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Lee M. Panich

Santa Clara University, lpnich@scu.edu

Rebecca Allen

Andrew Galvan

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The Archaeology of Native American Persistence at Mission San José

LEE M. PANICH

Department of Anthropology, Santa Clara University,
500 El Camino Real, Santa Clara, CA 95053

REBECCA ALLEN

Environmental Science Associates
2600 Capitol Ave., Suite 200, Sacramento, CA 95816

ANDREW GALVAN

Archaeor Archaeological Consultants
P.O. Box 3388, Fremont, CA 94539

Archaeological investigations at Mission San José in Fremont, California, have revealed large areas of the mission landscape, including portions of two adobe dwellings in the mission's Native American neighborhood. Preliminary synthesis of previous and ongoing research at Mission San José focuses on the implications of archaeological evidence for understanding the persistence of indigenous cultural practices under missionization. Materials considered include flaked stone artifacts, shell and glass beads, modified ceramic disks, and faunal and floral remains. Our findings suggest that native people rearticulated various practices within the mission, but did so in ways that were consistent with existing traditions and cultural knowledge.

THE PAST TWO DECADES have witnessed a sea change in how we understand Native American persistence in colonial California. Many foundational studies examined the ethnohistorical record, including the grim statistics captured by the missions' baptismal and death records, and concluded that the Franciscan institutions ultimately led to the dissolution of tribal societies that fell into their orbit (Cook 1976; Jackson and Castillo 1995; Milliken 1995). More recent research, in contrast, has revealed impressive archaeological evidence showing that many indigenous people living at missions continued certain aspects of their precontact lifeways despite the pressures of colonialism (Allen 1998; Arkush 2011; Lightfoot 2005; Panich et al. 2014; Skowronek 1998). This apparent dichotomy offers insight into the strengths and weaknesses of different lines of evidence, as well as changing research paradigms. It also presents an opportunity for archaeologists to engage with broader debates about the legacies of colonialism. Rather than seeing the California missions simply as places of cultural loss, it is possible to sift carefully the evidence for

insights into how Native Americans actively navigated the shifting social contexts of the colonial period.

It is a vast understatement to say that the mission period was a time of great change for California's indigenous people. In light of the demographic and social disruptions of the time, previous research has investigated how diverse native people created new layers of social identity based on the shared experience of living at particular missions (e.g., Lightfoot 2005). This process is not ethnogenesis, the formation of a new ethnic group (Voss 2015:659–660). Descendants of the native people associated with many California missions—and Mission San José in particular—today continue to identify with precontact polities despite the impacts of missionization. The continual modification of cultural practices and social identities documented for many colonial settings, including the California mission system, might better be thought of as a process of persistence (Panich 2013; Silliman 2009). Persistence, in this sense, describes the intentional rearticulation of certain practices and related identities in light of new economic, political,

and social realities. Our goal with this article is to use the archaeological analysis of materials from colonial-era deposits to highlight how native people built upon existing cultural knowledge within the constraints of missionization, effectively linking past and present in a dynamic but unbroken trajectory.

MISSION SAN JOSÉ

Mission San José was founded in 1797 near the Ohlone (Costanoan) village of *Oroyson* as part of a second wave of missions intended to fill in gaps in the existing mission chain. The fourteenth of twenty-one eventual Alta California missions, it was named *La Misión del Gloriosísimo Patriarca Señor San José* in honor of “the Most Glorious Patriarch Lord St. Joséph.” Construction began almost immediately on the first temporary buildings of the new mission complex, which native laborers built of wattle and daub with thatched roofs, known as palisade or *palisada* construction. Our ongoing research, and Andrew Galvan’s oral family traditions, suggest that these original structures are likely between the modern mission church and Mission Creek, some 250 meters to the north. Within a decade of the mission’s founding, the mission had enough native residents to begin construction of more permanent buildings. The new adobe church for Mission San José was dedicated on April 22, 1809. As with other Alta California missions, the native population gradually abandoned Mission San José during the era of secularization, beginning in the mid-1830s. The mission buildings and adjacent lands were finally sold in 1846, although religious services continued on a sporadic basis. Modern visitors to Fremont can see a reconstructed mission church and associated cemetery; only one building, currently in use as the museum, survives from the mission era.

Over the course of its existence, nearly 7,000 native people received baptism at Mission San José. Randall Milliken (2008) conducted a detailed demographic analysis of Mission San José’s sacramental registers, noting several distinct shifts in the ethnolinguistic composition of the mission’s native population. The first native individuals baptized at the mission were from nearby Ohlone villages. As a broadly defined ethnolinguistic unit, the Ohlone occupied a relatively large area that included the San Francisco Peninsula,

the eastern and southern shores of the San Francisco Bay, and extended south into the Santa Clara Valley. Ohlone-speaking people formed the majority of the mission population from its founding until 1810. Yokuts-speaking groups, originally from the Central Valley, began receiving baptism at Mission San José early on, eventually comprising a plurality of the mission’s population from 1815 until 1825. Plains Miwok speakers from northeast of the mission were the most populous group from approximately 1830 to 1840. The mission was also home to individuals and families from Patwin, Wappo, Nisenan, Coast Miwok, Bay Miwok, and Sierra Miwok groups (Milliken 2008:4).

Within these broadly distributed groups, the basic social and political unit was the village community, each of which maintained its own autonomous territory, a fact that likely structured initial social relationships within the mission estate. Indeed, historical evidence suggests that serious tensions existed between early converts and more recent arrivals at Mission San José (Sandos and Sandos 2014). One of the enduring difficulties of discussing the Native American experience within the California mission system is that ethnolinguistic affiliation is difficult to tease out in the archaeological record, despite the robust documentary evidence for the diversity of native groups in residence at particular missions (Allen 1998; Lightfoot 2005; Panich et al. 2014). Materially, group identity may be loosely reflected in the geographical origins of goods, such as shell beads or obsidian, that were traded widely throughout the region in precontact and colonial times. In examining the archaeology of indigenous persistence, then, it is important to consider both spatial and temporal variables, as the complex social and economic relationships that supported the conveyance of different materials were likely rearticulated over time and across the broader indigenous landscapes of central California.

HISTORY OF RESEARCH

Mission San José has been the site of several archaeological mitigation projects and academic field schools. These projects have investigated features ranging from the remnants of the mission church, to water conveyance systems, to the foundations of the adobe dwellings that housed indigenous families (Fig. 1). Many deposits

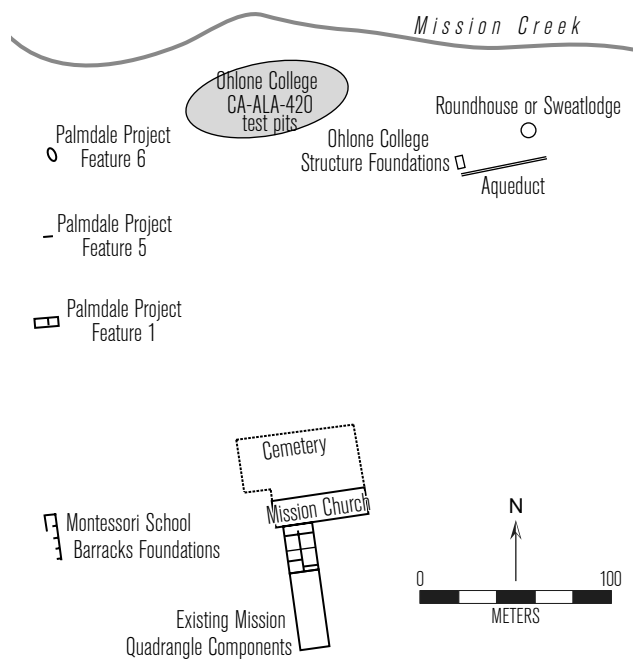


Figure 1. General layout of Mission San José, with archaeological features mentioned in text.

yielded an impressive array of materials that can be used to track how native people built on existing cultural traditions during the mission period.

