

**THE FINCH SITE AND THE ROOT SITE:
A COMPARISON OF RIVERINE ADAPTATIONS BY
LATE-PERIOD HUNTER-GATHERERS IN CALIFORNIA AND MICHIGAN**

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This paper examines adaptive strategies reflected by two late prehistoric riverine village sites found in different parts of North America, in order to compare and contrast their implications for subsistence, settlement, technology, economy, community structure, and other cultural patterns. The Finch Site (4-But-12) is located in the Sacramento River basin in western Butte County, California. The Root Site (20-IN-2) is located along the upper Grand River in the interior of southern Michigan. Both sites reflect hunter-gatherer ways of life in approximately the same time during late prehistory. The paper considers factors that may have shaped their cultural similarities and differences.

How communities developed, why they developed as they did, and what caused similarities and differences to emerge between different communities are some of the central questions involved in the anthropological approach to the study of past societies through archaeology. This paper examines two communities from different parts of North America which were from similar time periods in the past, and which developed some unexpected similarities as well as differences. A comparison of the two communities can help to shed light on factors which shaped the development of communities in both regions. Since we do not often make comparisons between sites in California and sites in other parts of the continent, such a comparison may help to focus attention on factors which determined the fates more generally of communities in each area.

This study focuses on two late prehistoric village sites, each located along a major river and each with an adaptive pattern involving the exploitation of riverine resources. One is the Finch Site (4-But-12), located along the eastern side of the Sacramento River in western Butte County, California. The other is the Root Site (20-IN-2), located along the west side of the Grand River in central southern Michigan. Both sites were occupied in late prehistoric times, roughly between about 500 and 1,500 years ago. Of particular note is that the Root Site did not exhibit any involvement with food production, even though plant cultivation was widely practiced in southern Michigan at that time. What caused the Root Site to eschew food production, and to have many features quite similar to those of the Finch Site in non-food-producing California, poses some significant questions.

Comparisons of prehistoric village sites located in different parts of the continent are not often done, because the sites have no cultural or historical relationship to each other. Some value can be gained through such comparisons, however, because the similarities and differences between the sites in such areas as types of habitats, available resources, modes of adaptation, and community structure may indicate the work of more general principles that can help us to better understand why cultures and communities in particular areas ended up with the characteristics they developed.

The hunting and gathering way of life characterized all Native American cultures from first settlement through the Archaic Period. In the Post-Archaic Period, food production developed and spread to many parts of North America. Yet even in regions where food production was practiced, some communities did not engage in food production, but rather developed their own continuations of hunting and gathering. Why this happened as it did is a question not widely addressed in the archaeological community. This paper looks at two riverine villages, of generally similar age in late prehistory, located

in very separated parts of North America: the Finch Site in northern California, and the Root Site in southern Michigan. I have done some of the research at both sites, and some of their similarities as well as their differences have caught my attention.

THE FINCH SITE AND THE ROOT SITE

The Finch Site is a Late Period prehistoric village site located on the east side of the Sacramento River in western Butte County, some 8 mi. west of the city of Chico. Its occupation dates roughly to between about 500 and 1000 B.P. The site formed a mound that rose about 5 m higher than the surrounding riverine floodplain. Much of the southern half of the mound was cut away in the mid-twentieth century by the construction of a farmhouse, outbuildings and a corral. The north half of the mound remained mainly intact into the 1960s. Prof. Keith Johnson of California State University at Chico did some exploratory investigations there in 1964. UCLA held its archaeological field school there in the summer of 1967 under the direction of the author. What remained of the mound measured about 375 ft. across from east to west, and 325 ft. across from north to south. Test excavations showed that cultural midden deposits extended down into the mound for up to 8 ft., but that the vast majority of the remains occurred in the top 4 ft. The excavations done in 1967 by UCLA included about 1.28 percent of the remaining midden (Chartkoff and Chartkoff 1968).

