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HUNTER-GATHERER ARCHAEOLOGY AS HISTORICAL PROCESS

EDITED BY **KENNETH E. SASSAMAN**
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Structural Transformation and Innovation in Emergent Political Economies of Southern California

Lynn H. Gamble

The Chumash populations of southern California differed from many societies discussed in this volume in that they lacked monumental architecture. Instead of building mounds, large plazas, and other public spaces, they invested time and energy into the production, distribution, and use of shell beads that were traded over a wide region. Beads were made and used in the Santa Barbara Channel region continuously for over seven thousand years, making them one of the longest-running media of Chumash material culture. Perhaps it is no coincidence that current evidence suggests there were no major population replacements or other significant population shifts on the northern Santa Barbara Channel Islands and the adjacent mainland for at least the last ten thousand years (Glassow et al. 2007). Recent research on California Indian mitochondrial DNA lineages suggests “an ancient presence of Chumashan peoples in the Santa Barbara Channel” (Johnson and Lorenz 2006:33) (fig. 12.1). Recent linguistic evidence suggests that the Chumashan language family is an isolate that appears to have great antiquity in California, supporting the DNA data (Johnson and Lorenz 2006). This is not to say that the people in the region were culturally static throughout this history, as change among the populations of the Santa Barbara Channel region is well documented (e.g., Erlandson 1994; Gamble et al. 2001; Glassow 1993; Glassow et al. 2007; Kennett 2005; King 1990). Nevertheless, this unique example of continuity among biological populations provides researchers the opportunity to examine *in situ* cultural development in a historical context.

My primary area of concern in this chapter is the complex history of shell beads and how variation in the production, form, and distribution of shell beads informs us about changes in their meaning, value, and power. A number of researchers working in the Santa Barbara Chan-



Figure 12.1. Chumash linguistic groups and modern place-names in the Santa Barbara Channel area.

nel region have focused on the production of beads and, to a lesser extent, their distribution, use, and social contexts (Arnold 1992, 2001a, 2001b; Arnold and Munns 1994; King 1976, 1990). The emphasis has tended to be on the economic nature of beads and how beads served to minimize risk in the region. It has been suggested that intervillage exchange crosscut three environmental settings—the Island, the Mainland, and the Inland—in the Santa Barbara Channel area and that the dependence on beads developed in part so that the people of the region were able to ensure that they had adequate food supplies throughout the year, including inhabitants of ecological zones with relatively limited resources (King 1976). There is strong evidence for this hypothesis, but Chumash-produced shell beads have been found far beyond the confines of the historically documented Chumash territory. In fact, shell beads have always been about making, reproducing, and transforming social alliances and as such, many constituencies were involved:

the producers, the distributors, and the consumers, including those who removed beads from circulation through burial. Multiple and dynamic options for alliances through bead production, exchange, and use always existed. Once systems of bead production and exchange were in place, any disruption of the network would have the potential of disrupting the entire economy in ways that perhaps eclipse, or at least rival, the effects of climatic changes such as El Niño–Southern Oscillation (ENSO) events and other environmental crises.

The main thrust of this chapter is not about the subsistence economy, which was organized at the household level, but about the political economy. Although the political economy intersects the sphere of the subsistence economy, it encompasses the exchange of services and goods within a complex network of interconnected families. As such, beads are about making and reproducing entire networks of affiliation and interaction, not simply individual communities and households. It is this network of relationships, both within and outside the Chumash region, that I am concerned with here. The social life of beads as they journeyed through multiple hands and were interpreted and reinterpreted in different cultural contexts is explored. Although the economic significance of beads is considered, I move beyond ecological models to address the complex history of shell beads and how transformations in this history reflect the lives of people who participated in the production, distribution, and consumption of beads.

The Chumash Example

The inhabitants of the Santa Barbara Channel region exhibited a number of characteristics at the time of European contact that are associated with complex hunter-gatherer societies (Ames and Maschner 1999; Gamble 2008). They lived in relatively large sedentary settlements, some with hundreds or even thousands of inhabitants, supported by relatively large quantities of stored food, including acorns, seeds, and dried fish, some of which could be stored for several years. They managed their environment, as did other California Indians (see Lightfoot et al., this vol.), through the use of fire to promote the growth of seed-bearing plants, discourage the growth of less desirable plants, and create habitats that were more favorable to deer and other wildlife (Timbrook et al. 1982).