Archaeological research at Mission San José began in 1949, when Arnold Pilling first recorded the site as CA-ALA-1/H. During the 1970s, field schools conducted by Hayward State (today, California State University East Bay) and Foothill College tested portions of the site near the location of the reconstructed mission church, though formal reports do not exist (Dietz 1983:6). Three additional sites, CA-ALA-419, -420, and -421/H, were recorded north of the main mission complex in 1979 and 1980. CA-ALA-419 consists of bedrock mortars and midden soils that were likely part of the precontact village of *Oroysom*. CA-ALA-420 includes surface concentrations of faunal remains (domesticated species), shell, and historic materials, while CA-ALA-421/H is a portion of the mission’s water conveyance system (Allen et al. 2018). Both of the latter sites fit within the broader mission landscape and thus could be considered loci of CA-ALA-1/H.

Beginning in 1980, archaeological investigations were undertaken as part of a plan to reconstruct the colonial-era adobe church and to move a wooden church that had been built on the site in 1869. Test excavations

around the wooden church revealed intact structural features, leading to further area exposure in 1981, after the wooden church was removed. This work exposed foundations of the colonial-era chapel, mid-nineteenth-century trash deposits, as well as six rooms that were part of the mission quadrangle (Dietz 1983). While most of the artifacts recovered from this project post-date the mission period, significant numbers of mission-era beads were recovered and will be discussed in further detail below.

In 1997, Archaeor Archaeological Consultants conducted monitoring for a housing development, leading to the discovery of two mission-era features, a 1,200-foot segment of aqueduct and portions of a structure, including a foundation and floor. The latter feature was subsequently explored by Ohlone College field schools in 1997–1998. In addition to metal, ceramic, and glass fragments, these excavations recovered mission-era shell and glass beads, as well as a silver Dutch guilder dated 1794. Test pits were also placed at CA-ALA-420, indicating the presence of precontact remains underlying the mission-era surface artifacts (Thompson 2013:52).

The foundations of another mission structure—an apartment-style dwelling for Native American families—were revealed during construction at a Montessori school west of the mission church in 2001–2002 (Thompson 2003). This building was part of the native *rancheria* that included several adobe dwellings, as well as nearby native traditional-style housing. The mitigation work conducted by Archaeor exposed four rooms, which were consistent with similar dwellings studied archaeologically at other California mission sites (e.g., Allen 1998; Deetz 1963; Farris 1991). The structure appears to have been constructed on top of an earlier refuse deposit comprised primarily of faunal remains. Test pits in each of the four rooms recovered a wide variety of artifacts related to indigenous life at Mission San José. These included: obsidian debitage, two charmstones and other ground stone artifacts, shell and glass beads, locally produced and introduced ceramics, and seven modified tile gaming pieces or “bottle stoppers” (Thompson 2003). The materials from this project have recently been stabilized at Santa Clara University in preparation for curation; they will be discussed in more detail below.

In 2007, activities related to the moving of the rectory (priest’s residence) and the planned construction

of a new church exposed a large (ca. 10-m. diameter) circular feature dating to the mission period. Archaeor excavated approximately half of the feature, revealing concentrations of domesticated faunal bone and mission tile. Other cultural materials were sparse, but construction monitoring and controlled excavation units within the feature yielded some finds more directly related to the mission's native population. These included objects of personal adornment such as glass beads, *Olivella* shell beads, abalone pendants, and a metal cross. Ceramics other than tile were uncommon, but excavators noted small quantities of locally produced earthenware and one modified ceramic jar stopper or gaming piece. Lithics included groundstone, chert, and obsidian. The feature itself is interpreted as a roundhouse, or sweat lodge, used by the native population for gatherings and religious purposes. Though no secondary features such as postholes were noted, mission documents confirm that a similar structure was in active use during the colonial period at Mission San José (Thompson and Galvan 2007:94–161).

Archaeological Investigations at Mission San José, 2015–2016

In 2015, Environmental Science Associates, Inc. (ESA), with support from Archaeor and archaeologists from local universities, began a program of archaeological mitigation in a mission-era native residential area owned by the Sisters of the Holy Family (Allen et al. 2018). Given the significance of the site and its association with the native communities (past and present) at Mission San José, this project stressed the importance of local community involvement. The Ohlone community continues to take great interest in the protection of their cultural, spiritual, and physical heritage. This is strongly expressed in a desire to preserve those elements of traditional Ohlone lifeways still visible on the landscape: archaeological deposits from villages and camps, spiritual and ceremonial locales, and particularly burial sites. When preservation is not possible, careful consideration of public outreach becomes more critical. In this case, the sensitive nature of the archaeological deposits precluded widespread public outreach efforts during the data recovery phase. Instead, the authors have constructed a research community, stressing collaboration between cultural resource management archaeologists, members of

the descendant community, and researchers from multiple local universities. The intent is to give the site further attention and research than archaeological mitigation typically affords, recognizing that to fully realize the research and interpretive potential of Mission San José, many voices and long periods of study are required.

Given that historical maps and Archaeor's previous work at the Montessori School indicated that the project likely included mission-era architectural features, ESA staff and Jun Sunseri (University of California, Berkeley) conducted a ground-penetrating radar (GPR) survey prior to excavation. Sunseri identified subsurface remains consistent with stone foundations (Byram and Sunseri 2018). Consultation with Richard Thompson of Archaeor suggested that the GPR survey identified the foundations of mission-era Native American residences in almost perfect alignment with the dwelling exposed during the earlier Montessori School project (Thompson 2003).

Initial testing of the apparent structural feature took place in 2015, revealing a poorly preserved stone foundation with shallow but artifact-rich interior deposits. Based on the results of those excavations, a plan of area exposure was developed for full mitigation. This work took place during the summer and late fall of 2016, resulting in the discovery of three mission-era features: the foundations of a two-room structure identified as a native residential adobe dwelling (Feature 1), an apparent field wall (Feature 5), and an adobe mixing pit filled with refuse (Feature 6). Each feature was archaeologically tested, with the bulk of the work focused on the remains of the two-room adobe dwelling. These excavations yielded the largest artifact assemblage yet from the Native American neighborhood at Mission San José. Materials included groundstone pestles, chert debitage, and over 1,100 pieces of obsidian; local and introduced ceramics; 85 modified ceramic disks; metal artifacts, including knives, buttons, and coins; and over 3,000 glass beads. Substantial quantities of faunal material were also recovered and are slated for analysis at San José State University, under the direction of Charlotte Sunseri.

