The Yuman ceramic tradition in Baja California

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Abstract

Seventy years ago, the pioneering work of Malcolm Rogers combined archaeological and ethnographic evidence to create a framework for better understanding the Yuman ceramic tradition of the Baja California/Arizona/southern California region. Over the years, the presence of these ceramics (often classified as Tizon Brown Ware) in archaeological sites of the region has come to be a marker of late prehistoric sites. Although subsequent researchers with access to increasingly sophisticated methods of analysis have attempted to identify ceramic chronologies, type distribution and cultural contexts, much remains to be explored, particularly in Baja California. The continuity of Yuman ceramic technology in the Paipai Indian community of Santa Catarina provides a unique opportunity to examine ceramic production techniques as well as the evolution of utilitarian plain wares into contemporary art forms.

The work of Malcolm Rogers on the prehistoric ceramic traditions of southern Alta California, northern Baja California, and adjacent regions laid the foundations for the study of Yuman ceramics. In the intervening decades, researchers have expanded our knowledge of the spatial, temporal, and cultural contexts of ceramics in this region, yet many questions remain, particularly with regard to Yuman ceramics in Baja California. In addition to the need for further research into the distribution and chronology of archaeological ceramics in Baja California, we suggest that the unbroken -- yet dynamic -- pottery tradition in the Paipai Indian community of Santa Catarina may allow further insights into the social contexts of ceramic production and use. In this paper, we will examine recent archaeological research at the site of Mission Santa Catalina as well as ongoing ethnographic research among Santa Catarina's contemporary artisans. We will consider the relationship of modern Paipai pottery with archaeological examples dating to the mission period, with an eye toward understanding the social implications of pottery production during the colonial period and its continued importance to the community of Santa Catarina today.

This region, including the Sierra Juárez and Sierra San Pedro Mártir of northern Baja California, is the southernmost extent of an indigenous ceramic tradition called Tizon Brown Ware. Generally speaking, Tizon Brown Ware consists of undecorated vessels that are produced by coiling and the paddle-and-anvil technique and that are fired in an uncontrolled, oxidizing environment (Euler and Dobyns 1958).

These vessels are typically manufactured from residual clays that have weathered from granites (Hildebrand et al. 2002:121). The archaeological distribution of Tizon Brown Ware

stretches from the upland areas of northwestern Arizona through southern California and into northern Baja California. Although it also includes some Uto-Aztecan speakers in southern California, this distribution corresponds roughly to the geographic extent of the modern Yuman-speaking peoples, as well as the archaeological Patayan culture area. While some controversy still exists over the origins and cultural affiliation of Tizon Brown Ware ceramics, archaeological evidence indicates that pottery production in northern Baja California likely began sometime around A.D. 1000 (Hildebrand and Hagstrum 1995; May 1978; Rogers 1945; Shackley 2004).

Archaeologists have distinguished various types of Tizon Brown Ware (Euler 1959; Euler and Dobyns 1958; Koerper and Flint 1978; Koerper et al. 1978; May 1978). Particular Tizon Brown Ware series have been distinguished from one another based on production techniques, chemical composition, tempers and mineral inclusions, as well as by morphological characteristics such as vessel form (Hildebrand et al. 2002; Koerper et al. 1978; May 1978). Scholars have even separated particular Tizon Brown Ware types dating to the rancho and mission periods (Evans 1969; May 1973, 1978). Ronald May (1978), for example, expanded upon the work of Malcolm Rogers to create a ceramic typology for southern Alta California and northern Baja California. In his typology, May included a Mission Series of Tizon Brown Ware that is comprised of types found at Mission San Buenaventura in Alta California and Mission Santo Tomás in Baja California. Many of the Mission Series ceramics show evidence of European-derived morphological innovations such as spouts, slipping, flat bottoms, and lug handles, leading May (1978:9) to suggest that mission neophytes produced pottery specifically to augment the supplies of imported colonial ceramics at the region's missions. In addition to questions about how best to classify mission-period indigenous ceramics, these observations have important implications for the social context of pottery production among Native Californian groups during the colonial period.

