Social Networks and the Development of Neighborhood Identities in Amache, a WWII Japanese American Internment Camp

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ABSTRACT

In 1942 Japanese Americans from the west coast of the United States were forcibly relocated to incarceration camps scattered across the interior of the country. Constructed by the Army Corp of Engineers and designed to house around 10,000 individuals, these centers followed a rigid, gridded layout that allowed for the rapid construction of what were ostensibly cities. Residential sections were laid out in blocks, each containing barracks buildings to which internees were assigned on arrival. Five seasons of intensive pedestrian survey at the Granada Relocation Center National Historic Landmark, Colorado (also known as Amache), accompanied by extensive oral histories, has determined that these residential blocks became neighborhoods with individual character and personalities. Archaeological and archival data are used to examine the development of neighborhood identities and examine the relative utility of different data sets in identifying social interaction as a proxy for neighborhood identities. Archaeological research at Amache reveals the physical modifications and artifacts found in residential blocks. Distinct differences in densities and types of artifacts along with the development of coordinated blockwide landscaping and centrally located communal features show that internees were developing neighborhood-based communities. These indicate the role that new social relationships, developed within the confines of camp, along with the influences of existing social ties and sets of behavioral traits, had on the formation of neighborhoods. This chapter uses social network data drawn from historic newspapers to examine the levels of interaction occurring between residents of the same residential block and between different areas of the camp. Social network data will be used to explore the role that social interaction had in the creation and maintenance of neighborhood identities. These different lines of data converge to highlight how neighborhoods defined by distinct sets of activities and residential traits were being formed within the institutional setting of Amache. [Social networks, Japanese American internment, Neighborhood]

Japanese American internment in 1942 dismantled existing communities through the disruptive act of relocation to government-run confinement sites. The Granada Relocation Center National Historic Landmark, Colorado (also known as Amache) has been the focus of five years of intensive archaeological research by the University of Denver (DU) Amache Project. Amache provides a unique archaeological case for understanding the processes of neighborhood formation because the detailed data on everyday social interactions within neighborhoods is visible...
archaeologically, in oral historical sources, and in archival sources. Amache was organized in residential blocks laid out in regimented fashion. Over time, these top-down administrative entities became neighborhoods with individual character and personalities that were fostered through the interactions of neighborhood residents.

Rather than focusing on specific types of interaction, this paper looks at internee-driven mechanisms for the development of communities in a situation of social disruption. In a previous publication, the authors identified a set of neighborhoods with strong archaeological evidence of social interaction among residents (Kamp-Whittaker and Clark 2019). In this chapter, we feature a contrasting group of blocks where there is limited archaeological data suggesting neighborhood identity. Using social network analysis conducted on period newspapers, we test our previous assumptions and the relative strengths of archaeological and archival data in identifying neighborhoods on the basis of interaction and activity. We also further explore the correspondence between residential blocks and neighborhoods.

Intensive surface survey as well as limited test excavation at Amache have revealed distinct differences in the densities and types of artifacts at the site, along with the development of coordinated landscaping and centrally located communal features within residential blocks. We interpret these as evidence for the development of neighborhood-based communities and suggest that blocks with higher numbers of communal features and distinctive artifact patterns may be neighborhoods with identities and perhaps higher levels of interaction between residents. While archaeological evidence clearly captures activities that leave permanent traces it often fails to capture more ephemeral activities and is prone to interpretive biases about who and how public spaces are utilized.

Social network analysis is another method to measure and map the networks of relationships and levels of interaction between a block’s residents (Brughmans 2010; Wasserman and Faust 1994). This is done through an analysis of archival newspapers to recreate places and activities that were drivers of social interaction. This method has the potential to identify aspects of a community’s social interaction not preserved in the archaeological record, but it also comes with its own biases. Individuals, groups, and specific activity types are often overrepresented and archival data comes with its own inherent biases and interpretive challenges. A common-sense notion would suggest that residential blocks with strong archaeological evidence of internal social interaction should have more incidents of social interaction reflected in the social network data. To test this hypothesis, we have selected four blocks (our proxy for “neighborhoods”) for analysis: two with strong archaeological evidence for neighborhood interaction and two without strong archaeological evidence for interaction. Social network data for each block, which consist of nodes representing neighborhood residents and ties representing shared activities, are correlated with archaeological evidence for the existence of neighborhoods as defined by artifacts and physical features. These different lines of data converge to highlight how successfully we can define neighborhoods based solely on archaeological data. The data also emphasize the central role that activities and interactions with few physical traces might have played in the formation of neighborhood identities.