They developed specialized technology, such as the plank canoe, that intensified fishing, hunting, gathering, and trade practices. They used shell beads as currency, which facilitated exchange, and had a social hierarchy with permanent leadership positions (Gamble 2008).

The population of the Chumash peoples at historic contact is estimated to have been between eighteen and twenty thousand people (Cook 1976:37–38; Johnson 1998:1). The Chumash inhabited large villages and towns along the Santa Barbara Channel coast, living in houses that were clustered next to the shoreline in places where freshwater was available in nearby streams and springs. Many settlements were near lagoons, such as those located around the Goleta Slough (fig. 12.1), where the population exceeded two thousand people in 1769. Sandy beaches, which were usually adjacent to communities, served as ideal landing spots for watercraft. Most villages south of Point Conception had at least a few plank canoes, and several larger settlements had between ten and sixteen canoes each. There is evidence for a settlement hierarchy during the Late period, with the larger towns having some authority over smaller settlements (Gamble 2008; Johnson 1988).

Information on the social organization of the Chumash peoples derives primarily from mission register documents, ethnohistoric accounts, and ethnographic data. Postmarital residence patterns were primarily matrilineal, although patrilineal and less commonly bilocal and neolocal residence patterns have been recorded (Harrington 1942:30–31; Johnson 1988). Chumash chiefs were often polygynous and tended towards patrilineal residence. According to ethnographic accounts, chiefs, members of their family, and other highly ranked individuals were required to be members of the *'antap* society, a group of specialists who performed dances and rituals at public ceremonies (Blackburn 1976:236–238). The parents of children being initiated into the society paid relatively large quantities of shell-bead money as a type of membership fee. Evidence suggests that the *'antap* organization also operated at a regional level to integrate chiefs and other wealthy individuals from a wide area (Blackburn 1975; Hudson and Underhay 1978:29; Hudson et al. 1981). Ethnographic data indicate that members of the *'antap* society exclusively used large deer tibia whistles (Hudson and Blackburn 1986:354). That these items are found in archaeological contexts dating to the late Middle period led Corbett (1999) to suggest that the *'antap*

society existed for hundreds of years in the region. Although we have a rough idea of the population density of the Chumash in 1769, we lack detailed information on changes in settlement locations and population densities over the previous seven thousand years. Most scholars of the Santa Barbara Channel region agree that by at least one thousand years ago, large settlements were permanently established on the coast, especially where boats could land.

Shell Beads and Economic Structure

Shell beads were used in the Santa Barbara region fairly continuously for over seven thousand years. More than twenty-two species of shell have been identified, and most of these species were formed into a number of different types of beads. Just as pottery styles and other types of objects change over time, so did shell-bead styles. The changes in the morphology, hole size, diameter, and final finishing of beads are some of the variables that are used to identify types and to distinguish different chronological periods. A number of important changes in the use of shell beads took place over the millennia, the most important of which was the appearance of cupped beads at the onset of the Late period. These were made from the thick callus of the shell of the *Olivella biplicata* and have been identified as money beads by King (1990), an interpretation that is widely accepted by researchers working in the region (Glassow et al. 2007). It has been suggested that at about the same time cupped beads first appeared, the scale of shell-bead production increased significantly (Arnold and Munns 1994) and shell-bead making had become a specialized craft on the northern Channel Islands (Arnold 1987; Gamble 2008; King 1976).

Two types of craft specialization were associated with the production of shell beads. The first is the manufacture of the beads themselves; the second is the production of the stone drills used to make the perforations in the beads (King 1976). Bead making did not appear to be an "attached" specialization in the sense that administrators controlled the production of the specialists (Arnold and Munns 1994; Brumfiel and Earle 1987; Costin 2001). Although Arnold and Munns propose that bead makers most likely were not monitored in their daily activities, they suggest that the trade of beads probably was controlled by canoe owners who manipulated exchanges throughout the channel

region (Arnold and Munns 1994:487). I have recently questioned this latter proposition, as the controlled release of shell beads has not been empirically documented (Gamble 2008). Instead I propose that beads were freely produced and exchanged based on the principles of supply and demand, and that the value of shell beads was maintained as a result of periodic destruction of beads and ornaments, most commonly seen in the accompaniment of shell beads with burials, but also through destruction at ceremonies. The labor investment in the making of shell beads was enormous. Milliken and his colleagues (2007:110) estimate that “each shaped bead, cut from the hard wall of *Olivella*, *Haliotis*, or clamshell, represented almost an hour of production activity.” The manufacture of a cupped bead from the thicker and harder portion of the callus of the *Olivella biplicata* was even more time consuming.

