

Wealth, Productivity, Growth, and Globalization:
Prehistoric Economics on Sonoma Creek

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When archaeologists address the public, they often will necessarily make the mistake of presenting an anthropocentric perspective of what is essentially their linear view of life history. The truth, of course, is that other life preceded human life, shared our time here, and will undoubtedly outlast us. Furthermore, history is not so much linear as it is cyclical. Indeed, the architecture of life and history alike is often more about curves than angles. Regardless of these self-acknowledged realities, though, my presentation herein will address the history of those human beings who once lived along an angular line on the map that we know today as Sonoma Creek. That said, the many nations of geese and salmon, the tribes of elk and wolf, and the clans of bear and eagle that once lived here, are not easily forgotten, nor is the Earth's unending circle of time.

Wealth

Three distinct cultural groups occupied the Sonoma Creek drainage in late prehistoric times. The area of the creek's headwaters was controlled by the Wappo, the ancient Yukian-speaking tribe that inhabited most of Napa Valley beginning at least 8,000 years ago. The mid-waters of the creek constituted the territory of the Hokan-speaking Southern Pomo, who probably arrived here about 4,000 years ago. The lower waters represented the territory of the Penutian-speaking Coast Miwok, who probably came to the area just after the Pomo. Although linguistically separate, these three tribes were similar in many aspects of their Native cultures, in part due to the several millennia that they lived beside one another on Sonoma Creek.

While some private ownership was practiced by all three of the tribes, most natural resources were considered to be communal property shared by all the members of the tribe. And while certain individuals or families might improve their social standing through their learned craft, it was typically the community that acquired wealth based on access to desired natural resources. Obsidian is a good example of what I am talking about.

Obsidian, the natural volcanic glass that is common in our area, was once a prized commodity. It was used to manufacture all kinds of cutting tools, knives, projectile points, scrapers, and drills. There are several obsidian sources in the North Coast Ranges,

¹ This is an expanded version of a presentation I made at the Sonoma Ecology Center's 16th Annual Summit, which was held on September 26, 2008, at the Westerbeke Ranch near Sonoma.

the largest of which are known as Napa Valley, Annadel, Borax Lake, and Konocti. Along Sonoma Creek, we typically see obsidian from either the Napa Valley and/or Annadel sources. The obsidian that we see in our watershed has been quarried at one of the distant sources, and brought to the area for the manufacture of stone tools. Much of what we see littering the surface of local archaeological sites is the debris that was left over from countless episodes of chipped-stone tool manufacture.

The Napa Valley obsidian source is located along the Silverado Trail near St. Helena in the Napa Valley. This source was controlled by the Wappo, and its proximity made the tribe very wealthy in aboriginal terms. Napa Valley obsidian was quarried for at least 12,000 years, beginning in the Paleoindian Period (c. 11,000 – 8,000 B.C.E.), and it was later traded widely throughout central California.

The Annadel obsidian source is located within Annadel State Park in Santa Rosa. This source was controlled by the Southern Pomo, and its presence made them wealthy, just as the Napa Valley source did for the Wappo. Annadel obsidian was quarried for at least 8,000 years and it was traded almost as widely as the obsidian from the Napa Valley.

The Coast Miwok lacked a suitable obsidian source in their territory, and thus they had to trade for this valuable tool material.² Fortunately for them, they had lots of natural resources to offer up in trade. Because their territory fronted San Francisco Bay and the Pacific Ocean, the Coast Miwok had easy access to a cornucopia of desirable marine products such as seaweed, fish, waterfowl, abalone, and clam shells (for making beads). These resources made the Coast Miwok just as wealthy as their obsidian-rich neighbors. Through regular trade, the Coast Miwok, Southern Pomo, and Wappo maintained relatively-friendly relations during the years they were neighbors on Sonoma Creek. They used their wealth to ensure comfortable and stable lives for themselves, in part by mitigating against the adversity of competition. Indeed, this was a defining trait of their wealth.

Productivity

Museum curators and collectors around the world agree that the finest baskets ever made anywhere in the world were made right here in the northern San Francisco Bay area. They are often counted among the prized possessions of museums everywhere. While it is not clear just when basketry began as a craft in Native California, it was already widespread by 4,000 years ago, during the midst of the Archaic Period.