The Root Site is located in central southern Michigan along the banks of the upper Grand River some 10 mi. south of the city of Lansing, where the state's capitol is located. The Grand River is Michigan's largest river system in terms of length and drainage area, though it is considerably smaller in volume and drainage area than the Sacramento River. The site sits on top of a terrace some 20 ft. higher than the river. The site was mostly destroyed in the 1980s by housing construction, but in the period between 1958 and 1978 it was excavated by several faculty from Michigan State University as well as the regional chapter of the Michigan Archaeological Society. Avocationalist Leonard Griffin and Profs. Moreau Maxwell and Charles Cleland, as well as the author, worked at the Root Site. The Root Site extends along the terrace bluff overlooking the Grand River for some 400 ft. Its deposits extend inland from the river, away from the bluff, for approximately 250 ft. The deposits were found to be approximately 6 ft. deep. Excavations done by the author, in 1974 and 1975, involved about 1 percent of the site's surface area. The site dates to late prehistory, to the Woodland Period, roughly 500 to 1000 B.P., which is generally equivalent to the age of the Finch Site in California's Late Period (Chartkoff 1978; Griffin 1962).

COMPARATIVE HABITATS

Both sites overlook the major river of their region. The Finch Site lies on the flood plain of the middle Sacramento River. Its elevation is high enough that it rarely is inundated. The midden from its prehistoric occupation has developed into a modest mound. The land around the Finch Site has been farmed for many decades, but prior to the onset of farming the area featured a mixture of wetlands and, in the higher grounds, groves of trees, especially valley white oaks and plane trees. Hanging vines, especially wild grapes, used to be quite abundant, while bunch grasses used to be very abundant in drier areas around the valley floor (Chartkoff and Chartkoff 1968:321-322).

The Sacramento River is one of the major streams for anadromous fish on the Pacific Coast. King and silver salmon, and steelhead trout, were the primary anadromous species, and were especially abundant in the late summer and early autumn periods when spawning runs took place. Migratory waterfowl also were seasonally very abundant, particularly mallard ducks, wood ducks, and common mergansers. A variety of aquatic and land animals occupied the mixed habitats of the valley. Deer were the most common large mammals. Muskrats and otters were the most common aquatically adapted mammals. A variety of shellfish occurred in the surrounding wetlands, especially mussels. At least 20

species of reptiles and amphibians have been identified in the area (Chartkoff and Chartkoff 1968:322-323).

The Root Site, as noted above, lies along the Grand River, which is Michigan's largest river, but in drainage area is only about a tenth the size of the Sacramento River. It also is a smaller stream in terms of breadth and length, but it still is a major migration route of the area's anadromous fish. Sturgeon, which are larger in average size than king salmon, and pike, which are roughly comparable in size to silver salmon, both migrated up the Grand River in significant numbers. The Root Site occupants built stone barriers into the river so that the migrating fish would have to swim through a narrow gap only about 2 ft. wide. The villagers could stand on the rocks next to the gap and easily net or spear the migrating fish (Chartkoff 1978).

The landscape around the Root Site was dominated by a variety of deciduous trees, among which several nut-bearing trees, such as oaks, walnuts, and hickories, were very abundant. Since the Root Site lies in the southern part of the transition zone between the deciduous broad-leaf forests and the coniferous forests, some conifers also grew near the Root Site. The nuts in their pinecones were important food sources for many local mammals. Even local maple trees, which produce seeds held in pod carriers, provide food for some herbivores.

As a result, the Root Site's area supported a substantial and diverse animal population. White-tailed deer were very abundant. Elk, though less numerous, did occur and provided large hunting targets. A variety of small mammals occurred locally, ranging from foxes and wolves to rabbits, squirrels, opossums, muskrats, beavers, and skunks. Migratory waterfowl passed through the Root Site's area in spring and autumn, and some stayed in the area throughout the summer, such as mallard ducks. As already noted, anadromous fish made spawning runs up the Grand River in the spring, after the ice melted, and sturgeon and pike in particular provided major fishing targets. In addition, a variety of reptiles and amphibians lived in the area, ranging from frogs to tortoises.

When the area around the Finch Site is compared with that around the Root Site, the particular species living in the two areas are mostly different but the categories into which the species can be grouped are rather similar. As a result, an unexpected degree of similarity in adaptive practices can be found in the two sites. For example, nut harvesting was important at both sites, with a particular focus on acorns at the Finch Site, and walnuts, hazel nuts, and pine nuts at the Root Site. The use of nuts as a major food staple is found at both sites.

The harvesting of anadromous fish was a major undertaking at both sites. Salmon and steelhead trout were the species collected at the Finch Site, while sturgeon and pike were collected at the Root Site. In both cases, collective action was taken in catching the fish, in processing and preserving the meat, and in distributing the meat among households to be food staples through the rest of the year. Late summer and early autumn was the time of these harvests in both cases. Smoking the meat was the primary preservation technique at both sites. The organization of labor for the many tasks needed promoted the development of management at both communities.