Archaeology of Neighborhoods

Neighborhoods have long been both a unit of analysis and topic of study in the social sciences, with the general consensus that they are an almost universal attribute of urban settlement (Smith 2010). The most common definitions of neighborhoods contain both social and spatial elements, recognizing that while a clearly defined boundary is necessary for their study, networks of relationships, associations, and patterns of use are also defining factors (Chaskin 1998). The spatial boundaries of neighborhoods at Amache are pre-defined by the existence of barracks blocks created prior to the arrival of internees (Casella 2007). It is rare to find cases where neighborhood residents had little or no say in the definition of any part of the spatial boundaries. Neighborhoods are more often natural communities influenced by factors of culture, ecology, or politics (Sampson 2003). Due to our interests in understanding how residents of Amache worked to form and create new neighborhoods within the confines and control of incarceration camps, we are drawing on Smith’s (2010) definition of a neighborhood as a “residential zone that has considerable face-to-face interaction and is distinctive on the basis of physical and/or social characteristics” (139). Neighborhoods at Amache are spatially bounded areas where residents interacted through a variety of social forums to create unique group identities. Residential blocks are not inherently neighborhoods, rather they represent the spatially bounded areas that frequently become neighborhoods as social interactions develop among residents. It is through the development of block based communities rooted in the modifications of space and coordination of social practices that these residential blocks become neighborhoods. This definition allows us to identify the impact of our two defining data sources—archaeological and archival—in how we recognize and interpret the existence of neighborhoods in the archaeological record.
Methods for Identifying Neighborhoods

Neighborhoods are frequently defined archaeologically either through identification of distinct spatial boundaries or through detailed pattern analysis using artifacts or features. Since the spatial boundaries at Amache were clearly defined prior to the arrival of residents, we have focused our efforts on the identification of neighborhood identities as expressed through portable material culture and the development of communal landscape features. Identifying trends in material objects should allow for the differentiation of social groups or neighborhoods (Cheek and Seifert 1994; Mazrim 2013). Social interaction and neighborhood identity can also be seen archaeologically in the creation of communal spaces, physical features created for and potentially by neighborhood residents for their social activities (Ferman and Kaylor 2001; Lipe and Hegmon 1989; Talen 1999). These areas demonstrate sociability between residents of a neighborhood and serve as an indicator of group identity and communality; they are often visible archaeologically, as are neighborhood boundaries or shared consumption practices.

Historical Background: Japanese American Internment and Amache

In 1942, approximately 120,000 Americans of Japanese descent were forcibly relocated from the west coast to incarceration camps located across the interior of the country. Although internment was a direct reaction to the bombing of Pearl Harbor, this policy was the culmination of years of racial discrimination. President Franklin D. Roosevelt signed Executive Order 9066 on February 19, 1942, allowing the exclusion of any and all persons from designated areas along the west coast and extending through parts of Arizona for the purposes of national security (Burton, Farrell, Lord, and Lord 1999; Ng 2002). Systematic mandatory “evacuation” began on March 29, 1942 and evacuees were transferred to temporary assembly centers to await permanent relocation (Ng 2002, 31) to a euphemistically named “relocation center” (Linke 2014). A civilian agency, the War Relocation Authority (WRA) managed the relocation effort and coordinated the construction and management of 10 relocation centers placed in remote areas (Figure 10.1). Amache, located in Prowers County Colorado, was the smallest of the ten camps and housed around 10,000 individuals during its three years of operation.

Amache was built based on specifications provided by the War Department and constructed by the Army Corps of Engineers. A mile square central core included an administrative area containing WRA offices, public service facilities, and facilities for the military personnel that guarded the camp. A much larger portion was devoted to residential barracks and primary services for the internees. Surrounding the barbed-wire fenced central core were fields and other agricultural facilities in which internees were employed raising foodstuffs for the camp.