Feature 1: Dwelling Foundations. Feature 1 was the primary focus of data recovery investigation, representing the foundation and partial floor or threshold of a mission-period structure (Fig. 2). Artifacts suggest Native American occupation during the late mission period (1810s–1830s). The prevalence of *teja* (roof tile) fragments

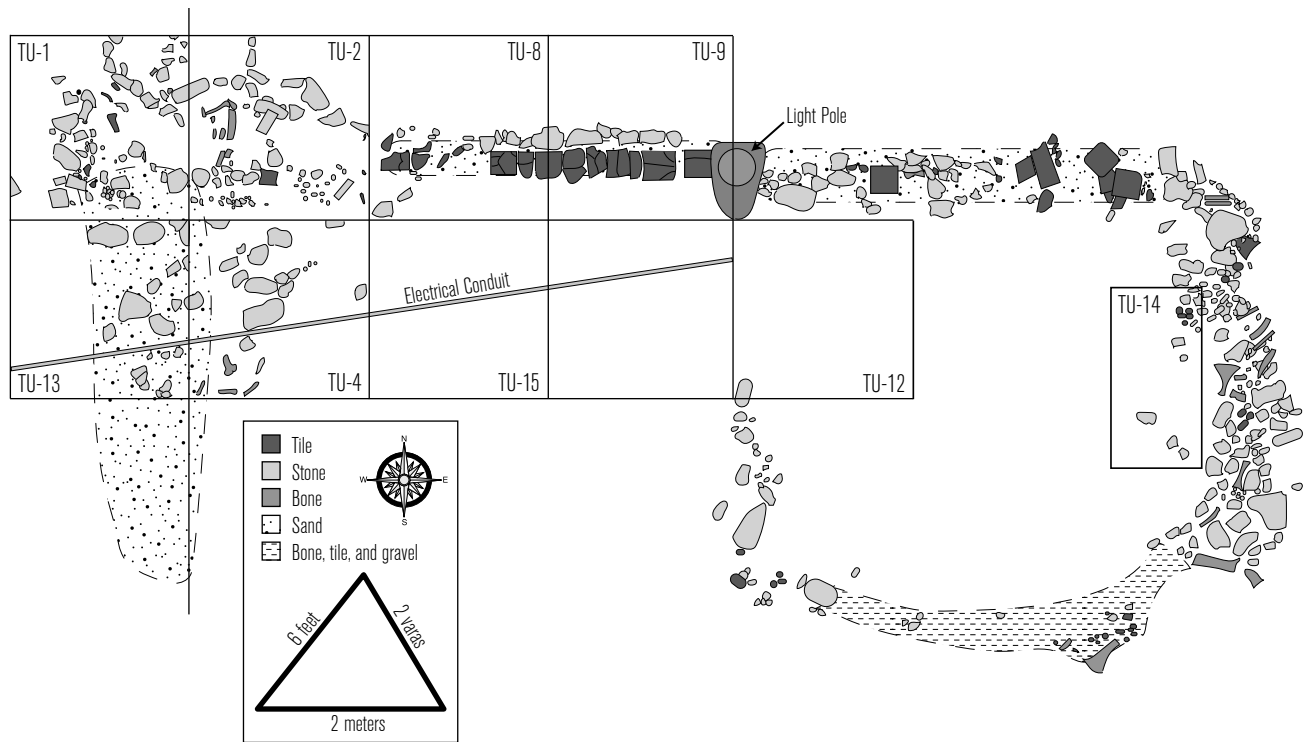


Figure 2. Foundations of adobe dwelling (Feature 1) excavated in 2015/2016.

indicates that the building was adobe and covered with roof tiles. The overall dimensions of Feature 1, approximately 13 meters east-west by 5.5 meters north-south for the two rooms excavated, are similar to the dimensions of the rooms revealed during the Montessori School project (Thompson 2003:34). The west walls of both structures are in nearly perfect alignment; however, the long axis of the Feature 1 structure runs east-west, which is perpendicular to the Montessori School structure to the south (see Fig. 1).

The construction of Feature 1 relied on silt-stone cobble/boulder-sized stones, set loosely together in sand. The surviving foundations are two courses wide, measuring roughly one *vara* (approximately 33 in.) in width, and are one to two courses high. At the north-eastern end of the feature, a single course of *ladrillos* (floor tiles) was set along the interior of the foundation, representing a possible floor or threshold. The top of the remainder of the foundation had been disturbed, likely due to disking and leveling in recent decades. Andrew Galvan's father was a caretaker for the Sisters of the Holy Family, and he remembered this area being intermittently disked to keep weeds in abeyance. The southern and

western portions of the foundations are mostly absent (likely due to disturbance of the archaeological record), but a roughly linear alignment of clean sand, which is also associated with the rest of the foundations, completes the structure's outline. It appears that the stone from these areas was purposefully removed at some point in the past.

Sites of this nature are typically excavated stratigraphically, often using the Harris Matrix system. From test trenching, and the first phase of hand excavations carried-out in 2015, it was apparent that the site lacked visible stratigraphy as a result of the high clay content of the soil and the previous disking activity. As a consequence, units were excavated in 10 cm. arbitrary levels; most units measured 2 × 2 meters, laid out to ensure excavation of both interior and exterior areas of the building. Data recovery resulted in the area exposure of the entire feature, aside from one interior portion that was previously disturbed by a light pole and related subsurface utilities. Soils from all controlled excavations were wet-screened through 1/8-in. mesh (see Allen et al. 2018 for details). Unlike excavations at nearby Mission Santa Clara, where similar adobe dwellings have yielded few cultural materials from interior deposits

(e.g., Panich et al. 2014), the exposure and excavation of Feature 1 resulted in the recovery of a high quantity of both ecofacts and artifacts. We explore this discrepancy in more detail below.

Feature 5: Cobble Alignment. Feature 5 was situated northeast of the adobe dwelling foundation, and was partially visible on the modern ground surface as a series of cobbles. Limited excavations were conducted to test the feature, but the lack of associated surfaces or artifact concentrations suggests that it was not architectural in nature. Once exposed, Feature 5 proved to be a simple east-west-trending alignment of un-mortared stone, possibly the remnants of a field wall. It consisted of two-courses of irregularly shaped rocks, measuring approximately one *vara* wide and one course high. The feature appears to have been disturbed on either end, with the surviving length measuring approximately six meters long. While mission-era artifacts were recovered from the excavation of Feature 5, they were likely in secondary context due to the disking activities previously mentioned.

Feature 6: Adobe Mixing Pit. Feature 6 is a large mission-period refuse pit, filled primarily with mammal bone. The feature was discovered during monitoring for utility trenching, allowing for visual confirmation of artifact-rich deposits in the utility trench sidewall. A single 1×1-meter unit was placed in the northern section of the affected feature, where rich deposits were indicated. It was excavated in 10 cm. levels, down to 150 cm. below the modern ground surface. The first 40 cm. included a mix of American-period and mission-era artifacts. Below 40 cm., recovered artifacts were all from the mission period, including obsidian, *tejas*, glass fragments, cut nails, mammal bones, and bird bones. Although the excavated portion of the feature had been slightly disturbed by more recent American-period activities, the extant stratigraphy demonstrated filling events that alternated between dense deposits of animal bone, much of it articulated, and nearly sterile layers of clay-loam. We suspect this stratigraphic patterning reflects a desire to minimize odors from decaying animal carcasses.