Sources of Shell Beads in California

Shell beads were used all over California (Bennyhoff and Hughes 1987), with the earliest examples, *Olivella biplicata* spire-lopped beads, dating to approximately eleven thousand years ago (Fitzgerald et al. 2005). Although several regions have been identified as sources of many shell-bead types, the northern Santa Barbara Channel Islands exhibit the most extensive evidence of shell-bead manufacturing and have been referred to as a “mint” for certain types of shell beads found throughout California (see Hughes and Milliken 2007 for a discussion of this issue). Central California has been recognized as a source of *Saxidomus* shell beads. Although shell-bead detritus has been documented in the region, shell-bead manufacturing has not been observed at the scale of that seen on the northern Santa Barbara Channel Islands, leading some to believe that many bead types were made on these islands. A method for sourcing *Olivella* shell, one of the most common materials used to make shell beads in the region, using isotopic signatures, has proven to be promising (Eerkens et al. 2005). Jelmer Eerkens and his colleagues analyzed ten *Olivella* beads found in sites in central California and the Owens Valley from various time periods; all ten appeared to have been harvested from the warmer waters south of Point Conception, indicating that most were probably produced in the Santa Barbara Channel region.

Changes in Shell Beads and Their Use

Chester King (1990) systematically recorded artifacts from burial lots in the Santa Barbara Channel region from both the mainland and northern Channel Islands, documenting thousands of shell beads, in addition to stone and bone beads. He identified and quantified many different types of shell beads using burial lot seriation to illustrate how beads, ornaments, and other artifacts changed over seven thousand years (King 1990). On the basis of bead-making refuse from southern California sites, King (1990:xiv) proposed that one important change in bead production was a shift from relatively unspecialized shell-bead making during the Early and early Middle periods to localized specialization that began later in the Middle period and continued throughout the Late period. He suggested that this reflects increased integration of California societies as regions became more economically interdependent.

Olivella biplicata beads that were probably produced on the northern Channel Islands have been found well beyond California, including the Great Basin, Colorado Plateau, Columbian Plateau, and Southwest (Chester King, personal communication 2009; King 1990; Jernigan 1978). Jernigan suggested that in the Anasazi area *Olivella biplicata* saucer beads were used from Basketmaker II through Pueblo IV (300 BC–AD 1600), and that *Olivella biplicata* wall disc, saucer, and probably even cupped beads were used by the Hohokam between about AD 550–1450. Although we know that there was long-distance export of beads produced in the Santa Barbara region, detailed analyses of the types and distribution of shell beads in western North America has not been completed.

Early Period. King found that during the Early period (5500–600 BC), there were relatively few types of beads compared with the number of types found during later periods. He identified three major types of shell beads in use at this time. *Olivella biplicata* spire-removed beads, which were relatively easy to make, were found throughout California and the Great Basin, although there is no evidence that these were made in the area historically occupied by the Chumash. Clam disc–cylinder beads were another fairly common bead type that was used in the Early period; most were used in the region historically occupied by the Chumash (King 1990:108–109). In the early part of the Early period, these

beads were highly variable in shape and found associated with many burials. Toward the end of the Early period, Phase z (Ez, 600–200 BC), these types of beads changed to more standardized shapes and were associated with fewer burials. King interprets this pattern as a shift from more egalitarian societies to societies where political leaders controlled wealth. Overall, there were fewer changes in beads throughout the Early period than in the following two later periods.

Middle Period. The Middle period dates from approximately 600 BC to AD 1150, according to King. Relatively few burials from the Middle period contain beads compared with the Early period. Moreover, generally less wealth was buried during the Middle period than the Early period, despite the fact that greater amounts of beads were manufactured in the Santa Barbara Channel region during the Middle period (King 1990:154). King attributed this to “a shift to a more centrally organized society with inheritance of political and economic powers” (King 1990:154). Two shell artifact types, *Olivella biplicata* wall discs or saucers and *Megathura crenulata* ring ornaments, appear in the Middle period and are common for more than a millennium (Middle period, Phase 2a–Middle period, Phase 5c) in the Santa Barbara Channel region, in central California (Bennyhoff and Hughes 1987), in the San Joaquin Valley, and farther to the east, including parts of Nevada and Arizona (King 1990:153–154).

