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An Analysis of Form and Function of Ceramic Rim Sherds from LA 20,000, A 17th Century Estancia Outside Santa Fe, New Mexico

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AN ANALYSIS OF FORM AND FUNCTION OF CERAMIC RIM SHERDS FROM LA
20,000, A 17TH CENTURY *ESTANCIA* OUTSIDE SANTA FE, NEW MEXICO

A Thesis Presented

by

CAITLIN M. CONNICK

Submitted to the Office of Graduate Studies,
University of Massachusetts Boston,
in partial fulfillment of the requirements of the degree of

MASTER OF ARTS

August 2018

Historical Archaeology Program

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20,000, A 17TH CENTURY *ESTANCIA* OUTSIDE SANTA FE, NEW MEXICO

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ABSTRACT

AN ANALYSIS OF FORM AND FUNCTION OF CERAMIC RIM SHERDS FROM LA 20,000, A 17TH CENTURY *ESTANCIA* OUTSIDE SANTA FE, NEW MEXICO

August 2018

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This thesis examines a sample of ceramic sherds from LA 20,000 to determine the functional uses of the locally made ceramics and their relationship to food preparation, consumption, and identity. LA 20,000, the Sanchez site, is a Spanish colonial *estancia*, or ranching headquarters, located in La Cienega, New Mexico, roughly 12 miles southwest of Santa Fe and was occupied during the seventeenth century before the Pueblo Revolt of 1680. It is important to understand Pueblo, or native made, ceramics because all ceramic assemblages recovered from 17th-century Spanish sites in New Mexico consist of a majority of native made ceramics. I analyzed the ceramic rim sherds recovered from the site to determine vessel form, vessel size, and vessel function. The results of this study reveal that the inhabitants of LA 20,000 continued to display their Spanish identity by making wheat

bread and using individual serving vessels as well as introducing new Spanish vessel forms to the repertoire of locally made ceramics. This study can be used as a comparative tool to other Spanish and Pueblo sites from the same time period in New Mexico.

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CHAPTER 1

INTRODUCTION

Ceramic vessels are a popular form of material culture studied at Spanish colonial sites throughout New Mexico. At LA 20,000, a 17th century Spanish *estancia* located approximately 12 miles southwest of Santa Fe, New Mexico, in the town of La Cienega, the ceramic assemblage is dominated by Pueblo made ceramics in a variety of Spanish and native forms. Close analysis of this assemblage, including the form and function of the ceramic vessels, reveals attitudes about cuisine and foodways of the Spanish in this new setting.

Ceramic vessels are a widely studied form of material culture in archaeological research. Ceramics are an everyday object used by people of the past that can show cultural and social identity including, ethnicity and social class. An important question to consider is why do archaeologists study ceramics? In archaeological studies, material culture is an important way of learning about past cultures and ceramics are one of those material links to the past. As Appadurai (1986:5) explains:

Even if our own approach to things is conditioned necessarily by the view that things have no meanings apart from those that human transactions, attributions, and motivations endow them with, the anthropological problem is that this formal truth

does not illuminate the concrete, historical circulation of things. For that we have to follow the things themselves, for their meanings are inscribed in their forms, their

uses, their trajectories. It is only through the analysis of these trajectories that we can interpret the human transactions and calculation that enliven things.

Appadurai explains that material culture holds meanings and those meanings can be deduced by examining the form and function of those objects, among other things. Similarly, Skibo (1999:1) explains that ceramics are regular or common objects that are connected to the everyday lives of people. In the American Southwest, ceramics are a commonly studied form of material culture. Some studies focus on the production of ceramics, while other studies focus on the dispersal of the ceramics throughout the region. Other studies examine the effects of Spanish colonialism and foodways by analyzing the ceramics recovered. I analyzed rim sherds from LA 20,000 to determine vessel form, size, and function in an attempt to demonstrate how Spanish colonials in the 17th century were continuing Spanish customs and adopting indigenous customs as they adapted to their new surroundings as well as how they influenced local ceramic production.