At Amache, the residential area was divided into 34 blocks separated by a system of streets. Each block was given a letter and number designation, such as block 7H (Simmons and Simmons 2004). The internee area contained 29 residential blocks which included a block for the elementary school, two for the high school, an empty block, and a block which served as a commercial and public area (Figure 10.2). Blocks were grouped in clusters of 4 with empty areas separating each neighborhood but no physical barriers. Approximately 250–400 people lived in a block, although that population fluctuated with time and between neighborhoods. Each residential block contained 12 barracks divided into 6 living units, a recreation hall (which often housed a range of community services), a mess hall, and a building that combined latrines, showers, and laundry. Residential blocks were designed to contain the essential services needed for residents’ primary daily activities.

Once internees arrived at Amache they began altering the social and physical landscape. Extensive community activities developed to foster interaction across the site and simulate life outside the confines of the incarceration camp. Activities ranged from classes on art or job skills to dances, sports clubs, and the development of large, community-wide enterprises including festivals and an internee-run cooperative store. The construction of physical facilities by internees bolstered these activities. Physical facilities were located predominantly in the residential blocks. While some facilities, such as community gardens or playgrounds, served only individual neighborhoods, others, like sports fields, catered to the larger internee community. Developing both a rich social environment and physical facilities to support that environment demonstrates the formation of community ties at both a camp-wide and neighborhood scale (Starke 2015).

Neighborhood Data from Amache

A total of 18 residential blocks have been surveyed and fully recorded over the course of five field seasons at Amache. A 2003 cultural resource survey (Carrillo and Killam 2004) had previously recorded the extent of building foundations and larger features. Subsequent field work has consisted of intensive pedestrian survey using two meter spacing to locate the presence of artifacts that are potentially diagnostic for specific behaviors, activities, or groups
of residents and to document the existence of landscape features (Clark, Garrison, and Swader 2012; Driver and Clark 2015). For the purposes of this chapter, we have examined four residential blocks. Two of these blocks (7H and 9L), included in a previous study, have numerous archaeological indicators of social interaction in the form of both communal landscape features and diagnostic artifacts. Here we compare them to two blocks (8K and 9H) that exhibit little or no archaeological evidence of neighborhood-based social activity.

**Neighborhood Profiles**

During survey, crews in 7H and 9L noticed distinct differences in the types of artifacts recovered or landscape features that made these blocks stand out from others at Amache. A block dominated by residents from more rural agrarian communities, 7H, had an astoundingly large number of objects modified to serve a new function by internees. These ranged from cans with holes punched in the bottom to rug beaters made from salvaged wire. While many blocks at Amache have artifacts of reused and salvaged materials, the quantity and diversity of such artifacts found at 7H made this block unique and indicate that residents were engaging in a neighborhood-wide pattern of artifact reuse and modification. In addition, an unusually high number of marbles and children’s toys were found in 7H. Gardens found in front of each barrack are also laid out in a regimented pattern with systematically arranged trees running the length of each barrack. Near the mess hall in a public area, evidence of an _ofuro_, a traditional Japanese-style bath, also was found. Artifactual evidence combined with unique landscape features created the impression that residents of 7H were engaging in activities not occurring in other blocks (Haas, Starke, Clark, and Kamp-Whittaker 2017).

Neighborhood 9L has a unique location at Amache. It is farther east than the other residential blocks and situated on a natural rise. Residents of this block were almost all from the Los Angeles area. Oral histories suggest many internees knew at least some of their fellow 9L residents prior to internment. Artifacts recovered from the 9L neighborhood were generally unremarkable, with the exception of several interesting isolates recovered near a tree north of the mess hall. These included light bulb glass, fragments of at least one sake jug, and a piece of an audio record (Driver and Clark 2015). These mirror oral histories collected from residents of 9L who noted that this block was known throughout camp for its somewhat raucous gatherings, which earned the block its nickname, “Chinatown.” Two large oval gardens were recorded near the mess hall, and the archival
record indicated that a gazebo and playground—not visible archaeologically—had originally been constructed nearby, indicating significant community investment into areas for social activities.