While there is evidence that Indian neophytes produced pottery at mission sites throughout the three Californias, including areas without pre-contact ceramic traditions, indigenous ceramics produced during the colonial period varied widely (Ginn 2006; May 1973, 1978; Tuohy and Strawn 1989). Some mission ware pottery likely represents a significant departure from prehistoric ceramic technologies, and may signify pottery production mandated by missionaries or other colonial officials (May 1978). Yet in other cases the pottery produced by mission neophytes appears to have been intended primarily for their own domestic use, often reflecting the influence of one or more distinct pottery traditions, especially at missions and colonial centers with multiethnic populations (Ginn 2006). The classification of mission-period indigenous ceramics is further complicated in areas such as the mountains of northern Baja California, where local native peoples produced ceramics before the arrival of Spanish missionaries and where Spanish colonial control was not as strong as in other areas of the Californias.

Such is the case in the region around the ruins of Mission Santa Catalina, which are located in the Paipai Indian community of Santa Catarina. In this region, Tizon Brown Ware sherds are ubiquitous at archaeological sites dating to the late prehistoric and early historic periods (Figure 1). Nearly all published archaeological examples are undecorated, although some sherds do show evidence of painting, incising and punctation (Lightfoot et al. 2006; McKusick and Gilman 1959). Relatively little archaeological research has been conducted in this area, but ceramic analysis conducted in the 1950s indicates that Tizon Brown Ware from in and around the mission site cannot be readily distinguished from that of other areas in northern Baja California and southern Alta California on the basis of color, thickness, temper or paste (Hicks

Figure 1. Tizon Brown Ware sherds collected from Mission Santa Catalina.

1959; McKusick and Gilman 1959; Meighan 1959). Indeed, a previous comparison of indigenous pottery from the site of Mission Santa Catalina with a sample of prehistoric ceramics from the same area suggests little basis for creating new ceramic subtypes for either prehistoric or mission-period ceramics from the region around the mission site (McKusick and Gilman 1959).

The lack of easily discernable criteria for the classification of Tizon Brown Ware complicates any substantive analysis of the social practices that created the native ceramic assemblages of the northern peninsula and southern California. Recently, researchers have used a combination of geochemical and petrographic studies to successfully determine the provenance of undecorated native ceramics (Hildebrand et al. 2002; Koerper et al. 1978). Hildebrand et al. (2002), for example, used optical petrography and neutron activation analysis to demonstrate a distinct east-to-west distribution of indigenous ceramic types in southern California. Their study confirms that Tizon Brown Ware is the predominant pottery type in the Peninsular Ranges of southern California, although they also indicate that notable amounts of ceramics from the Salton Trough and the lower Colorado River areas are additionally present in the upland regions. Such provenance studies can help us refine the foundational work of Rogers, Colton, May and others who developed much of the original ceramic classification system for southern Alta California and northern Baja California (Colton 1939; Euler and Dobyns 1958; May 1978; Meighan 1959; Rogers 1945).

As part of the “Proyecto Arqueológico Santa Catarina”, we are also experimenting with chemical analysis in order to learn more about the provenance and production techniques of indigenous ceramics found at the site of Mission Santa Catalina. Recently, we conducted a preliminary study using a Niton XLt-793W portable energy dispersive X-ray fluorescence