The Spanish first established a colony in New Mexico starting in 1598 when the Spanish Crown expanded their empire from Mexico in hope of finding mineral wealth, more land, and more souls. For centuries, Pueblo peoples had lived in the American Southwest. The Spanish not only looked to convert the Pueblo peoples to Christianity, but they relied on them for certain everyday goods and labor. The route from Mexico north into New Mexico was rough and it was difficult for colonists to bring or import breakable goods such as

ceramics, and during this period, colonists did not make their own. Ceramics were an important part of everyday life. Jars were used to store and transport water or agricultural products, while bowls were used to cook and serve meals.

The majority of ceramics recovered from early colonial Spanish sites are Pueblo made indicating that early settlers of New Mexico relied on indigenous people for critical resources. In the early colonial period, we begin seeing European vessel forms, such as soup plates and candlesticks, which are being made by the Pueblo populations (Dyer 2010). This shows that although the Spanish were relying on Native American made ceramics, they introduced new forms to have continuity in their everyday lives in a new and foreign location.

Cuisine and foodways are important topics of study because they can indicate ideas of identity, class, and ethnicity. Cuisine is not limited to just the foods being consumed but also the preparation and serving of those foods (Trigg 2004:227; Pavao-Zuckerman and Loren 2012). Pavao-Zuckerman and Loren 2012 (200) suggest that “food consumption is at once both an intimate personal act and a shared social experience” and is related to “ethnic and economic identity and relations of power within human societies.” Ceramic vessels are related to both the preparation and consumption of food, therefore, the LA 20,000 assemblage can help to enlighten the foodways present at the site.

The goal of this thesis is to further illuminate the daily lives of the inhabitants of LA 20,000. Using the ceramic data, I show that the inhabitants of LA 20,000 were using the European style soup plate as individual serving vessels and dough bowls to make wheat

bread. This suggests that the Spanish were attempting to retain some of their Spanish identity, in terms of foodways, in a new place that required them to adapt to new customs.

First, I give a historical overview of the settlement of New Mexico, the economy of the colony, interactions with the indigenous populations, diets of the colonists, and the social identities of the colonists. Then, I cover the history of Southwest ceramics and how they were produced. Following this, I give the historical background of LA 20,000 and previous research that has been conducted on artifacts from this site. I then outline the methodology that I used and support this methodology with previous ceramic research. Next, I present the results of my ceramic analysis. Finally, I conclude with a discussion of my findings, what these findings indicate, a comparison to other Spanish sites and a Pueblo site, as well as suggestions for future research.

CHAPTER 2

HISTORICAL BACKGROUND OF EARLY COLONIAL NEW MEXICO

Exploration Period (1539-1597) and Early Spanish Colonial Period (1598-1680)

The Spanish have a long history of colonization in the New World including in Mexico, Florida, the Caribbean, South America, Central America, and the Southwest, but they had a vested interest in gaining more land, expanding their economic enterprises, and converting the indigenous populations to Christianity. During the mid-1500s, the Spanish began to explore the area that would eventually be termed 'New Mexico.' (Table 2.1). The Spanish had done well in their expansion in Mexico and had high hopes that New Mexico would be just as fruitful.

Table 2.1.

Early Expeditions (Liebmann 2012:30; Moore 2001:10)

Explorer	Date
Fray Marcos de Niza	1539
Francisco de Coronado	1540-1542
Rodriguez and Chamuscado	1581
Antonio de Espejo	1582
Castaño de Sosa	1590
Antonio Gutierrez de Humana	1593

In 1598 the first successful Spanish settlement was established by don Juan de Oñate y Salazar and hundreds of men that accompanied him on this expedition. The expedition consisted of over 500 colonists, including 130 soldiers and 10 Franciscans, nearly 7,000 heads of livestock, and about 80 wagons or carts (Janin and Carlson 2010:41). The Spanish Crown had promised Oñate that he could be the first governor of the colony once he gained possession of the land. He was also given the right to grant land, titles, and encomiendas to the new colonists as long as they remained in the colony for five years (Kessell 2002:74). Oñate created the first permanent Spanish settlement in New Mexico on April 30, 1598 (Simmons 2001:2; Trigg 2005:3). This first settlement was called San Gabriel and was part of the Pueblo village of Ohke Owingeh, which Oñate quickly renamed San Juan, on the Rio Grande in the Rio Grande Valley (Montgomery 2002:23). The Spanish settlers quickly became unhappy because of the lack of obvious wealth, such as silver, in the colony, and

within a few years, many abandoned the colony. In addition to this unrest, Oñate was frequently exploring regions far from the initial settlement and neglecting the Spanish colonists who remained (Moore 2001:10; Kessell 2002). In 1607, Pedro de Peralta replaced Oñate as governor and established Santa Fe as the province's new capital in 1610 after San Gabriel was abandoned (Moore 2001:10; Staski 1998:23).