Deer hunting also was a major subsistence activity at both villages. Deer provided a substantial subsistence resource to support the communities while the activities of collecting or harvesting and preserving other resources was undertaken. Deer also provided a variety of valuable raw materials, ranging from leather to bone tools. Smaller animals also were harvested regularly when available, though in smaller numbers and frequencies. Yet they provided other valuable resources, from fur to food.

COMPARATIVE EXCHANGE PRACTICES

Another element of adaptation found at both sites involves participation in regional exchange or trade networks. The materials that were exchanged differed between the two communities, but the practice of being involved in exchange networks had some important parallels between them.

Neither site had locally available raw materials or craft products that were widely exchanged. Instead, they both participated in regional exchange networks, with some of the materials being exchanged staying at their own communities and becoming used in local technologies. For example, at the Finch Site, one important regional exchange network involved the dispersal of tool-making raw materials. Obsidian was a particularly important material, because it was a valuable material for making many kinds of stone tools. Since it lay in a riverine flood plain, there were no local sources of comparably used siliceous rocks in the area around the Finch Site. The obsidian that came to the Finch Site mostly originated in the southern Cascade Mountains to the northeast. Since the Finch Site was located along the Sacramento River, the Sacramento served as a major corridor for moving obsidian to the south and west, and the Finch Site served as a locally important node along those routes. Also widely exchanged were seashells from the Pacific Coast to the west. These shells, such as clam shells and *Olivella* shells that became used to make beads for both personal adornment and for currency, were exchanged from west to east, and the Finch Site served as a significant point along some of those pathways.

Different materials were exchanged through the Root Site, but comparable patterns emerged. Siliceous rocks that were good for making tools and projectile points were not widely available around Michigan, so acquiring them from appropriate sources solved an important adaptive need. The Root Site, being located along the Grand River, became part of the most important north-south passageway in southern Michigan. Good-quality Hopewell flint from central Ohio moved north through the Root Site, among other directions. Other widely desired siliceous stones also were exchanged through the Root Site, particularly some cherts from the Saginaw Bay region of eastern Michigan that moved westward or southwestward and passed through the Root Site on some of their paths. Another widely exchanged commodity was copper. Copper was mined prehistorically up north in Michigan's Upper Peninsula, and the Root Site lay along the exchange route that passed through central southern Michigan on the way to Ohio, Indiana, and beyond.

At both sites, then, participation in multiple exchange networks took place. The involvement with exchange was itself a source for economic wealth and political strength in both cases. In addition, some of the exchanged materials stayed at the site, enhancing the technological results.

COMPARATIVE SETTLEMENTS

Some similar parallels occurred in the design and construction of housing at the two sites, although the patterns at the two sites were far from being identical. Both sites, however, saw the construction of substantial housing structures. At the Finch Site, traditional pit houses were built. Round holes were excavated, up to 4 or 5 ft. deep, and up to 15-20 ft. in diameter. Vertical posts were mounted upright on the floors of the pits, and horizontal beams were built in a square around the tops of the vertical posts. Rafter poles were laid from the edge of the pit toward the center of the hole, on top of the horizontal beams, in a radiating pattern. Wickerwork was woven among the rafters, and the top of the wicker was covered with thatching or branch bundles. In some cases, the resulting cone-shaped roof was covered with dirt to create an insulated and rain-resisting dome. Usually a hole was left open at the center of this cone-shaped roof. A fire hearth was built inside, on the floor, below the hole, so that smoke could rise through the hole. Such pit houses served as year-round home for the Finch Site households.

At the Root Site, substantial housing also was built, but it was all constructed aboveground. Houses at the Root Site were built with sets of timber posts set into the ground, usually to form oval floor plans. The vertical poles often were tied together at the top to create a V-shaped profile. The posts were commonly then overlain with flexible horizontal sticks and wickerwork, to which thatching or animal hides were attached, to create rain-resisting surfaces. Rain was a bigger problem for housing in Michigan than in California. Fire hearths were usually built inside the houses, with additional special-function hearths built outdoors.

An important difference between the two sites, however, is that the Finch Site was occupied all year, while the Root Site was occupied only during the summer half of the year. All the seasonal indicators found at the Root Site reflect the April-to-September part of the year. Where the Root Site population went during the rest of the year is not known for certain, but the indicators of regional relationships point overwhelmingly to southwestern Michigan.