Four *Olivella* saucer beads from central California (types G1, G2a, and G2b, which were in use between M2a and M5c) were sourced by Eerkens and colleagues (2005:1509) and had isotopic values indicating that they were from southern California. The sourcing of type G2b is significant because they were common in central California; in fact the largest documented bead lot ever found in California consisted of approximately 30,000 *Olivella* type G2b saucer beads. These were associated with a 30-year-old male burial that was dated to AD 388 from a site in the Livermore Valley in central California (Milliken et al. 2007:116). Most of these beads, along with thousands of other *Olivella* saucer beads, were probably traded from the Santa Barbara Channel region to the San Francisco Bay area. Only a few years after this interment, however, saucer beads were no longer found as burial accompaniments in the region. They were replaced by rough-edged full saddle *Olivella* beads (Milliken et al. 2007:116), a type not found in the Santa Barbara

Channel region and believed to be made locally in the Bay Area. It is difficult to know why groups in the Bay Area suddenly stopped importing beads from the Santa Barbara Channel region, even though the *Olivella* saucers continued to be made and used in the region. Notwithstanding, the advent of the *Olivella* saucer beads in the Channel area and their wide use both within and outside the region during the early Middle period indicates a significant period of interregional interaction.

It is relevant that prior to the use of saucer beads in Middle period, Phase 1 (M1), large, showy bone and clamshell beads, ornaments, and pendants with punctate and incised designs were common. The bone beads and ornaments were made from large mammals that did not live on the Channel Islands, indicating these were probably made on the mainland. These conspicuous beads and ornaments were less important after the *Olivella* saucers and *Megathura* ornaments were introduced. King has suggested that the large bone and clamshell beads and ornaments, which are not found outside of the Santa Barbara Channel region, were probably not used as currency, but instead were indicators of political position. Later in the Middle period, large bone tubes with appliquéd shell beads appear (fig. 12.2). One burial at Mescalitan Island (CA-SBA-46) had four or five of these around their waist in a belt-like fashion (King 1990:140). These bone tubes probably also were used as signifiers of rank.

Late Period. The Late period as defined by King (1990) dates from AD 1150 to 1804. The beginning of the Late period is marked by a new shell-bead type, cupped beads made from the thick portion of the callus of *Olivella biplicata* shells. These cupped beads effectively replaced the *Olivella biplicata* wall disc or saucer beads by the end of Late period, Phase 1a (AD 1250), and became the most common type of bead used until Spanish colonization, when their use stopped abruptly. The production of other types of shell beads, however, was not discontinued, despite the influx of glass beads brought by the Spanish and other European colonists. Because cupped beads were made from the thick portion of the *Olivella* shell, they were much more time consuming to manufacture than *Olivella biplicata* wall beads and many other types of shell beads. Cupped beads were prevalent throughout the Chumash region during the Late period and have been identified as money beads on the basis of their distribution in cemeteries and other contexts. They also have been



Figure 12.2. A large deer-bone tube with appliquéd shell beads from Burton Mound, CA-SBA-28. (Courtesy of the Santa Barbara Museum of Natural History; image no. NA-CA-28-1C-2; photograph by Lynn H. Gamble)

found throughout central California, the Great Basin, and southern California (King 1990:157; King and Gamble 2008). The one cupped bead from a site in eastern California (INY-5207) that Eerkens and colleagues (2005) sourced was probably from the Santa Barbara Channel region.

After European contact, the Chumash populations continued to make, use, and exchange shell beads even though European glass beads were introduced (Gamble and Zepeda 2002; King 1990). Wall disc beads from *Olivella* shells (*Olivella* rough disc beads) became more common again, although their edges usually were not fully ground. Eventually, the perforations of wall disc beads were drilled with iron needles that were introduced by the Spanish.

The Significance of the Plank Canoe in Exchange

The distribution of shell beads from the northern Channel Islands to the mainland was dependent on watercraft for transportation. Watercraft

also facilitated exchange between settlements on the mainland coast, where, at least during the Late period, the highest population densities existed. The most seaworthy type of watercraft in the Santa Barbara Channel was the sewn wooden plank canoe (*tomol*), a common sight when Europeans first visited the region. These boats were important in the conveyance of beads, as well as other items made on the Channel Islands, such as large and heavy steatite *ollas* and *comals* (flat, pan-shaped vessel) used for cooking and ceremonial feasting, mortars, and other items. Canoes were also instrumental in the intensification of fishing practices that allowed the Chumash greater access to large deepwater fish. Ethnographic evidence indicates that the plank canoe was the most expensive item made by the Chumash, surpassing the cost of houses, sweat lodges, and other objects or structures (Hudson et al. 1978). Only very wealthy individuals could afford to build and own a canoe; some historic evidence indicates that it was primarily chiefs who owned plank canoes (see Gamble 2002).