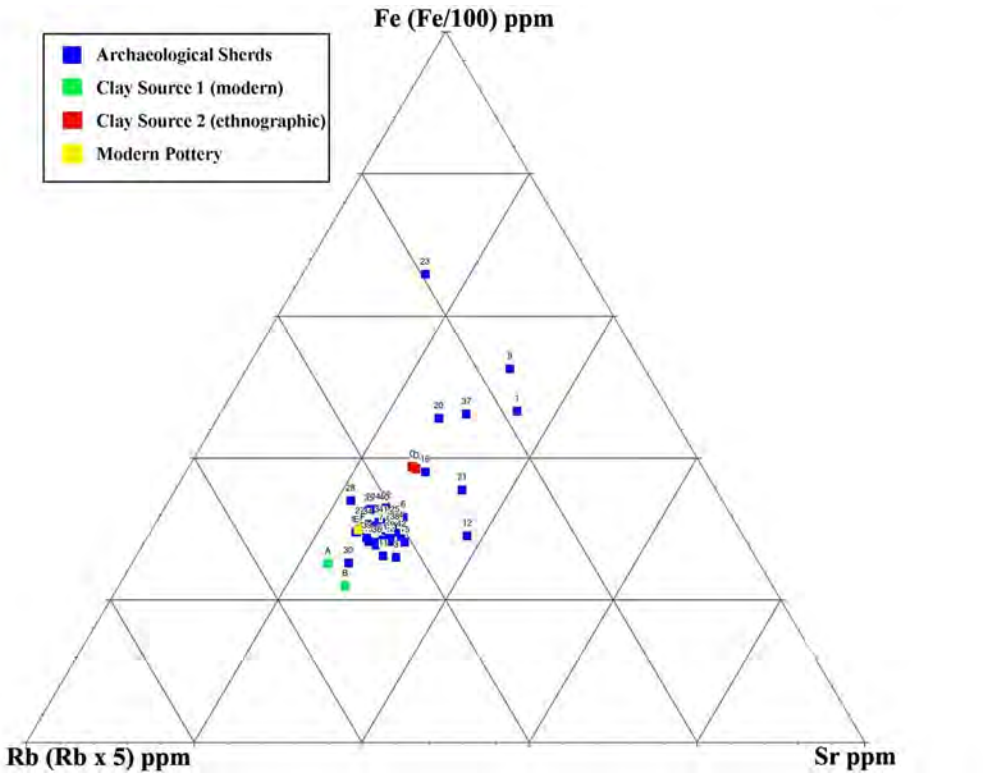

Figure 2. Ternary plot.

(EDXRF) spectrometer. This instrument provides chemical data in parts per million for a total of 17 elements, although only 11 elements were consistently detectable by the instrument in this study. These 11 elements are antimony, tin, silver, strontium, rubidium, lead, zinc, copper, cobalt, iron and manganese. Unfortunately, this list does not cover the full suite of elements usually used for ceramic provenance analysis (Morgenstein and Redmount 2005:1616). For example, scandium and lanthanum, which are absent in this analysis, were used in the southern California provenance study mentioned above (Hildebrand et al. 2002). These limitations notwithstanding, geochemical analysis with the Niton portable EDXRF is a non-destructive technique that can be conducted in both field and laboratory settings.

For this study, we analyzed a sample of 42 indigenous pottery sherds collected from the site of Mission Santa Catalina in the summer of 2005. We also collected samples from two clay sources near the mission site, as well as examples of modern pottery produced by Paipai artisans in the community of Santa Catarina. Two samples of each of these materials were included in this initial analysis. One of the clay sources we sampled is noted in the ethnographic literature but is no longer in use (Wilken 1987). This source is located roughly 2 km from the mission site. We also collected clay raw material samples from the source currently being used by potters in Santa Catarina. This clay source is approximately 300 m from the site of Mission Santa Catalina. Modern pots made from clay from this second source of raw material were also analyzed.

As an exploratory exercise, we analyzed the results of the chemical characterization of these samples using Delta Graph to generate ternary plots and SPSS to determine clusters (Figures 2 and 3). The ternary plot and dendrogram show the relationship of each ceramic fragment or clay sample to one another based on three elements: strontium, rubidium and iron. These three elements were determined to be the most useful for this particular study, given the