Blocks 8K and 9H were selected because, unlike 9L or 7H, there was little archaeological evidence of social interaction. Selecting these blocks allowed us to test the different utilities of archival and archaeological methods in identifying evidence of social interaction. Like 9L, residents of 8K were predominantly from the Los Angeles area. However, this block had little archaeological evidence of neighborhood unity among its residents. Artifactual evidence and communal landscape features were lacking. The only evidence of communal landscape features recovered archaeologically were two large dumps, one on the east side of the block where it abuts an unused buffer area and the other in a ravine to the north. However, the presence of the dumps does indicate some neighborhood-level agreement on the disposal of household trash. In an interview conducted after fieldwork, a former resident recalled several substantial community features on the southern edge of the block that were not identified during survey. These include a gazebo, a basketball court, and a baseball field. This recollection indicates that the archaeological data did not fully capture the extent of neighborhood identity and interaction.

Block 9H provides an interesting contrast to 7H in that many of the residents were also from more rural communities and probably engaged in farming or agricultural activities. However, unlike in 7H, no large garden or landscape features, and only a few smaller household gardens were identified. Indeed, Block 9H yielded little indication of social interaction in the modification of public spaces. A large concrete usu, Japanese style mortar used to pound rice for making mochi, was found near a barrack. From oral histories,
written accounts, and historic images we know that mochi-making is commonly a group activity since it requires extensive labor and skill. This is one of only two usus that have been recovered at Amache, and it indicates both the presence of traditional Japanese activities and group cooperation in those activities. Clearly, 9H had some level of interaction and social coordination, even if it is not as readily visible in the archaeological data.

Data Analysis

Two aspects of the neighborhoods serve as focal points in this chapter: Physical evidence provided by patterns in the location of artifacts and internee-constructed features, and the extent and diversity of social interaction occurring in the block.

The four blocks sampled here allowed us to control for the idea, previously tested (Kamp-Whittaker and Clark 2019), that neighborhood composition might have had an impact on the level of interaction between residents. In all of the neighborhoods selected for this study a majority of residents are from a similar geographic region in California, eliminating the possibility that differences in place of origin might have impacted socializing (Table 10.1).

Archaeological Data Analysis

Based on our previous research, we have identified four artifact types affiliated with specific consumption patterns and social activities: clear or aqua glass jug fragments, modified metal, marbles, and porcelain. Aqua glass and either clear or aqua glass lug-handled jug fragments may be an indicator of sake consumption or manufacture in a block. While sake was available commercially in limited quantities, there is evidence that the creation of homebrew was an important social activity (Driver 2015; Slaughter 2006). Brewing would have required the participation of multiple individuals, and once brewed, sake consumption further facilitated social interaction. Modification of artifacts was quite common at Amache and probably was a response to the limited materials available in camp, the economic hardship experienced by internees, and the need for objects to facilitate everyday activities (Swader 2015). While their presence in a block does not directly indicate social interaction, it can demonstrate similarities in the consumption and economics of residents. Porcelain also acts as an indicator of consumption or economic practices since it would have had to be imported prior to the war and transported to Amache (Skiles and Clark 2010). It may also be indicative of certain traditional foodways practiced in camp, such as the serving of tea (Shew 2010; Shew and Kamp-Whittaker 2013), which acted as indicators of shared values and potentially economic status. Marbles are one of the more ubiquitous artifacts, and higher quantities may indicate higher levels of sociality among younger residents of the block (Kamp-Whittaker 2010). Comparison of the frequency of the artifacts between the blocks helps assess differences in behaviors related to the consumption of these classes of artifacts.

Even though artifacts recovered from the four blocks do not demonstrate any distinct trends, there are subtle variations (Table 10.2). The quantity of modified artifacts and marbles recovered from 7H and 9L are higher than average (10.94 and 9.7% vs. 8.3 and 6.4% respectively) for the sampled neighborhood blocks. Block 9H and 9L both have higher numbers of aqua glass and jugs (5.75 and 6.4% respectively), while 9H contained less porcelain then the other blocks (0%). Block 8K is interesting in that no artifact categories are overrepresented and, in fact, the counts for all four classes are underrepresented in comparison to the other blocks in the sample. In sum, artifactual data from three of our sample blocks do suggest certain activities could have facilitated increased interaction, but the evidence is not overwhelming.