Arnold (1992, 1995) argued that social ranking developed around AD 1200–1300 in the Santa Barbara Channel region and has explained its origin from the perspective of environmental degradation, political opportunism, and the manipulation of labor by rising elites. More recently, Arnold (2001a, 2001b) suggested that the control of exchange between the mainland and the Channel Islands by canoe owners on both sides of the Santa Barbara Channel was a fundamental component in the rise of hereditary leadership among the Chumash and that a small group of leaders, including canoe owners and traders, seized opportunities that most likely resulted from resource imbalances to gain economic and political advantages. Chumash chiefs and other wealthy individuals had the means to control the distribution of both the manufactured goods that were exported from the Channel Islands and the food and other materials that were imported to the islands. However, there is no clear empirical evidence that boat owners actually restricted access to watercraft or regulated the release of beads (Gamble 2008). Nevertheless, the fact that they had such a source of power placed them in an economically advantageous position. The determination of when the *tomol* was first used in the Chumash region is fundamental to understanding the development of sociopolitical complexity. A systematic study of items associated with the construction, maintenance, and use

of the plank canoe, including flaked canoe drills, asphaltum plugs, asphaltum caulking, and wooden planks, provides strong evidence that the plank canoe originated at least thirteen hundred to fifteen hundred years ago in southern California, approximately five hundred years earlier than previously proposed (Gamble 2002). This finding is significant because evidence of the plank canoe is several centuries earlier than Arnold proposed and therefore does not coincide with the timing of environmental degradation that she suggested (Arnold 1992).

Beads as a Proxy for Social Contexts of Power

Other researchers have proposed that environmental instability and resource scarcity were closely tied to Chumash conflict (Johnson 1988, 2007; Kennett 2005; Kennett and Kennett 2000; Lambert 1994). Although climatic volatility and resource stress are probably linked to conflict, I suspect that the reasons for warfare are much more complex and must be considered in the context of elaborate social processes (see Gamble 2005, 2008). We need to give credit to the people who lived in the region over a seven-thousand-year period and their abilities to innovate and find solutions to environmental stress. This was a population that shared cultural traits and adapted to changing climatic conditions such as ENSO events and drought conditions. In all probability, they chose not to rely on domesticated crops because of the inherent problems of doing so in such a setting, especially with the abundance of marine and terrestrial resources that could be stored and traded to minimize risks associated with these climatic threats. In other words, the Chumash had developed an oral tradition, a social memory of the dangers associated with their environment, and had, through intensification of resource acquisition and trade, worked out solutions that tended to serve the populations for thousands of years.

But why then was there conflict and how pronounced was it? Some of the best evidence of violence is a significant and impressive body of osteoarchaeological data from the Santa Barbara Channel region, where the skeletal remains of over seventeen hundred individuals from more than thirty sites on the mainland and islands have been analyzed for evidence of resource stress and violent conflict (Lambert 1994, 2002; Lambert and Walker 1991; Walker and Lambert 1989). The results of these extensive analyses indicate that there was some level of violence

throughout time in the region. Lambert (1994, 2002:217–219) found that healed cranial vault fractures were present during all the time periods, but were more common between approximately 1500 BC and AD 1380. In contrast, lethal projectile wounds did not increase in frequency until approximately AD 580, at about the same time that the bow and arrow was introduced to the region. Between AD 580 and 1350, approximately 10 percent of the sample examined by Lambert exhibited evidence of projectile wounds, and many of these individuals were from the mainland, not the Channel Islands (Lambert 2002). After AD 1350, Lambert noted a decline in violence that she attributed to improving climatic conditions; however, the sample size for this period was small, making it a tentative conclusion (see Gamble 2008).