The Spanish Crown and colonists had several reasons for expanding their control into New Mexico. First of all, the Crown was interested in gaining more land and souls (Trigg 2005:37), and colonists saw it as a way to increase economic gain. Some colonists became wealthy when precious metals, such as silver, were discovered in Mexico, and they had hope of finding similar mineral wealth in New Mexico (Trigg 2005:38). However, they were disappointed with what they found in the colony as one settler described the land as “sterile, lacking in everything essential to support human life” (Hammond and Rey 1953:688). Even though the Spanish did not find the wealth they were expecting, they had an interest in converting the indigenous population. Catholicism was important to the Spaniards and they believed that they had a responsibility to convert the native populations to Catholicism as well (Kessell 1997:48). Additionally, France and England were expanding their settlements in America and Spain wanted to create a foothold in the Southwest (Trigg 2005:37). Shortly after entering New Mexico, the Spanish created a variety of settlements to stake their hold on the area.

Settlements in the Early Colonial Period

There are three types of settlements the Spanish created when they expanded their rule into New Mexico: one villa, Santa Fe; rural farms or ranches; and missions (Trigg 2005:68). Santa Fe, was the seat of the royal governing body (Kessell 1997:51;Trigg 2005:70). Upon establishment, Peralta appointed a town council, or *cabildo*, which was in charge of distributing the land around Santa Fe to the colonists (Trigg 2005:69). Santa Fe was the largest settlement in the New Mexico colony, however, by no means was it large. In the 1620's, there were an estimated 48 heads of household (Trigg 2005:70).

A majority of the population, almost two-thirds, lived on rural *estancias* or *ranchos*. *Ranchos* were small farms while *estancias* were larger operations that usually housed a family and sometimes servants (Trigg 2005:72). Typically, these rural ranches were located in close proximity to Native American Pueblos. Settling near a Pueblo allowed for easy access to Pueblo labor and goods (Snow 1979; Trigg 2003). Animal husbandry was a common practice on the rural *estancias*, and sheep were deemed the easiest and most hearty animal to raise (Kessell 2002:113). Upon initial colonization, attempts were made to corral and raise bison because of the superior meat and hides they provided. However, bison are stubborn and strong animals and this endeavor was not successful (Kessell 2002). Only seven Spanish rural farms dating to the 17th century have been located and excavated (Trigg 2005:72). LA 20,000 the subject of this thesis, was one of those rural *estancias*.

Upon initial settlement, religious conversion was not a main priority. In the 1620s focus shifted to this, which resulted in the establishment of several missions (Trigg 2005: 78; Kessell 2002). Missions were often established at the Pueblo villages and consisted of a

church, cemetery, and a friary, which had a kitchen, infirmary, and living quarters for the friar (Trigg 2005: 78). Textile production, carpentry, and hide working were common activities at the missions. Other activities at the missions include animal husbandry, gardening, and domestic chores completed by Puebloans (Trigg 2005: 78).

The Pueblos

The settled indigenous peoples, who were called Pueblo Indians by the Spanish, lived in multistoried towns called pueblos. Each village housed between a few hundred to as many as two thousand inhabitants (Kessel 2012:9; see Figure 2.1). The northern-most village was Taos along the Rio Grande River, and two-hundred miles south of Taos Pueblo was the southern-most village, Senecu (Kessel 2012:9). The western-most village was Hopi, in modern day Arizona, while three hundred miles east was the eastern-most village of Pecos (Kessel 2012:9). There were “seven or eight geographical groupings or confederations clustered loosely within specific drainage basins” that spoke a variety of languages including, Tiwa, Towa, Tewa-Tano, Keresan, Zuni, and Hopi (Kessel 2012:9).