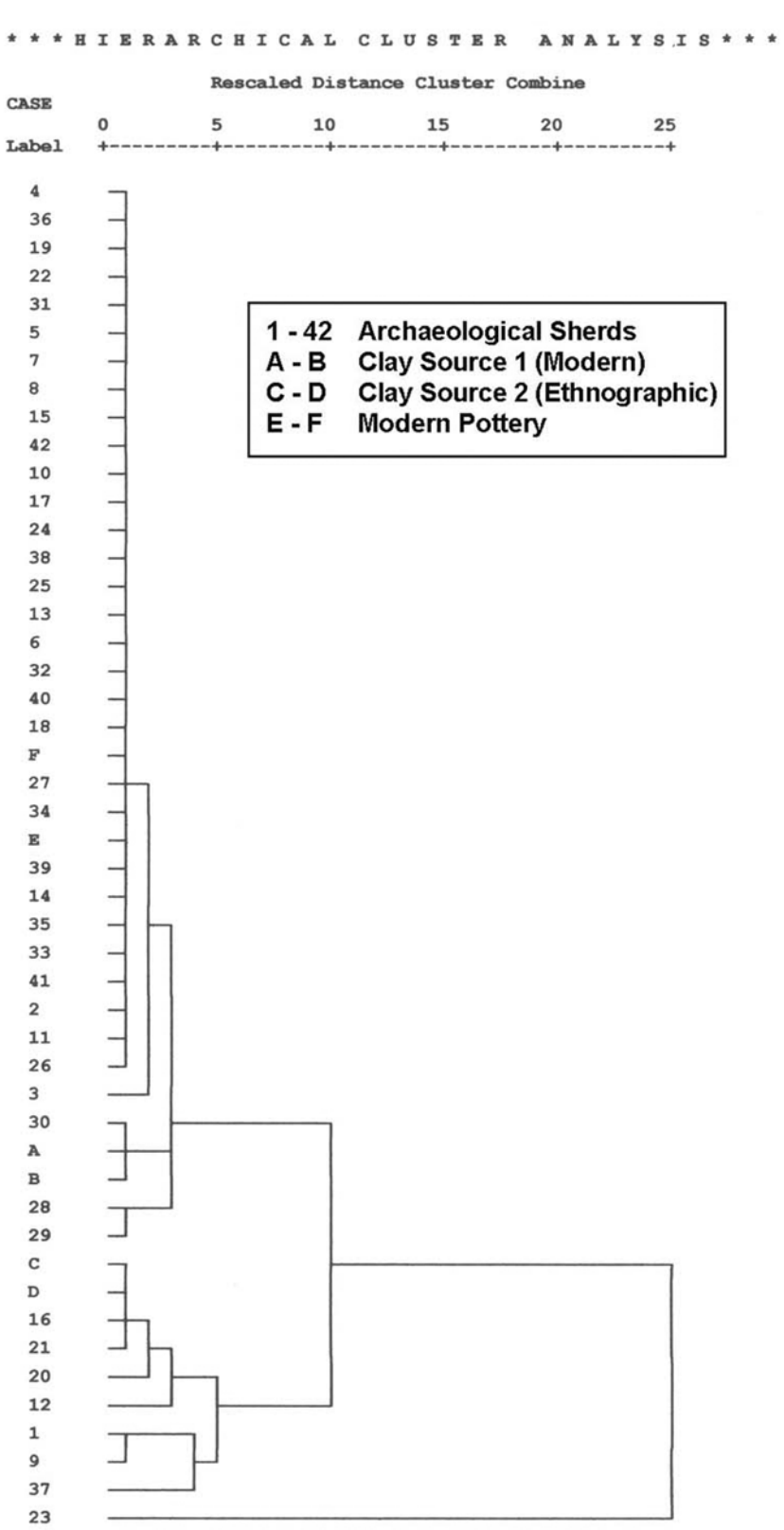

Figure 3. Dendrogram.

geology of the region. In the ternary plot and in the dendrogram, there is a primary cluster that contains the two modern pottery samples as well as approximately 80% of the archaeological ceramic sherds collected from the mission site. The raw material samples, however, do not cluster neatly with the archaeological ceramics or with the modern pottery from Santa Catarina.

To understand this pattern, we looked to the ways in which modern Paipai potters process raw clay prior to ceramic production. Through our own observations of potters in Santa Catarina, as well as information in the ethnographic literature, we noted that Paipai artisans typically remove large pieces of naturally occurring inclusions such as quartz and feldspar during the preparation of raw clay (Michelsen 1972; Wilken 1987). In the samples we collected from the two clay sources, these inclusions diluted the chemical signature of the clay minerals, which would otherwise match the chemical characterization of the ceramic pastes represented by the archaeological sherds and modern pots that we analyzed. The fact that the two modern pots cluster with the majority of the archaeological ceramics, while the modern clay raw material samples do not, indicates that ceramic production technology has a significant effect on the geochemical signatures of the finished product versus raw material. Furthermore, the correlation between the archaeological Tizon Brown Ware sherds and the modern Paipai pottery suggests that most of the pottery collected at the mission site was from a local clay source and that there are strong continuities in the production technology used by the mission neophytes and their descendants living in Santa Catarina today.

In terms of the geochemical analysis, the most apparent links between the ceramic production of the mission period and that of today lie in the gathering and processing of raw clay material. Thus far, no prehistoric examples have been included in our chemical analysis, but other lines of evidence can serve to extend the continuities in ceramic production into pre-contact times.