Evidence of violence is especially apparent on Mescalitan Island during the late Middle period (M4–M5c), where Lambert (1994:131–132) discovered particularly high numbers of victims with multiple projectile wounds in two cemeteries. She also noted that the frequency of projectile wounds in individuals from these cemeteries was greater than in samples from any time periods on the mainland or the islands. The mainland site of Mescalitan Island was situated on a small but prominent island in the middle of the Goleta Slough that could be reached only by boat. Mescalitan Island and the settlements surrounding the Goleta Slough were in the center of population and in the geographic center of the Chumash region. The high rate of projectile injuries in victims buried on Mescalitan Island is intriguing because of its naturally defensive location. If Mescalitan Island was as populated at this time as believed, then it would have been somewhat audacious to attack such a large, centrally located settlement. If resource stress was indeed an important cause of conflict, it is curious then that the level of violence was not more prominent on the islands than on the mainland during the late Middle and Late periods, where resource stress was reported to be more common (Arnold 1992, 2001a, 2001b; Kennett 2005; Kennett and Kennett 2000; Lambert 1994, 2002).

Recent approaches to the interpretation of warfare among hunter-gatherer societies may be too simplistic for explaining conflict among the inhabitants of the Santa Barbara Channel region. How do we account for conflict and warfare in the context of their heavy reliance on beads? I propose that they were protecting trade networks that were based,

in part, on shell beads. Evidence suggests that the populations of the Channel area tried several strategies during their long trajectory in the region. They lived in smaller settlements situated in more defensive locations in the Early period. However, eventually, as their populations grew and maritime adaptation intensified, they occupied the best niches for their subsistence and exchange strategies. Because the Chumash relied on watercraft for exchange between the mainland and the islands, as well as for fishing, the south-facing beaches, on which most of the mainland towns were situated, served as excellent ports.

The islanders and the inhabitants of the interior, who were positioned in more peripheral areas, probably envied the strategic locations of these settlements for exchange, subsistence pursuits, and ceremonial gatherings. Because goods passing between the latter two regions were routed through the mainland coast, mainlanders had a distinct advantage over their neighbors on the islands and in the interior. Mainlanders also had a greater variety of subsistence resources than did those living in the interior or on the offshore islands. Once important locations were occupied, there was a concerted effort to maintain primary access to them. The early use of cemeteries in the region was one way that inhabitants could show ancestral claims to their settlements.

Alliances were established for many reasons among the Chumash, and they had great antiquity. The 'antap society, marriage practices, exchange networks, and other cultural traditions of the Chumash all required the formation of regional alliances. No doubt coalitions often shifted and included parallel and overlapping partnerships. Disagreements between individuals within these alliances had the potential of instigating a series of discordant reactions that could result in revenge or warfare. I propose that the Chumash fought over their network of alliances and the prime locations in the Santa Barbara Channel region. To some extent, everyone benefited politically, economically, and ideologically from cross-channel exchanges, ceremonial gatherings, redistributive efforts, and trade partnerships; however, not everyone benefited equally.

Beads as Social Memory

The most common archaeological context for shell beads throughout California, especially large quantities of beads, is with burials. Unlike effigies, deer-bone tibia whistles, and other artifacts, beads are seldom

found in caches in the Santa Barbara Channel region. Although beads are often recovered in shell middens and other contexts, these are usually isolated beads. The association of beads and other artifacts with burials has been construed as an indicator of social rank among the Chumash (Gamble et al. 2001; King 1990). However, beads can also be interpreted in a broader context—as part of mortuary rituals that involve a “complex interplay of emotions, material culture, and social memories of the mourners and the deceased” (Chesson 2001:1). If we view beads as integral to the identity and memory of the deceased and the mortuary ritual itself, then beads serve as a material manifestation of the social memory of an individual and the ceremony honoring their life and journey to the afterworld. The preparation of the deceased and accompaniment of shell beads and ornaments served multiple purposes. The mourners honored the dead through the adornment of the body before, during, and after the mortuary ceremony. The identity of the deceased was re-created through the process of preparing the individual for the afterlife. The complex processes of mortuary ceremonies that include the adornment of the body ultimately demonstrate how people inscribe the deceased in the social memory of the living (Joyce 2001).

The presence of formal cemeteries, geographically separated from the living areas, occurred early in the Santa Barbara Channel area and, on the whole, continued throughout the history of the region. Shell beads were an important component in mortuary contexts for at least seven millennia in the Santa Barbara Channel region, with some individuals buried with hundreds or even thousands of beads, while others were interred without any beads at all. Although beads were associated with burials in the Early period, by the latter part of this period, larger quantities of beads were associated with the dead, a pattern that continued in the Middle period. In a comparison between a Middle period and Late period cemetery at Malibu, a continuity of burial practices was apparent (Gamble et al. 2001). For example, the Chumash buried the dead with their heads pointing in a west or southwest direction in both cemeteries. This same pattern was noted in other Chumash cemeteries, including the Medea Creek site (CA-LAN-243), the Calleguas Creek site (CA-VEN-110), and S'imomo (CA-VEN-24), suggesting that by the end of the Middle period, a persistent set of religious beliefs and concepts about certain aspects of the afterlife had developed in the region.