Baskets were created for all kinds of purposes. There were storage baskets and carrying baskets, winnowing baskets and hopper baskets. Some baskets were made as special gifts, and these gift baskets were sometimes covered with colorful bird feathers and shell beads, and sometimes they were created in miniature. Many Native women wore baskets

² There are two recorded sources of obsidian in Coast Miwok territory, known as Trinity and Burdell Mountain, but neither appear to have been utilized to even a minor degree (Jackson 1986).

as hats. The basket hats bore intricate geometric designs which sometimes had deeper meaning.³

Certain of the baskets and regalia were considered to be more than inanimate things. This is especially true of the gift baskets. Today, I know more than a few Californian Indians who routinely take their old family baskets - those that have been inherited from earlier generations - out of storage in order to feed and talk to them. These baskets are considered to be living things with a spirit all their own.⁴

California Indian baskets were so well made that some even held water. Water-tight baskets were used for cooking. In a nearby fire, a Native cook would heat rocks. Once the rocks were hot, they would be transported to the water-filled basket using wooden tongs. As the rocks cooled in the liquid, they would be removed and new heated rocks would be substituted for them. In time, the transfer of heat from the rocks to the liquid would boil the water in the basket, thus cooking whatever food item was placed in it. After the rocks had been heated and cooled several times, they would begin to crack and break apart. At that point, they were discarded and new rocks were collected from nearby creek beds. Over time, numerous fire-affected rocks were deposited in Native occupation sites. Today, these burned rocks represent one of the classes of remains that archaeologists most often encounter when excavating local cultural deposits.

Obviously, the creation of basketry allowed Native cultures to become increasingly productive. Large amounts of natural resources, such as seaweed, acorns, and obsidian, could be transported great distances with relative ease. Once back at the village, Native peoples could easily store their supplies in large basketry containers. The ability to transport and store essential supplies created economic opportunities that eventually led to the creation of a resource banking system. The productivity of basketry thus resulted in Native societies that were themselves increasingly productive in a purely economic sense. What was equally important, though, was that these people were able to spend more time elaborating on their intellectual and art traditions, perhaps a defining trait of great civilizations, thanks in large part to their increased economic productivity.

Growth

Native people in aboriginal California ate a diversity of plant and animal foods. While hunting was always an important undertaking, plant foods were among the most important and stable of local foodstuffs. Beginning about 10,000 years ago, at the beginning of the Archaic Period, Native peoples relied heavily on hard grass seed for their sustenance. In the local archaeological sites of this era, we find stone metates and

³ For example, some of the designs were family patterns which allowed others to instantly know who the person wearing the hat was related to.

⁴ Many years ago, I watched as a couple of Native elders broke down in tears after hearing the curator of a famous museum explain how he used pesticides and other poisons to protect the baskets in his care from being damaged by pests. The elders had come to the museum to view baskets and regalia that had once belonged to their tribe. At the time, the well-intentioned curator had no idea that his actions were poisoning the spirits of the cultural objects he so greatly revered.

manos that were used to grind the seed into flour. Some of the local bedrock mortars, especially those characterized by conical walls and bottoms, were probably also used to process the seed (Parkman 1994).

Around 5,000 years ago, the Native peoples of central California developed a method for leaching the tannic acid from acorns.⁵ Prior to that time, acorns had played little role in local diets. However, after the acorn technology was developed, the use of acorns increased dramatically. Just as dramatic was the exponential growth that acorn-consumption brought to the local California Indian population. Whereas previously a family of four relying on grass seed as a food staple had required hundreds of acres to sustain their dietary needs, the same family only needed two or three good oak trees to sustain their needs once they turned to eating acorns. And because of global and regional environmental changes that were underway between 5,000 and 4,000 years ago, oak trees in central California had become increasingly more abundant than before. In the local archaeological sites of this era, we see numerous stone mortars and pestles that were used to grind the acorns into flour. Most of the local bedrock mortars, especially those characterized by rounded walls and bottoms, were also used to process the acorns.

Acorns are quite nutritious, and this proved to be a great benefit to Native peoples. Another benefit was found in the fact that the acorns were capable of being stored for a couple of years. This allowed families and villages to create food stores, when excess crops could be set aside for lean times and for use in special feast ceremonies. At these feast or “Bigtime” events, a host village was obligated to feed all of their guests. The Bigtimes were eagerly anticipated during the year, and they were welcomed occasions for trade, marriage, ceremonial performance, and various other forms of economic and social exchange.