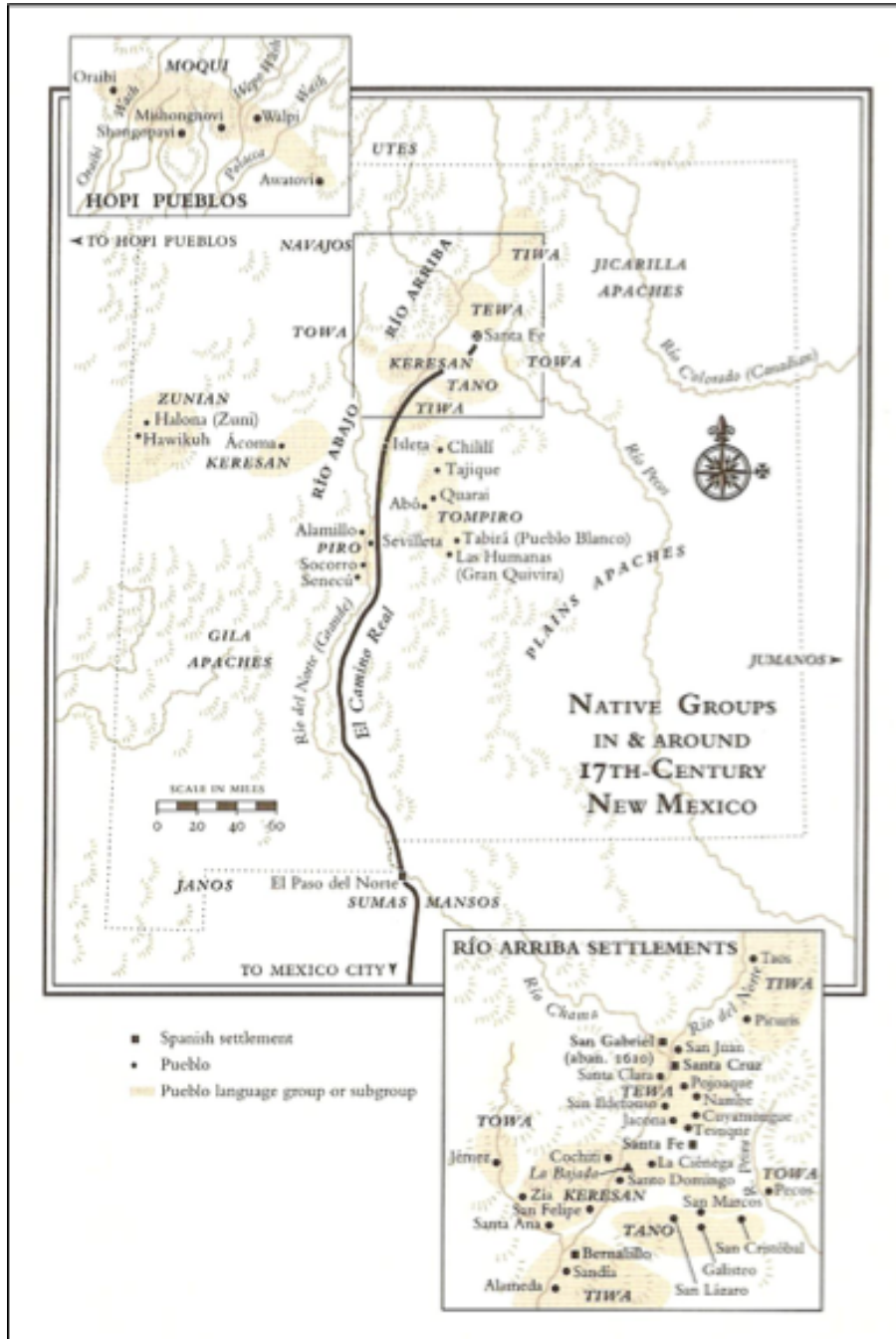


Figure 2.1. Pueblo settlements in 17th C. New Mexico (Kessel 2012:9).

The Economy of Spanish Colonial New Mexico

Historian France Scholes (1935:99) maintained, “economic life of the province was based on agriculture, stock raising, and a primitive commerce.” John Kessell (2002:51) agrees that the cashless economy of the colonists consisted of trade and barter with the local native groups, raising livestock, and growing maize. The inhabitants of New Mexico did not use coins and bartered with each other. Unfortunately, the documentary record of inventories and wills is lacking which would enlighten us as to what items people were transferring to one another. For this, we must turn to the archaeological record. One of the most documented forms of economic activity is livestock production and animal husbandry (Trigg 2005:75). Even though there is no documentary evidence pertaining to the exchange or purchase of Pueblo made ceramics by the Spanish, this is the most common type of artifact recovered from early colonial sites. Ceramics were not listed as a form of payment on any surviving *encomienda* documents which means that barter or theft of these items was most likely (Trigg 2005:141).