Archaeological mortuary evidence suggests that these beliefs were maintained well into the period of European colonization.

The creation of formal cemeteries, sanctified ceremonial grounds, and the adornment of the dead tend to reinforce the ancestral ties to the land and underscore the claims of the living to traditional sacred places and their descendants' rights to these claims. These actions served as a means of creating a social memory. It is significant that there were selectively few individuals buried with the majority of beads, a pattern that is particularly pronounced in the late Middle period and Late period. Funerals were community events in which beads were placed with the body of the deceased. The commemoration of the deceased at a public ceremony served to legitimize the power of the dead and record in the memory of all present the significance of this individual and their ancestral lineage both in life and in death.

Beads as Social Reproduction

Ethnographic sources are rife with accounts of feasting among the Chumash, who maintained a ritual calendar of ceremonial events. Many gatherings involved large public feasts where hundreds to thousands of people from a wide geographical range congregated for ritual events. Some of these events, such as the Winter Solstice Ceremony, lasted five to six days, and California Indians from areas outside the Chumash region attended, such as the Tulareños (Yokuts), the Gabrieleños, and other groups (Blackburn 1976; Hudson et al. 1981). Ceremonial redistribution of foods and goods was common at many of these events, and shell beads were integral to these transactions. Feasts were all inclusive, and people were in fact encouraged to attend and participate in these events. As indicated by one historic account, a failure to participate in important ritual events and to contribute to host chiefs could result in armed conflict (Geiger and Meighan 1976:122). As the following ethnographic account illustrates, some gatherings may have been quite profitable for the host. "According to Fernando [Fernando Librado, Ventureño consultant] visiting captains at a festival would make donations on their arrival so that the host would have enough for the festival and the rest of the year. There was a pecuniary interest in having a festival in Indian times, for the captain would save some of the offerings so that when his subjects were in distress he would have something with which

to assist them" (King 1969:43). Undoubtedly many feasts were hosted at the large, centrally situated mainland settlements, locations that were used for ceremonial feasts for hundreds or thousands of years.

Gambling and trading also occurred at feasts, as they did outside the context of large ritual congregations. Shell beads served as a medium of exchange in all these transactions. The distribution of beads in the example of a regularly occurring feast created an opportunity for people to interact and maintain networks or forge new ones, whether they were playing *peon* (the traditional California Indian gambling game) or exchanging food and other items for beads. Shell beads were critical to these transactions as they provided a social vehicle for interaction that may have been more significant than the value of the bead itself.

Whether beads were exchanged between individuals or between chiefs at large ritual congregations, social reproduction, the processes that sustain or perpetuate beads in the hands of the elite, continued over generations. We also see this in the mortuary data, where large quantities of shell beads were buried with only a few individuals. In both contexts, groups of people, in this case the wealthy elite, reproduced their social identities over generations partly through the use of shell beads.

Discussion and Conclusions

Multilayered transformations in the types and quantities of beads, their symbolic meaning, and their distribution reveal a complex and not yet fully understood history. We know that shell beads were made and used in the Santa Barbara Channel region for at least seven thousand years. An increasing number and a greater variety of shell beads were produced and used over time, possibly reflecting greater complexity within Chumash society as well as the interactions between the Chumash and their neighbors. However, there was not a simple trajectory of greater complexity throughout time; instead perturbations in the symbolic meaning, distribution, and use of beads prevailed. We find that a wide range of people in California, the Great Basin, and the Southwest used the same types of beads during certain time periods and were linked to one another. These social ties crosscut genealogical, cultural, and linguistic boundaries to form a network of people who had a common interest in

obtaining and using beads. The makers, distributors, and consumers of beads were connected in an elaborate web of overlapping and shifting networks of people and beads. Understanding these networks in the context of redistribution, gift giving, brokers, transportation, conveyance, demand, genealogical ties, and alliances allows a more nuanced understanding of the meaning of beads.