Our interpretation of this feature is that it was originally an adobe mixing pit, possibly excavated to mix clay and soil for the Native American adobe houses to the south. Adobe-brick making is done much the same way today: a large pit is excavated and clay is mixed with local soils and binders such as straw. After being

thoroughly mixed with water for days, the soil is removed and placed into brick molds for drying (Webb 1952:105). During the mission period, adobe mixing pits became a convenient locale for refuse as the features were filled back in (Ginn 2005).

SEEING PERSISTENCE

Previous research at Mission San José has explored the architecture of the adobe mission church and related quadrangle complex, the mission's water conveyance system, and at least one mission outbuilding. Archaeological investigations have also revealed the contours of the Native American *ranchería*, including portions of two different adobe dwellings, a refuse-filled pit, and a native-constructed roundhouse. Taken together, these features and the materials recovered from them offer a sizable dataset related to Native American life in the mission period. While the complex history of archaeological research at Mission San José precludes a complete synthesis at this juncture, enough data are at hand to begin to identify patterns in Native American cultural persistence and land use at Mission San José. We focus our discussion on the materials recovered in 2015–2016, with additional consideration of artifacts and ecofacts from previous projects, particularly those conducted by Archaeor since 2001.

Flaked Stone Artifacts

One of the most significant findings from recent work at Mission San José is the sheer quantity of obsidian artifacts recovered from native *ranchería* contexts. For example, the Montessori school excavations and the roundhouse feature excavated by Archaeor yielded 35 and approximately 45 obsidian artifacts, respectively (Thompson 2003; Thompson and Galvan 2007). At the time of original excavation, these projects each represented the largest obsidian assemblages that had been yet reported for any central California mission site, including missions Santa Cruz (Allen 1998), San Francisco (Ambro 2003), and San Juan Bautista (Farris 1991). The 2015–2016 excavations at Mission San José yielded 1,107 obsidian artifacts, greatly exceeding the quantity of obsidian recovered from other large-scale mitigations at California mission sites (Allen et al., this volume; Allen et al. 2010; Dietler et al. 2015). Recent

Table 1

**OVERVIEW OF OBSIDIAN ASSEMBLAGE FROM
2015–2016 EXCAVATIONS (FROM PANICH ET AL. 2018)**

Artifact Type	Count	Percent
Projectile Point	18	1.6
Biface	10	0.9
Flake Tool	111	10
Core	25	2.3
Tinkler	1	0.1
Flakes		
Decortication	335	30.2
Interior Percussion	372	33.6
Biface Thinning	68	6.1
Pressure	59	5.3
Bipolar	2	0.2
Indeterminate and Shatter	108	9.7
Total	1,107	100

Note: all categories include fragments

multiyear data recovery work at Mission Santa Clara has produced a larger obsidian assemblage, but it is worth noting that the Santa Clara projects cover a much larger area and typically employ 1/16-in. mesh for wet screening (Panich 2016).

An enduring question in the archaeology of colonial California, and of mission sites in particular, is whether Native Californians maintained regional networks of obsidian conveyance, or if such supplies were effectively cut off by the founding of colonial establishments (Allen 1998:79; Bamforth 1993:68; Hull and Voss 2016; Panich 2016). Panich et al. (2018) provide an overview of the obsidian assemblage collected from the native housing at Mission San José, with an eye toward resolving these issues. They focus on the mechanisms by which native people living at the mission acquired obsidian by an examination of three lines of evidence: technological analysis, geological provenance, and hydration dating. Taken together, their results indicate that the indigenous residents of Mission San José obtained obsidian through extant regional networks, as well as through the reuse of obsidian that had previously been deposited in precontact archaeological sites.

Technological attributes are a key issue in distinguishing between the acquisition of obsidian via regional networks and the recycling, or scavenging, of arch-



Figure 3. Obsidian projectile point recovered during 2015–2016 excavations.

aeological obsidian. Interior percussion flakes and decortication flakes dominate the obsidian assemblage from the 2015–2016 excavations, together comprising almost 64% of the total. In contrast, biface thinning and pressure flakes provide just 11.4% of the total obsidian assemblage. Cores were relatively common, and flake tools far outnumbered bifaces and projectile points (Table 1). These patterns suggest that obsidian arrived at Mission San José as relatively unmodified nodules, which were then reduced on site for various cutting tasks; the production and maintenance of formal tools was likely less common (Panich et al. 2018:5). This contrasts with what is known about obsidian conveyance in the Late Period, when obsidian arrived in the southern San Francisco Bay region as finished tools (Milliken et al. 2007:117). Accordingly, Late Period sites in the area typically contain much higher proportions of biface thinning flakes but very few cores or decortication flakes (e.g., Lentz 2012). The 18 obsidian projectile points found at Mission San José include common Late Period and historic-era types, including Stockton series ($n=6$; Fig. 3), corner-notched ($n=4$), and side-notched ($n=3$) points (e.g., Hudson and Bates 2015; Hylkema 2015). The latter two groups generally conform to the Rattlesnake and Desert Side-Notched point clusters, respectively (Justice 2002); an additional five obsidian points and point fragments were non-diagnostic.

Taken together, the data from Mission San José and regional precontact sites suggest two things. First, it appears that Late Period obsidian exchange networks changed during the colonial period, as indicated by the shift in the long-distance conveyance of bifaces

or finished tools to nodules or flake blanks. Second, the technological differences between mission-era and precontact assemblages suggest that scavenging was not a major strategy for obsidian acquisition, since recycled materials would necessarily represent the same or more advanced stages of reduction as the “source” artifacts (Panich et al. 2018:6).

Provenance analysis and obsidian hydration dating both support these interpretations. Panich et al. (2018) conducted an x-ray fluorescence study of all 1,107 obsidian specimens, revealing a heavy reliance on obsidian from the Napa Valley source area (91.4%, n=1,012), with a smaller quantity of artifacts manufactured from Annadel obsidian (8.0%, n=88). An additional seven artifacts could not be assigned to a source, but showed chemical similarities to minor sources known to occur in the North Coast Ranges. These results suggest enduring connections between native people at Mission San José and the northern San Francisco Bay region, where many of them originated. Surprisingly, no obsidian artifacts matched geological sources in the eastern Sierra Nevada, despite the presence of many Central Valley and Sierra foothills groups at the mission in its later years. The lack of eastern Sierra obsidian is also evidence against large-scale scavenging of obsidian from local archaeological sites by native people at the mission, as artifacts from those sources generally comprise 6–15% of obsidian in precontact sites in the immediate area (Byrd et al. 2017:13–2).

Obsidian hydration analysis on a sample of 100 artifacts from Mission San José returned 88 specimens with measurable hydration rims, with a median measurement of 1.3 microns. Of those, roughly 75% produced readings consistent with the early historic period (see discussion in Panich et al. 2018:7). Several artifacts returned larger hydration readings, suggesting that some recycling of archaeological obsidian took place during the mission period. Given the differences in the technological attributes and geochemical source profiles noted between Mission San José and local precontact sites, such scavenging may have initially occurred closer to the geological source areas north of San Francisco Bay. In fact, it is possible that artifacts with larger hydration rims could represent the latest phase in obsidian conveyance if native people had to resort to archaeological deposits once the Franciscans established a permanent presence in

the North Bay with the founding of Mission San Rafael in 1817 and Mission San Francisco Solano in 1823.