A comparison of the rim sherds collected from the mission site in 2005 and 2006 with the published examples of rims obtained in the 1950s from the nearby prehistoric site of Cerrito Blanco shows that the same basic categories are present at both sites, including plain/round, beveled, extruded, and rolled/coiled rims (McKusick and Gilman 1959). Although much of the ceramic assemblage collected from the mission site is highly fragmented, the sherds from which vessel form can be inferred correspond to the morphology of Tizon Brown Ware vessels reconstructed from Cerrito Blanco and other sites in the area with late prehistoric contexts (Hicks 1959; McKusick and Gilman 1959). Both the late prehistoric and mission period ceramics from the area around Mission Santa Catalina also correspond to the general morphological characteristics of Yuman pottery outlined by Malcom Rogers, including bowls with recurved rims and narrow-mouthed ollas (Hicks 1959; McKusick and Gilman 1959; Rogers 1945).

Today, Paipai artisans in Santa Catarina continue to make pottery using the paddle-and-anvil technique (Figure 4), which is one of the defining characteristics of prehistoric Tizon Brown Ware ceramics (Euler and Dobyns 1958). Within this indigenous community, there are about eight women who produce ceramics. These artisans sell their pottery and other crafts at events in both Mexico and the United States, as well as to the occasional tourist or anthropologist who visits Santa Catarina. As such, pottery production serves as a supplement to household income and has evolved into a contemporary art form. Accordingly, most pots produced in Santa Catarina today are not the mostly utilitarian wares of the prehistoric and early historic periods, and this is reflected in an expanded range of vessel forms and an attention to the aesthetic qualities of fire-clouds that occur during the firing process.

All of the current potters at Santa Catarina gather clay at the same source, which is only a

Figure 4. Modern paddle-and-anvil pottery production in Santa Catarina.

few hundred meters from the site of the former mission. Here, women dig small pits, looking for deposits with the right proportions of clay and mineral inclusions. After the raw material is collected, it is ground on a metate, and the larger inclusions are removed by sifting through a cloth. The remaining clay is then ground into a fine powder. At this point, some potters will add a temper, either ash or ground potsherds. Not all potters at Santa Catarina add temper, however, as some prefer the natural inclusions that are found in the clay. Water is then added, and the mixture is kneaded thoroughly (Wilken 1987:21). Once the clay has been prepared, the potter begins to construct the pot by producing a circular, flat sheet of clay that is then molded around the base of a gourd or broken pot. Either ashes or a cloth are used to keep the clay from sticking to the mold (Michelsen 1972). The excess is trimmed off of the top edges to prepare a clean surface for affixing more clay. Clay is added in a series of separate coils, and a wooden paddle and clay anvil are then used to shape the vessel and thin its walls. The finished product is left to dry, and it is often later polished with a smooth stone.

These days, pots are fired in large groups of 20 or more, but single-pot firings appear to have been common before recent increases in pottery production at Santa Catarina (Michelsen 1972; Wilken 1987). Dried yucca stalks are the preferred fuel for many potters, although other accounts from the region refer to dung being used as a fuel (Meigs 1939:37). In large firings, the unfired vessels are placed on top of one level of yucca stalks, and more stalks are added on top. In the published examples of single-pot firing, the vessel is covered with yucca stalks in a pyramid-like shape. Firing usually occurs in the evening, and the vessels are left overnight in the coals before being collected in the morning. Due to the uncontrolled firing conditions, pottery from Santa Catarina is characterized by distinctive fire clouds, which are valued for their aesthetic qualities by the Paipai and non-Indian consumers alike.

Paipai pottery production in the early twenty-first century is nearly identical to that described in the ethnographic reports from the second half of the twentieth century (Michelsen 1972; Wilken 1987). The basic technique now in use also corresponds to the general outline of Kumeyaay pottery production observed by Malcolm Rogers in 1928 (Rogers 1936) as well as by other anthropologists who worked in northern Baja California (Hinton and Owen 1957; Hohenthal 2001:318). The archaeological research and chemical analysis described above also suggests strong continuities in ceramic production in Santa Catarina, stretching from pre-contact times to the present. Yet the Yuman ceramic tradition exemplified in Santa Catarina is not static. By examining these continuities as well as the differences in the technological aspects of pottery production in the area around Santa Catarina, we may better understand the social implications of the ceramics that we find archaeologically. Such a diachronic prospective can facilitate archaeological interpretation, and perhaps just as importantly, it can help members of the descendant community in Santa Catarina to see the relevance of archaeology to their lives and to their history.

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