Archaeological evidence demonstrates that certain beads and ornaments were restricted to a limited set of the population within the Santa Barbara Channel region. These can be viewed as inalienable possessions, as described by Annette Weiner (1992). These types of items are imbued with inherent qualities that are irrevocably entwined with their owner—the types of possessions that are hoarded, inherited, and conserved (Weiner 1992:11). Among the Trobrianders, chiefs own rights to certain shells that are worn. These shells are ranked and define each lineage, but they do not circulate except within the kin group or as a loan to a man's children (Weiner 1992). They therefore reinforce the authority of their owners and their owners' ancestors. We can draw a parallel in the Chumash use of shell beads. The ostentatious clamshell ornaments with punctate designs, the large incised bone beads, and the large bone tubes with bead appliqué found in the early Middle period in the Chumash region may have been inalienable possessions used by individuals with recognized inherited power in life and death. These served as badges denoting position when buried with people.

Other types of beads, such as the large saucer beads that were exported from the Santa Barbara Channel region to the Bay area in the early Middle period, differed considerably from beads that were found in highly restricted contexts. These beads were part of a far-flung network of people who used them in social negotiations that encompassed people of different ranks and various cultures. They were intended for exchange and reflect the interactions of a wide variety of constituencies that formed alliances. These beads served very different purposes for the Chumash who produced and consumed them, as well as the groups outside of the region who used them. No doubt the symbolic meaning of beads changed as they passed through the hands of different agents. Shell beads may well have served as a passport of sorts, allowing foreigners to enter into regions where people spoke diverse languages and were from distinctive cultural backgrounds.

Multiple constituencies always existed in the production, distribution, and consumption of shell beads, which allowed multiple options for alliance through bead production, exchange, and use. Although chiefs may have had some control over the distribution of beads, especially in the context of redistribution, they could not control all aspects of this dynamic process. Instead, chiefs were constantly confronted by alternatives that would challenge their authority. The production, distribution, and use of shell beads were much more complicated than the economic benefits of bead use in the context of risk minimization. For example, when the inhabitants of the Bay Area suddenly stopped importing beads from the Santa Barbara Channel region and instead used locally made beads, what effect did this change have on the bead makers in the Chumash region, the many people involved in the conveyance of beads, the chiefs, and the Chumashan people as a whole? The permutations in the frequency and cultural meaning of beads are so complicated that ecological models cannot adequately explain all the variables that affect the people involved in the manufacture, distribution, and use of beads. In fact, the very system that functioned to alleviate risk in subsistence activities was highly vulnerable to manipulation, disruption, and intensification by any number of agents across the network. The maintenance of exchange networks operated within a context of shifting alliances, variable demands for shell beads from both within and outside the Chumash region, changes in the symbolic meaning of beads, and innovations in the production of beads.

Significant transformations in the use of shell beads took place over millennia within the region, with an increasing number of shell-bead types reflecting the growing complexity of Chumash society. In this chapter, I have focused on the long-term history of shell beads in their formal, spatial, and chronological variation, and how this reflects changes in their meaning, value, and power. The labor investments in the production of massive quantities of shell beads are enormous, yet the inhabitants of the Santa Barbara Channel chose to make this investment for economic and social reasons. The effort that was expended to produce shell beads and the network of alliances that was created through their distribution and use was of tremendous significance. Evidence of conflict among the Chumash at the large mainland settlements, which were prime locations for exchange and ritual

congregations, is in part likely tied to vying groups who wanted to be in the centers of distribution.

In mortuary rituals, beads were used in the commemoration of the dead and were part of the social memory of the groups that participated in these rituals. Shell beads were critical components of large feasting events and served as a medium for social reproduction, reinforcing the rights of elite lineages to retain large quantities of beads, both in life and in death. Some beads served as markers for the elite and remained in the hands of high-ranked lineages, while others were intended for export and exchange. The importance of beads extended well beyond their economic value in that they provided a means for social interactions and integration; they also served as signifiers of power that was collectively reinforced through ancestral lineages. The systems of bead production, exchange, and use involved many thousands of individuals over a large part of western North America. Transformations in these networks may have had far greater impact on the political, economic, and social developments of groups than environmental changes and therefore deserve more attention from archaeologists. I have only briefly touched upon a few aspects of the long-term history of the inhabitants of the Santa Barbara Channel region and their use of shell beads. As we develop deep historical perspectives based on empirical knowledge of the many societies that were involved in these networks, we can better understand the cultural production of the past.

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