Other researchers who have worked at the Root Site, such as Moreau Maxwell, Charles Cleland, and Leonard Griffin, have noted that the pottery found at the Root Site overwhelmingly represents Allegan Ware, a late prehistoric style that was centered in southwestern Michigan. It has been argued that the Root Site's population spent its winters in a larger village in southwestern Michigan, along with other members of their kin group. In the spring, that village's population split into two halves. One half stayed at the winter village and conducted horticulture there during the summer. The other half migrated to the Grand River Valley and spent the summer half of the year at the Root Site, where it harvested anadromous fish, nuts, and other local resources. These were then brought back to the winter camp in the autumn to share with the rest of the village, which shared its garden harvests with them, particularly maize, beans and squash (Charles Cleland and Moreau Maxwell, personal communications).

SOME FOLLOWING COMPARISONS

A number of interesting questions can be derived from the comparison of these two sites, a few of which will be considered here. One question concerns the factors which caused the emergence of riverine-oriented hunting and gathering. For the Finch Site, the answer seems fairly clear. The region did not follow practices of food production, so the harvesting of seasonally abundant wild resources in large surpluses and the storage of them to feed the population during seasons of scarcity had been a growing pattern across many parts of California in later prehistoric times. Such practices overcame the limiting effects of seasons of food scarcity on population sizes, so California communities could become much larger, sociopolitically more complex, and more sedentary than could have been the case had their populations been limited by food volumes during seasons of scarcity. The Finch Site saw the use of harvestable anadromous fish resources as well as valley plants and animals as a local way to overcome the limits of seasonal scarcity. It was thus able to grow into a large, sedentary, multi-kin-group community, even in the absence of food production.

The case for the Root Site seems somewhat less clear, however. Why did the Root Site community split up each spring, and why did the population that went to the Root Site not practice food production when their relatives did? One possible answer concerns the value of the resources gained through hunting and gathering as a way to make up for the dietary limitations of the kind of food production that was being practiced in southwestern Michigan at the time. Another concerns the adaptive value of exploiting differing ecological niches when each niche can produce surpluses that can be shared with the exploiters of the other niche: a mutually-beneficial strategy of niche specialization with shared results.

But if such a strategy was ecologically productive in Michigan, why would it not have appeared and expanded in California? By the time the Finch Site was occupied, food production was being practiced to a limited extent in the desert regions of southeastern California. The deserts of southeastern California are ecologically radically different than the valley habitats of central California, however, and the distance from El Centro to Chico is almost 10 times farther than from the Root Site to the Lake Michigan shoreline. Also, it may have been a matter of comparative imbalance, among other things. The Sacramento River system's geographic area is about 10 times larger than the Grand River system, so the comparative productivity of riverine exploitation may have been far greater in California than in Michigan.

Another possible factor may have been the ecological limitations of food production in central Michigan at the time. The area around the Root Site was near the northern margins of habitats suitable for

plant domestication using the methods then available, so the productivity of food production near the Root Site may have been limited. The region closer to the Lake Michigan shoreline benefits from what is called the “ameliorating effects of the lake,” meaning that climates are milder near the lakeshore than in the center of the state. Thus a strategy that emphasized multiple niche specializations may have offered stronger advantages in Michigan than in California at the time.

Seasonal migration for adaptive purposes took place in other parts of California, such as in the foothills of the Sierra Nevada and Cascade mountain ranges, but the Finch Site did not exhibit that pattern. Where such seasonal migration did take place, a community could own or control a territory that extended up and down the mountainside. The Finch Site, being in the middle of the Sacramento River Valley, had no such access to other habitats. Alternatively, it may have been that the productivity of the Finch Site’s nearby niches was great enough that seasonal migration was not adaptively necessary, while for the Root Site in Michigan, it was. Michigan’s Grand River Valley did host a number of year-round or permanent settlements, especially in its lower zones, but the Grand River appears to have been comparatively rich enough during Michigan’s summers to also have been able to support seasonal occupations as well.

The adaptive situations for the Finch Site and the Root Site are obviously not all identical, but they are more similar than tends to be given much attention in the literature. The point that highly productive hunter-gatherer-adapted communities persisted when food production was available as an option should help us to better understand both the sophistication of adaptive strategies in food-producing regions, and the productive effectiveness of hunting and gathering in California, where communities as large and socially complex as most of those in food-producing regions could be supported.

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