UWT's Master Plan digitized buildings for spatial analysis.

Despite how useful these GIS processes are, the phenomena that are visualized are meaningless without depth-of-place knowledge. Schlichting (2008) states, "GIS do not replace narrative history. On the contrary, historical GIS require narratives. Gregory (Knowles 2008, 126) makes the point that digital maps and spatial analysis can illustrate hidden patterns in the historical data but cannot provide an explanation. Each of the substantive chapters in *Placing History* includes a detailed narrative interpretation of the patterns that the maps illustrate" (p. 193). Thus, based on the necessity of the accompanying narrative I used my professor, Dr. Kelley's, recommendation of adding a table with a short narrative to my map. An explanation of the phenomena visualized thus complements the map contrasting the current use of space (orthophoto) with the past use of space (Japanese spatial trends) as well as the map of hazards presented by the UWT's Master Plan.

Results from analysis

Spatial analysis was conducted for the purpose of comparing and contrasting spatial perspectives of the pre-WWII Japanese community and current spatial

perspectives. The first map that was created concerns the UWT's Master Plan and existing Pre-WWII Japanese buildings that should be preserved. The growth of the university currently threatens two places: the Japanese doctor's house and two trees that were gifted by Japan to the Japanese language school. Neither point seems likely to be saved as they cannot be incorporated into a plan for classrooms or university needs. The Japanese buildings that are currently in a moderate amount of danger are the Buddhist Temple, The Swiss building where the Japanese Newspaper used to be, and the Methodist Church. These buildings architectural integrity and shape look to be a part of preservation efforts due to the shape of the building. One building that used to be a Japanese hotel, now the Pinkerton, has already been preserved by the UWT and thus represents a low level of conflict. Although the majority of Japanese buildings have been destroyed preservation efforts should still be present if not higher.

The second map shows the current use of space through a georeferenced orthophoto and what space used to be an important part of Japanese life through digitized lines, points, and polygons. The Nihonmachi (Japan town), the heart of the Nihonmachi (The Language School, Buddhist Temple, and Methodist Church), Bon Odori (a festival that has spanned a century in Tacoma), routes from schools and routes to work, and the first farmer's market in Washington State are depicted. This map shows the potential for a walking tour. The Bon Odori and Fursato walk (July and August) are strong elements that could be incorporated into a walking tour that could be held annually when the Pre-WWII Japanese community members visit Tacoma for these events. Although the buildings are gone the space still exists and

is largely unused. Engravings in the sidewalk as a form of commemoration are important to preserving the last vestiges of a once great community.

Critical analysis of project

The amount of work accomplished was high in regard to the allotted time. This project is far from finished and will need additional work as historical GIS projects require years to complete. Efforts to spatially analyze the Pre-WWII Japanese community will improve with the enhancement of information.

The information currently included misses a few crucial points of research theory that cannot be pursued due to time constraints. In the future data should be acquired that illuminate the Japanese women's perspective of space. This may be the result of cultural traditions and the era before empowerment.

Residential areas were not included. Going through residential records would take months due to the sheer volume of data. For example, before the Japanese population was sent to concentration camps around 800 Japanese people lived in Tacoma (Magden, 1998). Also, the residential population is difficult to track as the majority of Japanese residents lived in apartments because they were poor and/or bachelors.

Another missing element of this research is the way in which space was viewed by the Pre-WWII Japanese community. Space is viewed differently by every culture, as is explained by Pearce and Louis (2008) who state, "Issues of ontological and epistemological differences in cartography and map symbolization between Indigenous communities and those who design, market, and provide instruction in...GIS software) generally have not been addressed. As a result,

Indigenous cultural knowledge is often distorted, suppressed, and assimilated into the conventional Western map” (p. 109). Although Pearce and Louis are referencing the Indigenous community their statement can be applied to all cultures. The spatial perspective of the Japanese may be revealed through personal interviews and research of the culture, which was not possible due to such a limited time frame. This should be a primary focus of later research.

Word Count: 2,999 (Thank you for allowing me to go over by less than 500 words.)

Works Cited

- DeBats, D. A. (2008). A tale of two cities: Using tax records to develop GIS files for mapping and understanding nineteenth-century U.S. cities. *Historical Methods*, 41(1), 17-36.
- Gregory, I. N. & Ell, P. S. (2008). From technique to knowledge: Historical GIS in practice. In *Historical GIS: Technologies, methodologies, and scholarship* (pp. 183-204). New York, NY: Cambridge University Press.
- Magden, R. E. (1998). *Furusato: Tacoma-Pierce County Japanese 1888-1988*. Tacoma, WA: Magden
- Pearce, M. W. & Louis, R. P. (2008). Mapping Indigenous Depth of Place. *American Indian Culture and Research Journal*, 32(3), 107-126.
- R. E. Magden (personal communication, April 24, 2010)
- Rose-Redwood, R. (2009). Reviews. *Journal of Historical Geography*, 35, 382-404.
- Schlichting, K. (2008). Historical GIS: New ways of doing history. *Historical Methods*, 41(4), 191-195.
- Tacoma Historical Society (personal communication, April 21, 2010)