Along with the large obsidian assemblage, archaeologists have recovered other flaked stone artifacts from Mission San José. The 2015–2016 excavations produced 153 artifacts made from cryptocrystalline silicates (CCS), mostly chert and chalcedony. They included a reworked gunflint and two projectile points: one serrate triangular point similar to those recorded ethnographically and recovered from Mission Santa Clara (Hudson and Bates 2015:81; Panich 2016:527) and a fragment of a stemmed point that was probably recycled from earlier deposits. The collection also includes 15 flakes of other materials such as quartz and quartzite, as well as 83 specimens of flaked bottle glass, primarily colonial period olive colored or “black” glass. Chert is prevalent in the assemblage associated with the roundhouse feature (Thompson and Galvan 2007), while recent re-inventory of the Montessori School assemblage noted five CCS flakes and one specimen of flaked bottle glass. Detailed analysis of the CCS artifacts and other lithic materials is pending, but most—with the exception of Monterey chert—would have been available in the immediate area surrounding the mission. Bottle glass and gunflints are also “local” raw materials, since native people likely acquired them within the mission establishment.

Based on this evidence, it is clear that native people living at Mission San José did not abandon flaked stone technologies, but continued using a variety of lithic and glass materials for cutting tasks despite the presence of iron implements (as noted below, iron knives were recovered from both adobe-dwelling excavations). Obsidian, moreover, has been found in much higher quantities than locally available materials such as Franciscan chert or bottle glass in the mission’s native residential areas, even though obsidian raw material originated farther than 100 km. away in the North Coast Ranges. This suggests that obsidian was especially prized in the mission *ranchería*, where indigenous people imbued it with significance beyond its functional utility. In this light, obsidian may have signaled an individual’s or family’s continued connections to people and places outside the mission walls. Given that many of the native inhabitants of Mission San José originally hailed from the regions north of San Francisco Bay, they may have obtained obsidian tools or raw material while on *paseo*,

Table 2

OVERVIEW OF SHELL AND GLASS BEAD ASSEMBLAGES FROM SELECTED PROJECTS AT MISSION SAN JOSE

	Mission		Roundhouse		Montessori		2015–2016	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Shell total	103	15.3	6	23.1	19	23.5	38	1.2
Clamshell disk	93		0		8		24	
<i>Olivella</i> Class H	9		6*		10		14	
<i>Other</i>	1		0		1		0	
Glass total	570	84.7	20	76.9	62	76.5	3,266	98.8
<i>Compound white</i>	449		17		48		1,971	
Compound red	92		0		5		329	
<i>Others</i>	29		3		9		966	
Bead total	673	100	26	100	81	100	3,304	100

approved furloughs from the mission, or perhaps as fugitives. An account from 1837, for example, describes a group of native people from Mission San José—who were travelling on a pass—engaging in trade with unbaptized residents of autonomous villages along the Sacramento River (Pierce and Winslow 1969:38). Taken together, the flaked stone tools from Mission San José represent not only the continuation of lithic technologies into the colonial era, but also the ability of native people to acquire and use lithic materials within the constraints of the mission system.

Shell and Glass Beads

As at other California mission sites, beads are an artifact class commonly recovered in archaeological projects at Mission San José. Native Californians used various types of shell beads for millennia, and glass beads were introduced by the Spanish and other Euroamericans during the colonial period. Although often treated separately in archaeological reports, evidence from throughout the region suggests that indigenous people used shell and glass beads in much the same ways: for personal adornment, as currency or status symbols, and ultimately, as grave goods or as offerings in other forms of mortuary ceremonies (Panich 2014; Robinson 2013). As demonstrated by previous research, beads—both shell and glass—formed the basis of economic power in the indigenous value system in colonial California (Allen 1998:95). Viewed this way, the presence of glass

beads represents not a break with the past, but rather a readjustment of existing traditions in the context of changing economic and social realities.

Table 2 enumerates the bead assemblages from both previous work and more recent excavations. Generally speaking, shell beads are less common than glass beads across the site, but both clamshell disks and *Olivella* Class H beads are present. No disk beads made from abalone epidermis have yet been recovered, but it is worth noting that the roundhouse feature contained one lot of 20 abalone pendants and pendant fragments, corresponding to Gifford's O1aIII or Q1aIII types (Thompson and Galvan 2007). The glass beads recovered from Mission San José encompass several distinct types, with the most common being compound white beads.

The largest bead assemblage yet collected from Mission San José comes from the 2015–2016 excavation of the three mission-era features, yielding more than 3,300 beads (Fig. 4; see Table 2). Most of the glass beads from the 2015–2016 excavations were recovered from Feature 1, the dwelling foundation (87%, n=2,843). This feature was much richer in beads and other certain materials, such as obsidian, than the rooms tested for the Montessori School project. Although sample size and recovery methods are certainly relevant factors, the discrepancies in archaeological materials across the mission's residential area may relate to internal status divisions within the mission's native community (cf. Panich et al. 2014).