Next, we examined the extent of physical features constructed by internees within the blocks. Since Amache and all other Japanese American internment camps were constructed under the authority and management of the War Relocation Authority, the internal structure of each block was regimented and identical at the time it was initially occupied. Modifications to the physical landscape were created by neighborhood residents. At Amache, the WRA appears to have exerted little control on the daily activities and internal organization of residents’ actions within the confines of the internment camp. While access to materials was somewhat limited, there was no direct oversight in monitoring neighborhood residents as they constructed communal features. Many of these features are located in central and public areas in the neighborhoods or encompass large portions of

Table 10.1. Percentage of urban or rural residents for each neighborhood (the residential block at Amache). Determinations of urban or rural residency is based on archival data recording from which communities internees were evacuated. Communities with the largest concentration of residents in a neighborhood are indicated as the dominant place

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>% Urban</th>
<th>% Rural</th>
<th>Dominant Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>7H</td>
<td>8%</td>
<td>92%</td>
<td>Walnut Grove (22%)</td>
</tr>
<tr>
<td>8K</td>
<td>74%</td>
<td>26%</td>
<td>Los Angeles (72%)</td>
</tr>
<tr>
<td>9H</td>
<td>6%</td>
<td>94%</td>
<td>Livingston (37%)</td>
</tr>
<tr>
<td>9L</td>
<td>80%</td>
<td>20%</td>
<td>Los Angeles (69%)</td>
</tr>
</tbody>
</table>
Table 10.2. Artifact counts and percentages organized by neighborhood block for each class analyzed

<table>
<thead>
<tr>
<th>Block</th>
<th>Materials</th>
<th>Marbles</th>
<th>Modified</th>
<th>Glass Jugs</th>
<th>Porcelain</th>
<th>Other Artifact</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>7H</td>
<td>Count</td>
<td>16</td>
<td>21</td>
<td>7</td>
<td>2</td>
<td>146</td>
<td>192</td>
</tr>
<tr>
<td></td>
<td>Percent of Total</td>
<td>8.33</td>
<td>10.94</td>
<td>3.65</td>
<td>1.04</td>
<td>76.04</td>
<td>100</td>
</tr>
<tr>
<td>8K</td>
<td>Count</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>151</td>
<td>163</td>
</tr>
<tr>
<td></td>
<td>Percent of Total</td>
<td>1</td>
<td>0</td>
<td>3.1</td>
<td>3.7</td>
<td>92.2</td>
<td>100</td>
</tr>
<tr>
<td>9H</td>
<td>Count</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>23</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Percent of Total</td>
<td>6.4</td>
<td>9.7</td>
<td>6.4</td>
<td>0</td>
<td>77.5</td>
<td>100</td>
</tr>
<tr>
<td>9L</td>
<td>Count</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>74</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>Percent of Total</td>
<td>2.3</td>
<td>3.45</td>
<td>5.75</td>
<td>3.45</td>
<td>85.05</td>
<td>100</td>
</tr>
</tbody>
</table>

the neighborhood (Clark 2011). These features, in particular, appear to have required some level of agreement and collaboration among the neighborhoods’ residents. Communal features identified during systematic survey of each neighborhood are used as indicators of social interaction at a neighborhood scale. Such shared spaces are accepted as markers of community and would have created areas for residents to socialize while also requiring social agreement among residents in their construction and maintenance.

For each block, we looked at two classes of landscape features: personal and communal. Our inclusion of personal landscape features, predominantly represented by household gardens, provides an understanding of the overall level of internee-constructed features recovered in each block. Communal landscape features are those either constructed by a group or that served multiple members of the neighborhood. Blocks with both higher numbers and greater diversity of communal features appear to have had more opportunities to foster neighborhood interaction. Communal landscape features were predominantly recovered in blocks 7H and 9L, contributing to their initial identification as areas with neighborhood identities (Table 10.3). These blocks, especially 7H, demonstrate both a higher number and greater diversity of communal landscape features. In contrast, blocks 8K and 9H have limited numbers of communal features and those that are present are dominantly dumps. Blocks 8K and 9H both have fewer household gardens in comparison to 9L and 7H, indicating that perhaps these neighborhoods were investing less heavily in physical modification of the landscape.