Long distance trade occurred in the colony as well. However, trade outside the colony was difficult because of the distance and the hazards (Bunting 1976:53). El Camino Real de Tierra Adentro, the Royal Road to the Interior Land, generally referred to as the Camino Real, was a trail spanning from Taos Pueblo to Mexico City (Janin and Carlson 2010:61). This trail was the colony’s main connection to New Spain (See Figure 2.2), but posed many hazardous risks including steep and rugged terrain, large river crossings, and deep desert sand (Trigg 2005:165). These risks made it difficult to transport people, livestock, and goods. Additionally, lack of water along the Camino Real was a major

concern. One ninety-mile stretch, nicknamed Jornada del Muerto (the journey of death), was completely without water (Trigg 2005:165). Another hazard were the hostile indigenous people that would sometimes attack travelers and caravans. Due to these various hazards, a complete journey along the Camino Real typically took about six months to complete, although, persons on horseback could complete the trip much more quickly (Kessell 2002:113; Scholes 1935).



Figure 2.2. The Camino Real (nps.gov)

Importing and exporting goods by way of the Camino Real was expensive and therefore largely limited to the Spanish Crown, friars, and governors. During the 17th century, the only source of imported goods was the missionary supply service that was paid for by the Spanish Crown (Bunting 1976:53). This triennial supply caravan brought a variety of goods to the colony including, but not limited to, honey, cinnamon, almonds, sugar, wine, salt, majolica, cloth, bells, religious items, tools, lace, chocolate, medicines, books, and musical instruments (Trigg 2005:113-114). Items exported out of the colony include, livestock, textiles, hides, maize, and baskets (Trigg 2005:182). The mission supply caravans were very expensive, typically consisted of thirty-two wagons, each requiring a driver, and carrying anywhere between two and three tons (Ivey 1993; Janin and Carlson 2010:64-65). The caravans also required armed military escorts for safety, hunters, cooks, and scouts. Each caravan consisted of roughly fifty-two people and five hundred mules to pull the wagons and replace any who perished along the way (Ivey 1993; Kessell 2002:113). The Spanish crown spent over one million pesos in their endeavors to supply the colony. Even though these supply caravans were supposed to go to Santa Fe every three years, they were unpredictable and infrequent which made life more difficult for the settlers of New Mexico (Janin and Carlson 2010:64). The infrequency of these caravans contributed to the Spanish reliance on the native populations for goods especially ceramic vessels. On Spanish colonial sites, imported ceramics such as majolicas and porcelains are rare, while Pueblo ceramics are more common.

Agriculture, Animal Husbandry, and Diet

Agricultural and animal husbandry practices were a major economic endeavor in colonial New Mexico. Documentary and archaeological evidence show what animals and crops were brought to New Mexico as well as what was cultivated and raised after settlement. Evidence shows that shortly after settlement, colonists were growing Old World, or European, crops even though these crops required more effort than growing indigenous crops, such as maize, beans, and pumpkins (Trigg 2004:237). Due to the hot and dry environment of New Mexico, only certain crops and animals could be raised successfully (Trigg 2004: 237). European grains such as wheat and barley could only thrive with irrigation and needed to be plowed, harvested, and hand sorted (Trigg 2004: 237). The importance of Old World crops and foods relates to status and social identity.

Before the arrival of the Spanish, the Native Americans relied on corn and maize. When the Spanish expanded their territory, they brought wheat, barley, lentils, maize, chile peppers, onions, garlic, cucumbers, carrots, apricots, and peaches, among others (Gifford-Gonzalez and Sunseri 2007:269; Simmons 1991:66; Trigg 2004:228). After settlement, documents show that the colonists cultivated cabbage, lettuce, onions, garlic, carrots, cucumbers, and radishes (Trigg 2004:228). Although the Spanish introduced many Old World foods to New Mexico, they also consumed New World foods, especially during times of famine or poor crop production (Gifford-Gonzalez and Sunseri 2007:270; Trigg 2004). Archaeological investigations of 17th century Santa Fe show that both European (wheat, apricots, muskmelons) and Puebloan (maize, pumpkins, yucca, and juniper) foods were consumed (Trigg 2004: 233).