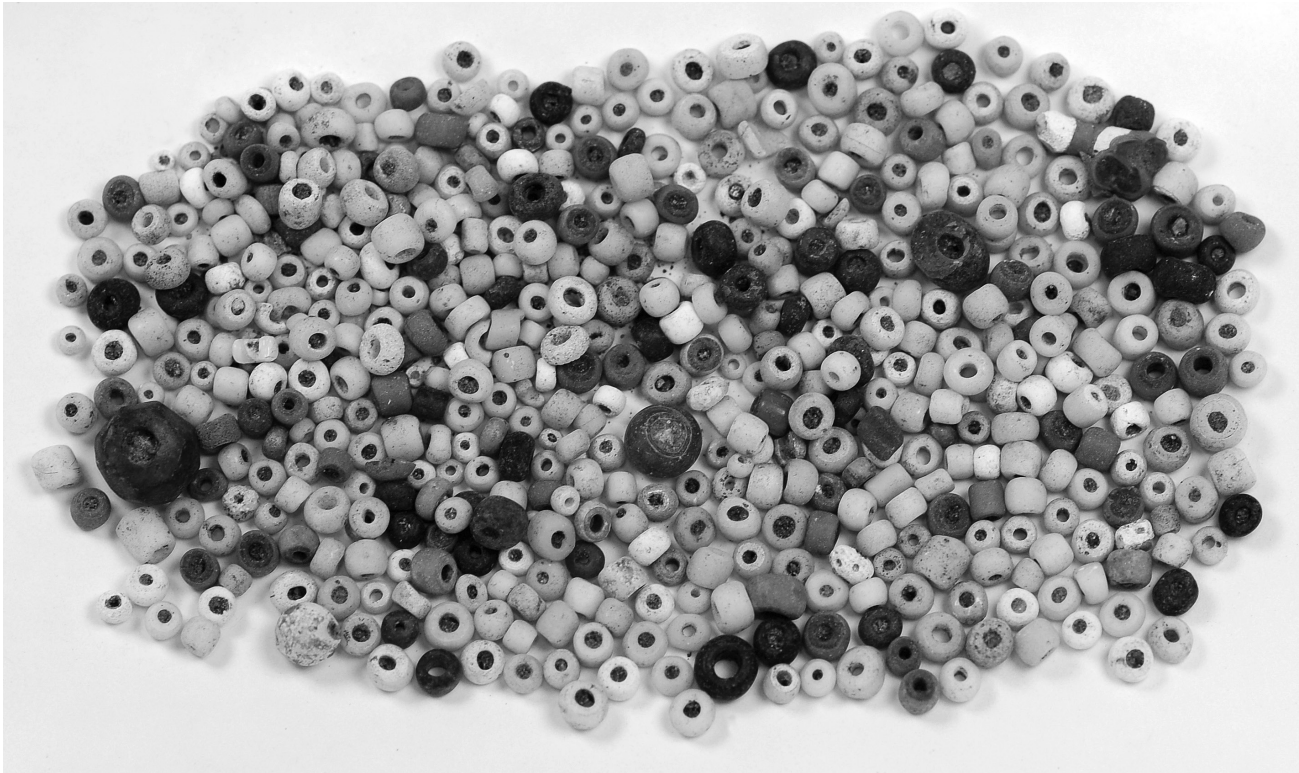


Figure 4. Group of glass beads from a single context excavated in 2015-2016.

In comparison to other nearby missions, several notable patterns emerge from the Mission San José bead data. One is the prevalence of glass beads across all excavation contexts, which may be a temporal indicator. At nearby Mission Santa Clara, for example, only the post-1825 cemetery has thus far revealed similar percentages (ca. 95%) of glass beads (Skowronek and Wizorek 1997; and see Hylkema 1995). The high percentage of glass beads in the later cemetery at Mission Santa Clara is in keeping with the dates of occupation for the adobe dwelling excavated at Mission San José in 2015–2016, which native people occupied at least into the 1820s based on the presence of a phoenix button and temporally diagnostic imported ceramics (Allen et al. 2018). With regard to shell beads, there may be some chronological or cultural significance to the relative proportion of *Olivella* and clamshell disks, since clamshell disk beads were not used in the Ohlone homelands of the southern San Francisco Bay region prior to the mission period. Further, Late Period clamshell disk-bead manufacturing seems to have been limited to a relatively discrete region stretching from Point Reyes to the Sacramento River, including

portions of Marin, Sonoma, and Solano counties, where some native residents of Mission San José originated (Rosenthal 2011).

The overall density of glass beads recently recovered from Mission San José is somewhat unusual for indigenous dwellings at central California missions. At Mission Santa Clara, for example, most large bead assemblages appear to have been intentionally deposited, either with burials or in features used in mourning ceremonies, whereas incidentally deposited bead assemblages are relatively small (Panich 2014). Excavations at Mission Santa Cruz yielded more than 1,100 glass beads from in and around adobe structures occupied by native people (Allen 1998:70), although that figure represents several distinct rooms, compared to the single two-room structure that produced most of the beads at the recent Mission San José excavation. As with the intra-site differences in the densities of high value materials, the most parsimonious interpretation for this pattern may simply be that the occupants of this particular structure enjoyed higher status and/or access to goods than did other native people living at area missions. Future research may help clarify this issue.



Figure 5. Modified teja disks from the 2015-2016 excavations (after Panich et al. 2017).

A final consideration regarding the glass bead assemblages from Mission San José is the color of the beads. White glass beads (including compound white, simple white, and off-white) dominate the assemblages considered in this study. Out of the 3,918 glass beads recovered from all four projects included in Table 2, 76.4% ($n=2,995$) fall into these various white categories. Previous researchers have noted similarly high percentages of white and off-white glass beads at colonial-era sites in the San Francisco Bay region, suggesting that Native Californians in this region particularly valued white glass beads, likely due to their similarities to shell beads. For example, 65.9% of the glass beads recovered from various projects at Mission Santa Clara were white or off-white (Panich 2014). White was also the most prevalent color glass bead recovered from the Petaluma Adobe (Silliman 2004:147) and the adobe dwelling at Mission Santa Cruz (Allen 1998:73). In contrast, blue, green, and purple are the most common colors in major glass bead assemblages from mission-period sites in the Chumash-Tongva region of southern California. There, white glass beads are much less common, perhaps because those areas remained important centers of shell bead production well into the colonial period (Ross et al. 2016). These patterns suggest that the colors of glass beads seen in archaeological assemblages likely reflect the preferences of indigenous people.

Modified Ceramic Disks

All of the features excavated at Mission San José that relate directly to the mission's native inhabitants—the

roundhouse, the adobe mixing pit, and the two adobe-dwelling foundations—yielded small disks created from modified roof tiles, or *tejas*, totaling almost 100 individual artifacts (Allen et al. 2018; Thompson 2003; Thompson and Galvan 2007). These disks can be separated into two overarching categories: those that are perforated and those that are not. Archaeologists working in California mission contexts usually interpret perforated disks as spindle whorls; unperforated disks are often separated by size, with large disks classified as vessel lids and smaller disks often termed gaming pieces (e.g., Allen 1998:85–86; Farnsworth 1987:406–409, 416–418; Farris 1991:34–35; Panich 2015:118–119). The modified ceramic disks recovered by Archaeor from the roundhouse feature and the adobe dwelling unearthed for the Montessori School project were all originally interpreted as vessel lids (Thompson 2003; Thompson and Galvan 2007).

Panich et al. (2017) recently synthesized data on the 92 ceramic disks from the 2015–2016 excavations ($n=85$) and Montessori School project ($n=7$) (Allen et al. 2018; Thompson 2003). Twelve of those disks were perforated; two were made of baked clay while the remainder were modified *tejas*. The other 80 were all unperforated disks created from ground *teja* fragments (Fig. 5). Given that 85 percent of the unperforated disks measured less than 5 cm. in diameter, coupled with the general lack of ceramic vessels with small orifices in Mission San José assemblages, it is likely that the small, unperforated, modified ceramic disks represent gaming pieces used by Native Californians. This interpretation is consistent with the previous studies from colonial California referenced above.

There is good evidence for the use of modified ceramic disks as gaming pieces by indigenous people (and enslaved Africans) across the Americas (Panich et al. 2017:3–4). However, previous research has offered few details about how Native Californians used such artifacts in mission contexts. Three attributes of the unperforated *teja* disks offer possible clues to their use. First is the size of the disks—the median diameter of the unperforated disks recovered from Mission San José is 2.6 cm., which is nearly identical to the diameter of walnut shell dice recorded ethnographically in central California (Culin 1907:141). The second is the fact that *teja* typically exhibits two distinct surfaces, one sandy and one smooth, resulting from the techniques used in the production of mission roof tiles. Previous reviews of Native American games indicate that nearly all traditional dice were two-sided (Culin 1907; DeBoer 2001), including the walnut-shell dice game. Lastly, Native American dice were typically used in sets, which is consistent with the recovery of multiple disks from particular excavation contexts across the Mission San José *ranchería*. Based on these observations, Panich et al. (2017) suggest that native people at Mission San José likely used the unperforated disks as two-sided dice.