The newly-acquired acorn-diet meant that there was now more food available for even more people. Populations expanded accordingly, including here on Sonoma Creek. The growth was exponential, and it meant that there were soon more people, more villages, more trade, and more need for an economic organization to keep it all working and to sustain continued growth.

Globalization

With the advent of the acorn technology and the resource banking that it would eventually facilitate, the concept of money appeared in our area. *Olivella* shell beads were likely used as money in earlier times, although this is not certain. What we do know, however, is that disk-shaped beads made from the shell of the local Washington clam (*Saxidomus nuttalli*), began to be used as money starting about 500 years ago, near the end of the Emergent or Late Period (A.D. 500 – 1850). It was the Coast Miwok and the Pomo who developed the clamshell currency.

⁵ See Ortiz (1991) for a detailed description of the California acorn technology.

Obviously, the creation of money offered Native peoples new and diverse economic possibilities, the combination of which led to a heightened sense of globalization. The concept of money and the creation of resource stores inspired economic strategies that allowed Native peoples to eliminate most (albeit certainly not all) of the perceived causes of armed conflict.⁶ As a result, life in Native California became exceedingly stable and rich. With serious tribal conflicts becoming increasingly rare, tribal support for martial training undoubtedly waned, and the earlier military alliances that had characterized Native California during the Archaic Period ceased to be maintained. In time, much of what constituted military preparedness and training was forgotten. As was true elsewhere in central California, life on Sonoma Creek was lived in the civilized pursuit of happiness. But the sense of tranquility that globalization brought with it was about to be shattered.

In 1579, Sir Francis Drake landed somewhere on the nearby coast. His landfall was to usher in almost 500 years of Euro-American conquest. Behind Drake came the Spaniards with their missions, the Russians with their thirst for furs, and the Americans with their thirst for gold and land. The foreigners brought glass beads for use in trading. The new beads were sought out by Native peoples in the early years of the conquest. They ascribed great value to the foreigners' colorful beads, integrating them into their traditional monetary system. To obtain these beads, and various other favors, some Native peoples unwittingly gave up their basic land rights and numerous other inalienable privileges that had been enjoyed by their ancestors over the many millennia. The new beads flooded in and quickly overwhelmed the market. In due course, the beads were deemed worthless, but, by then, the Native monetary system had been severely weakened.

Following the flood of beads there came a flood of foreigners; Native California was soon overrun. Native peoples resisted the best they could, but they were no match to horse-borne warriors, sharp steel, gunpowder, and European diseases. Culture contact took a terrible toll on Native California, and with it came a deafening cultural crash! The sense of globalization that had once brought stability and prosperity to Native Californians now brought conflict, collapse, and despair.

Of course, Native peoples held on, even as their population was drastically reduced. Living in smaller and smaller communities, and becoming much more separated than before, most of the tribes survived the conquest to one degree or another. Today, many of these same communities are growing increasingly stronger, fueled in part by a resurgence of population and a deeply-felt cultural pride. In this awakening, baskets are being made in greater and greater numbers, Native languages are being taught, the acorn is again playing a prominent role at traditional Bigtime gatherings, and even obsidian, now not nearly as precious as it once was, is occasionally chipped at various cultural demonstrations.⁷ And yet these same Native peoples must necessarily exist in the now-

⁶ Among the Coast Miwok, and certain other local tribes, a female secret society known as the *maien* appeared, and served to stabilize and facilitate trade throughout much of the greater San Francisco Bay area (Parkman 2006).

⁷ I have discussed certain aspects of this cultural resurgence in my review of Leanne Hinton's *Flutes of Fire* (Parkman 1996).

dominant American world as well as the world of their traditional past. It is oftentimes an awe-inspiring and perhaps confusing dance these people must perform with a foot in each of two very different worlds. To the anthropologist, it is perceived to be a time-honored cultural adaptation. To the rest of us, it is a lesson worth learning.

Perhaps Native California's lesson to the rest of the world is that the human spirit is strong and people endure, regardless of the adversity or challenge that confronts them. Humans, like most all other forms of life, tend to adapt when the only other option is to disappear. Or, to paraphrase Plato, "necessity is the mother of invention."⁸ As we struggle with our own socio-political and economic challenges, the modern-day inhabitants of Sonoma Creek should take comfort in the lesson of Native California. We will adapt and we will endure in our collective efforts to define our own economic strategies for embracing the increasingly-smaller world we live in and the precious creek we call home, during this time of renewed globalization.

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⁸ Plato, *The Republic*, 360 B.C.E.