While the Native American populations relied on wild game such as deer and rabbit, the Spanish colonists preferred domesticated animals (Gifford-Gonzalez and Sunseri 2007:268; Trigg 2004:235). During the initial colonization, the Spanish brought cattle, oxen, horses, sheep, goats, and some pigs with them (Trigg 2004:228). Cattle and horses were used for transportation and plowing, while sheep and goats provided milk, meat, and wool for textiles (Gifford-Gonzalez and Sunseri 2007:269). Documents indicate that raising herds of sheep was preferred over raising cattle (Leckman 2017:92; MacCameron 1994:21). There were several reasons for this. During raids, cattle could be easily driven away and captured by the raiding parties while sheep would scatter and could be recovered after the raid ended (MacCameron 1994: 21). Additionally, the bison on the plains to the east provided products similar to cattle, i.e. jerky and hides, which were available to the colonists (MacCameron 1994: 21). Documents show that animal husbandry was a controversial topic because of overproduction and overuse of grazing fields (MacCameron 1994).

Wheat was an Old World crop that the Spaniards brought to Mexico and then subsequently to New Mexico. At one point, wheat bread was more expensive than meat (Trigg 2004). Cultivating wheat was more time intensive and required irrigation systems, plowing, sowing, harvesting, and grinding (Trigg 2004:237). The Spanish adopted the use of *manos* and *metates* to grind the corn (Simmons 2010:79). Additionally, the colonists had water powered mills they used to grind the corn and wheat. After grinding into flour, large bowls called dough bowls, were used to mix and knead the flour into a bread dough (Simmons 2010:72). The bread dough was then baked in an *horno*, or outdoor domed adobe

oven (Simmons 2010:72). Cooking stones, or *comals*, were used to make maize tortillas (Trigg 2004: 234). The Spanish and Pueblo peoples also made nixtamal, or hulled corn kernels that were soaked in lime water to make a corn dough (Simmons 1991:167).

Old World crops were an important aspect of life in colonial New Mexico but why struggle to grow crops that required more work when indigenous crops were available? Rachel Laudan and Jeffrey Pilcher (1999:61) contend “to the Spaniards who followed the conquistadors to New Spain, the food of their home country meant health, status, religion and race. The well-to-do there ate wheat bread, drank wine, and could afford the most desirable domesticated meats.” Similarly, Trigg (2004:240) asserts that status and familiarity were the reasons colonists spent so much effort introducing and growing the European crops. Thus, social identity was an important aspect of colonial New Mexico.

Social Identity in Colonial New Mexico

Colonial New Mexico was a multiethnic place. It is important to note that the term “Spanish” is not completely accurate. Many of the colonizers in New Mexico were not born in Spain but in were born in Mexico. They did, however, tend to view themselves as Spanish. The Spanish had a *casta* system that influenced their social relationships and views of other people. Nan Rothschild explains that “the Spanish believed in the idea of ‘purity of blood’ (*pureza de sangre espanola*) and created a classification system involving 22 categories of mixed peoples, depending on the amount of Indian, African, and European blood each had” (Rothschild 2003:170). These categories include, *mestizo*, *mulatto*, *criollo*, *genizaro*, *indios vestidos* and *ladino*, among others (Snow 1984:103). Only a handful of the

men who settled in New Mexico in 1598 brought their wives. The men who did not bring wives turned to Pueblo women and black slaves for mistresses and legal brides (Gutierrez 1991:103). This intermarriage and intermixture of Spanish and native populations led to the many different mestizo classifications. Population increase in the colony is attributed to birth and adoption of native orphans into extended families (Kessell 2002:110). Roughly eighty percent of the Spanish population in New Mexico had been born there at the time of the Pueblo Revolt (Scholes 1935). The *casta* system and conceptions of social identity are important to consider in both how New Mexico was settled and the interactions and relationships people had with one another. Not all of these relationships were positive.