This interpretation has various implications. Of particular importance is that gaming may have facilitated individuals' negotiation of the sometimes fractious politics of the mission *ranchería*, where members of multiple ancestral village communities lived together (Milliken 2008; Sandos and Sandos 2014). Over 90 percent of the unperforated disks recovered from excavation contexts were from within rooms of the two adobe dwellings, suggesting not only that gaming was an important pastime but also that native people enjoyed relative autonomy within their own neighborhood to partake of activities typically considered as “vices” by the Franciscans (see Geiger and Meighan 1976:105–108). Lastly, women were closely associated with most dice games from Native California, indicating that the *teja* disks may be related to women's leisure activities, which are particularly underreported in the documentary record.

Botanical and Faunal Remains

Of the material classes recovered from Mission San José, botanical and faunal remains have to date received the least amount of formal analysis and interpretation.

Still, the extant data suggest possible avenues of future research. One important area of consideration is the role of wild plant and animal species in the diet and economies of native people living at California missions. Previous syntheses have suggested that native people used wild species to augment the imposed diet of beef and domesticated grains, which proved to be unreliable at times (Skowronek 1998:697; and see Farris 2014). The availability of native and wild species, though, was tempered by the ecological transformation of the environment near mission lands. The colonial imposition of agriculture and animal husbandry—including non-native crops, imported domestic animals, and the weeds that accompanied them—had an immediate effect on native vegetation. While native trees fared somewhat better, local grasses and the many wild species that depended upon them gave way to the introduced species. If they did hunt wildlife or gather, the mission's native population would have had to go further and further afield to find these traditional food sources as the mission period progressed (Allen 2010a).

The 2015–2016 data recovery effort by ESA is the only project at Mission San José for which paleoethnobotanical data are available. PaleoResearch identified pollen and macrofloral remains from two small (21.) soil samples: one each from Feature 1 and Feature 6 (Cummings and Kovacic 2017, in Allen et al. 2018). Analysis of the soil sample from Feature 1, collected from the presumed floor level of the adobe dwelling foundation, included macrobotanicals, pollen, and phytoliths. Together, the evidence is strongly suggestive of the processing and consumption of domesticated cereals. Phytolith data indicate the presence and threshing of wheat, while *Zea mays* remains, including kernels and cupules, comprise the majority (61.5%, n=8) of the small macrobotanical sample. *Cucurbita* pollen and a single *Cucurbita* seed suggest the cultivation of cucurbits at the mission. The use of wild plant species within the adobe structure is not supported by the data at hand, though the pollen sample offers evidence of the mixed native and non-native flora in the mission's surroundings.

The sample from Feature 6, the adobe mixing pit, was collected at 90–100 cmbs and exhibited a much larger quantity and more diverse array of macrobotanicals (pollen and phytolith analyses were not conducted on this sample). As with the adobe dwelling, domesticated

cereals were common. In order of prevalence within the entire macrobotanical sample from Feature 6, the cereals included wheat (*Triticum*, 30%, n=395 [glume and caryopsis $\geq 2\text{mm}$.]), barley (*Hordeum* 5.2%, n=68 [caryopsis $\geq 2\text{mm}$.]), maize (*Zea mays*, 1.9%, n=25 [kernels and cupules]), and oats (*Avena*, <1%, n=3 [caryopsis $\geq 2\text{mm}$.]). *Cucurbita* (3.2%, n=42) seed fragments and a single lentil seed (*Lens*) were recovered as well. Feature 6 also exhibited an array of macrobotanical remains from native species that would have had dietary or economic importance for Native Californians living at the mission, including tarweed (*Madia*, 2.3%, n=30), other Asteraceae (1.1%, n=14), redmaids (*Calandrinia*, 1.9%, n=25), mustards (Brassicaceae, <1%, n=7), goose-foot (*Chenopodium*, <1%, n=3), dock (*Rumex*, <1%, n=2), and others. The limited botanical samples at hand preclude detailed interpretations, including inferences regarding the seasonality of wild plant use, but the overall pattern is similar to that at other California missions (Allen 1998:42–54; Allen 2010a; Popper 2016).

With regard to faunal studies, the most complete dataset comes from the analysis of over 60 kg. of faunal remains excavated from the adobe dwelling and underlying strata at the Montessori School project (Thompson 2003). Like other mission sites, domesticated fauna—and *Bos taurus* in particular—comprise a large percentage of the assemblage by number of identified specimens (NISP). Mule deer (*Odocoileus hemionus*) contributed six percent of the identifiable remains from the excavation, suggesting that wild fauna remained an important source of meat for mission inhabitants. The Montessori School project also identified several wild species that may have had non-dietary importance for Native Californians living at Mission San José, including bear, hawk, and golden eagle (Thompson 2003:110). Fewer faunal remains were recovered from the roundhouse feature excavated in 2007, but similar patterns prevailed. Out of the 273 specimens analyzed, bovid remains were predominant, but roughly seven percent were deer (Thompson and Galvan 2007:150). Excavations from the adobe dwelling and associated features from 2015–2016 produced a large number of faunal remains, the analysis of which is pending. Observations from the field include multiple raptor talons from Feature 6, as well as one fragment of incised bird bone (Fig. 6) and a stingray barb from Feature 1.



Figure 6. Incised bird bone tubes from the Montessori School project (right) and 2015–2016 excavations (left).

The preliminary botanical data, combined with the faunal data from previous projects, confirm the reliance of the missions on grain agriculture and large cattle herds to feed their native populations. While our analysis is ongoing, these data sets also suggest that wild plants and animals remained important to native people living at Mission San José. The prevalence of deer across two spatially and functionally discrete features, for example, points toward a small but significant role for wild game for mission residents. In addition, the striking differences in botanical data between Feature 1 and Feature 6 may attest to the ways in which wild plant species were used—perhaps as supplements prepared and consumed in communal areas. Some species, particularly birds, may have had symbolic or ritual importance rather than caloric value. Indeed, the use of wild species for food, medicine, or regalia may have reinforced social identity for members of the mission community who upheld traditional cultural practices and beliefs (Cuthrell et al. 2016:459; Lightfoot 2005:112–113; Popper 2016:21). Wild species may also have served as a proxy for the ability of native people to engage with landscapes beyond the mission walls, as laborers, fugitives, or through the Franciscan policy of *paseo* (Schneider and Panich 2014). Elsewhere, Allen (1998:68) has noted how both



Figure 7. Charmstone from the Montessori School project.

the documentary and archaeological evidence suggest two native residential dietary patterns: one dictated by mission provisions, and the other a continuation of native patterns, perhaps in direct subversion of the acculturative intent of the mission fathers.

Other Materials

Numerous other materials have been recovered from Mission San José that illuminate different aspects of indigenous life there, such as quantities of asphaltum recovered from both adobe dwelling excavations. While we do not have sufficient space to discuss them all in this article, below are some further examples that may prove fruitful for future analyses.