### Social Network Analysis

At Amache, the recent history of the site provides an extensive archival record to aid in the identification of neighborhoods. We have begun conducting a social network analysis of interactions between neighborhood residents using articles from the camp newspaper, the Granada Pioneer. Published between 1942 and 1945, the Pioneer was written by internees and widely circulated at Amache (Harvey 2004). The Pioneer’s primary focus is the incarceration center itself, and articles provide a detailed record of camp events, the locations where they occurred, and names of participants. Indeed, critical discourse analysis of the Pioneer suggests that, in many ways, it functioned much like any American hometown newspaper (Gebhard 2015). Network data presented here were gathered by sampling every third edition of the paper (DENSHO Digital Archive) and using articles that contain at least two or more participant names.

The names of each participant, the event type, and location of the event were recorded and participant names correlated to a site-wide residential directory to identify the block where they resided. Using this dataset, we can see how many other neighborhoods or residents of their own neighborhood an individual was interacting with and where these interactions took place. This generates detailed quantitative data comparable to the archaeological evidence to see if patterns of activity visible archaeologically are reflected in the social network data. For each of the blocks included in this study we used this data to generate an ego-centered network where we looked only at the ties directly connected to each block rather than at the network structure of the whole site. This allowed us to focus on the interactions of block residents with each other.

To calculate our network findings for this chapter, we focused solely on instances where network data for Amache indicated that two or more residents of the same block were involved in a social interaction. These interactions could occur in their neighborhood of residence or anywhere in Amache. Our interest was in documenting cases of interaction between co-residents fostered through different types of social activities that might not have left a strong material record. We recorded the total number of interactions for each block regardless of who was involved, the total number of interactions that involved two or more individuals from
A WWII Japanese American Internment Camp

Table 10.3. Counts of archaeological features identified during survey in each neighborhood block. Data is divided by household-level features or communal features with the types and diversity noted

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>Personal</th>
<th>Personal Type</th>
<th>Community</th>
<th>Community Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>7H</td>
<td>13</td>
<td>Barrack Gardens 13</td>
<td>6</td>
<td>Dump (2), Ofuro (1), Gardens (3),</td>
</tr>
<tr>
<td>8K</td>
<td>4</td>
<td>Barrack Gardens 4</td>
<td>2</td>
<td>Dump (2)</td>
</tr>
<tr>
<td>9H</td>
<td>5</td>
<td>Barrack Gardens 5</td>
<td>1</td>
<td>Usu (1)</td>
</tr>
<tr>
<td>9L</td>
<td>12</td>
<td>Barrack Gardens 10, Walls (2)</td>
<td>9</td>
<td>Garden (7), Walls (2)</td>
</tr>
</tbody>
</table>

Table 10.4. Data generated by the social network analysis for each neighborhood block

<table>
<thead>
<tr>
<th></th>
<th>7H</th>
<th>8K</th>
<th>9H</th>
<th>9L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total interaction events</td>
<td>202</td>
<td>326</td>
<td>672</td>
<td>101</td>
</tr>
<tr>
<td>Interaction events between residents</td>
<td>43</td>
<td>91</td>
<td>379</td>
<td>7</td>
</tr>
<tr>
<td>Number of individual participants</td>
<td>15</td>
<td>27</td>
<td>34</td>
<td>6</td>
</tr>
<tr>
<td>Number of events in the block</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>% of interactions occurring between residents</td>
<td>21%</td>
<td>28%</td>
<td>56%</td>
<td>14%</td>
</tr>
</tbody>
</table>

the block, the total number of individuals from each block captured in the network data, and the number of interactions that occurred in a block between co-residents (Table 10.4). This data capture method, although not the most refined, allowed us to standardize the number of interactions occurring in each neighborhood based on how active it was in larger camp-wide activities.