Groundstone. Excavations in the *ranchería* have produced a large quantity of groundstone artifacts. Most notable are two complete charmstones found at the adobe dwelling tested for the Montessori School project (Fig. 7). That project also yielded two pestles and one hammerstone (Thompson 2003). The roundhouse feature contained 46 groundstone artifacts, including 18 pestles and 10 manos, among other implements (Thompson and Galvan 2007). The 2015–2016 excavations produced an array of groundstone artifacts. They included a charmstone fragment, six pestles, and two flat ovoid groundstone disks. Excavators also collected numerous elongated manuports with the approximate shape and dimensions of charmstones; the cultural significance of these objects, if any, is unclear. Aside from the

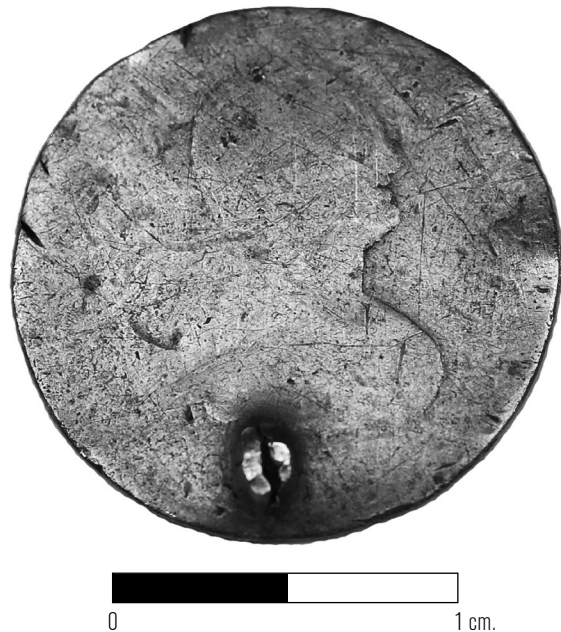


Figure 8. Spanish-American 1/2-Real coin from the 2015–2016 excavations.

charmstones from the Montessori project, nearly all the locally produced groundstone artifacts from Mission San José have been characterized as gneiss; most projects have also recovered small quantities of imported vesicular basalt grinding implements. Pestles and other groundstone tools are commonly recovered from other San Francisco Bay missions, suggesting some continuities in the processing of foodstuffs across the region (Arkush 2011:73).

Metal Objects. Metal is another common material encountered at Mission San José. From *ranchería* contexts, archaeologists have noted several cuprous buttons, including phoenix buttons from both adobe dwelling excavations (e.g., Thompson 2003:67). Such buttons are common at colonial-era indigenous sites throughout the Pacific Coast of North America. The most recent Mission San José excavations also yielded two silver coins. One is a Spanish-American 1/2-Real, dating to the 1790s–1800s (G. Farris, personal communication 2017). It is perforated, either to serve as an ornament or perhaps to be carried securely (Fig. 8). The other coin is almost completely worn and could not be identified. Metal implements are also present, including iron knives recovered from both dwelling excavations. The presence of metal knives from Feature 1 is particularly interesting

in light of the large quantity of obsidian found there. Lastly, both dwelling sites contained metal objects that are likely associated with mission vaqueros, including a spur shank recovered from the 2015–2016 excavations. As discussed elsewhere, native vaqueros enjoyed relatively high status and mobility within the California missions (Panich 2017).

Ceramics. As with any California mission site, the assemblages from Mission San José include a sizable quantity of imported and locally-made ceramics. Ceramic forms include both industrial tiles, such as *tejas* and *ladrillos*, and hollow vessels like bowls and jars. Formal analysis of the ceramics from the 2015–2016 mitigation is pending, but the assemblage is consistent with other mission-era assemblages from the region. Among the various ceramics found in the testing for the Montessori School project were large portions of a British black-on-white serving platter transfer printed with the Tuscan Rose pattern. Thompson (2003:90–91) dates this piece to 1814–1837. Skowronek et al. (2009) included plainware ceramics from Mission San José in their Instrumental Neutron Activation Analysis (INAA) study of Alta California ceramics, which indicated local production for all but one of the analyzed sherds. This pattern suggests that native people at Mission San José developed an independent ceramic production tradition, which in turn may have facilitated some social cohesion among artisans (cf. Peelo 2011).

DISCUSSION AND CONCLUSIONS

At the broadest level, the archaeology of Mission San José is illuminating the full extent of the mission landscape. As at other mission sites (Allen 2010b), area excavation has been an important strategy at Mission San José, leading to the identification of architectural remains, water conveyance features, and pits. Work at Mission San José also demonstrates that GPR is a powerful tool for anticipating mission-era subsurface deposits prior to or in lieu of excavation (Byram and Sunseri 2018; Sunseri and Byram 2017). By revealing heretofore hidden aspects of the mission grounds, archaeologists can also provide new information about indigenous land use and native-constructed buildings such as the roundhouse excavated by Archaeor. This structure may have been explicitly mentioned in the death records of two native men who

died in 1818, apparently in the *temescal*, or sweat lodge, at Mission San José. In a telling window into the social dynamics of the mission, the Franciscan who entered the records lamented the decision to allow the construction of the *temescal* in the first place (Mission San José Deaths #2238–2239, quoted in Thompson and Galvan 2007:158). Features such as these were likely present at missions throughout California but have been erased from the modern mission landscape, which instead perpetuates a Eurocentric view of California's complex history (Kryder-Reid 2016). By employing a holistic archaeological approach to the mission landscape, we can better identify such features and understand their importance to the native people who constructed them.

The materials recovered from the two adobe dwellings also attest to the strategies used by particular families and individuals to navigate the colonial world. Research across the region suggests that the residents of adobe apartments were likely long-tenured and/or high-status members of the mission population (Allen 1998; Farris 1991; Lightfoot 2005; Panich et al. 2014). At Mission San José, this notion is supported by the imported materials such as glass beads, ceramics, and vaquero gear found in the two dwelling excavations; yet those same projects also recovered large quantities of obsidian, as well as other objects such as charmstones, that would have been associated with high status within the indigenous world. Rather than signaling acculturation, status within the mission hierarchy may instead have allowed native people to maintain important cultural traditions and access to the materials that they required. While such analysis is beyond the scope of this paper, research in the ethnohistorical record has examined how high-status native individuals and families maintained their social position at Mission San Francisco (Cordero 2015) and Mission Santa Cruz (Allen 1998). In addition, Farris (2016) has combed the documentary record to identify the likely inhabitants of the adobe dwellings that have been excavated at Missions San Juan Bautista and La Purísima. Similar research could no doubt be undertaken for Mission San José, adding a more personal layer to our emerging understanding of how native people coped with missionization.

The various materials recovered from archaeological investigations at Mission San José paint a complex picture of native life during the colonial period. Based

on the findings from across the site, we know that native people incorporated new plant and animal species into their diets at the same time that they processed them with stone tools that are indistinguishable from those employed in precontact times. Similarly, indigenous people began using glass beads alongside various shell beads, and used dice fashioned from mission tiles for traditional games, all while holding fast to the ceremonial practices suggested by raptor talons, charmstones, and the roundhouse feature. We can also use the obsidian, shell beads, and remains of wild plant and animal species to infer that native people maintained important social and economic relationships beyond the mission walls. Of course, these findings must be tempered by the tragic demographic and ecological realities of the mission period, but they nonetheless point toward a different narrative about indigenous life in colonial California. The archaeology of sites like Mission San José helps us move beyond the myths of extinction and acculturation that have plagued the native people of central California by providing a much-needed window into how Native Californians persisted in the mission system.

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