Archaeological evidence leads us to expect that residents of Blocks 7H and 9L might have higher levels of internal social interaction. In contrast, Blocks 8K and 9H, with fewer archaeological indicators of social interaction, should have correspondingly less evidence of internal neighborhood interaction in the network data. Yet, residents of Blocks 8K and 9H, blocks with limited archaeological evidence of social interaction, were some of the most active at Amache. Residents of these neighborhoods participated in a high number of social interactions involving residents of other neighborhoods and took part in a large number of social interactions involving at least two or more residents of the neighborhood. Moreover, Blocks 8K and 9H were the only blocks sampled where we found documentation of a social event located in a block and also organized and attended by its residents. In both cases, these social events were dances or fetes organized to support younger male residents who had enlisted in the military. Coverage of these dances by the Pioneer might also account for the higher number of interactions recorded for these neighborhoods. Blocks 7H and 9L, each of which showed strong archaeological evidence for social interaction, exhibited a fairly high percentage of interaction events involving multiple block residents, although not as high as 8K and 9H.

At first glance, it would appear that the social network data contradicts our physical data; the blocks with the most evidence for community identity reveal less interaction between residents. What our work indicates is that each type of data predicts certain types of social interactions and fail to capture the presence of others. Archaeological data alone is not a definitive indicator of the presence or absence of social interaction at a neighborhood scale and cannot capture the variation in types of activities that helped form neighborhood identities. Each source provides a unique line of evidence for the range of activities that contributed to the development of neighborhoods within Amache but also contains inherent biases in the types of activities captured and types of individuals participating. For example, our network data are biased toward specific activity types, such as participation in clubs or dances. This means that some types of social interactions and the gender or age of those participants may be heavily over-represented while more mundane activities captured in the archaeological record are excluded. A good example is the activities of younger children in camp. Several children playing marbles together will not make the newspaper and so these activities and social group will be underrepresented. Perhaps more to the point, the brewing and consumption of sake, which was against camp rules, was kept out of the camp media despite its ubiquity (Driver 2015).

Groups and activities less likely to contribute visibly to the archaeological record may be captured in the network
analysis allowing us to consider their role in the processes of neighborhood formation. Our network analysis for blocks 8K and 9H, demonstrates that involvement in social activities outside of the neighborhood was an important source of interaction between residents. Oral histories allow us to conclude that the archaeological data have not always reliably captured the existence of more ephemeral modifications to the physical environment that would have acted as loci of interaction and required initial neighborhood cooperation or consensus in their development. Utilizing social network data in conjunction with archaeological data provides a more nuanced, and at times contradictory, picture of the process of neighborhood formation at Amache. This is not to say that archaeology failed to find neighborhoods at Amache; rather that our methods need to be refined to better capture subsets of populations and recognize the role that more ephemeral or episodic events play in the development of neighborhood identities.

Conclusion

The case of Amache demonstrates that drawing on multiple lines of evidence to define neighborhoods and considering more ephemeral and intangible processes provides a more nuanced understanding of the kinds of neighborhoods that would have existed in past communities. Using archaeological and social network data in tandem demonstrates both the central importance of neighborhoods at Amache and the multiple processes at work in their creation and maintenance. Amache is a site built quickly, occupied and modified intensively, and then abandoned. Initially defined by the spatial boundaries established in the site’s creation, residential blocks were transformed into neighborhoods defined by social interactions between residents.

Because it was occupied in living memory and was extensively documented, we can draw on lines of data that are not typical for archaeological investigations. Those lines of data complicate the picture of neighborhoods at Amache. We believe that some blocks leveraged existing social ties while others used modification of the physical landscape or engagement in social activities as ways to foster increased cohesion amongst residents and transform a neighborhood defined by space into one defined by community. Although the nature and existence of these neighborhoods cannot be wholly captured in a single data source—archaeological, archival, or oral historical—our research demonstrates that by using both traditional archaeological methods in tandem with social network analysis we were able to identify multiple methods employed by internees and groups involved in the creation of neighborhoods.

References Cited