Spanish Influences/Impact on Pueblo Communities

Spanish colonization of New Mexico in the 17th century had dramatic impacts on the Pueblo populations residing there. The impact was so severe that there was a 62% decrease in the number of Pueblos (Barrett 2002:123). In 1598, when the Spanish arrived, there were approximately 81 occupied Pueblos and by 1680, the number of occupied Pueblos was reduced to 31 (Barrett 2002:124). There are several reasons for this dramatic drop in the number of Pueblos including population loss due to disease, famine, and drought (Barrett 2002). Other Spanish influences include the Spanish combining settlements to make supervision of the Pueblo people easier (*reduccion*), forcing payments of labor and goods (*encomienda*), forcing conversion to Catholicism, suppressing indigenous religious practices, and interfering with exchange patterns between Pueblos (Barrett 2002; Kessell 1997:48).

An important economic aspect of Spanish colonial New Mexico that had vast impacts on the Pueblo communities is the *encomienda* system. This system was utilized in other areas of New Spain and gave grantees, or *encomenderos*, a certain number of indigenous peoples or a village that they were responsible for. These *encomenderos* were supposed to protect the Pueblos in exchange for goods and labor. The Pueblo people were required to pay tribute each year in the form of maize, cotton cloth, and animal hides (Trigg 2005:140). In May, tributes usually consisted of animal skins and cloth while the October tribute consisted of corn (Gutierrez 1991:105; Kessell 2002:112). The Spanish colonists needed a reliable labor supply, however, even though slavery was popular throughout the rest of the New World, there were penalties for the Spanish if they participated in slavery (Gibson 1966). However, under certain circumstances, such as punishment for theft or repayment of debts, slavery was allowed so there were likely many slaves in New Mexico (Trigg 2005: 40). By utilizing the *encomienda* system, the Spanish colonists ensured that they had a continuous labor supply and yearly or twice yearly tribute payments (Gibson 1966).

Initially, *encomiendas* were given to men who helped in the colonization efforts of New Mexico and these *encomiendas* were inherited for three generations (Trigg 2005:158). In the early days of colonization, these payments, especially cloth and maize, were crucial to the survival of the colonists (Snow 1983). The *encomienda* system also gave power to the few *encomenderos* because they were the ones controlling the products received from the Pueblo people (Trigg 2005:159). There is evidence that the *encomenderos* abused this system by enforcing more or larger payments of goods (Barrett 2002:142).

The *encomienda* system had a strong impact on Pueblo communities because by forcing labor and payments of material goods, the Spanish disrupted the Pueblo people's subsistence practices and activities (Barrett 2002:142). By having to work for the Spanish, the Pueblo communities had less time to cultivate and produce subsistence for themselves. Additionally, the Pueblo people had to set aside material goods for the Spanish, thus leaving fewer goods for themselves.

Missionary interests played a large role in the colonization of New Mexico by the Spanish and had also immense impacts on the Pueblo communities. The Franciscan order took charge of creating missions and converting the Pueblo people. Robert Preucel (2006:212) notes "by 1616, there were nine mission centers established at the pueblos of San Ildefonso, Nambe, Galisteo, San Lazaro, Santo Domingo, Zia, Sandia, Isleta, and Chilili and visitas at four others." The missions usually consisted of a church, workshops, stables, convento, and farmland (Preucel 2006:212). The friars did not approve of indigenous religious practices and often destroyed Native American ceremonial objects (Liebmann 2012:36). The friars carried out physical acts of violence against the Native Americans as well (Liebmann 2012:36-37).

Another impact was the introduction of diseases, which resulted in vast population loss. The Spanish referred to the disease as *cocolitzli* and it was most likely some form of smallpox (Barrett 2002:151; Dobyns 2002:175). Elinore Barrett (2002:151) notes that "in 1638 Fray Juan de Prada wrote to the Council of the Indies that the population of New Mexico had be reduced by about one third." Between 1629 and 1641 the Pueblo

communities lost 68% of their population (Barrett 2002:151). The spreading of disease among the Pueblo communities was most likely not a conscious effort on the part of the Spanish, nevertheless, disease had a strong influence on the native population.

The Pueblo Revolt of 1680

After almost nine decades under Spanish occupation, the Pueblo people became unhappy with the colonists for the reasons discussed below. Po'pay, a Native American from San Juan Pueblo, "espoused a message of cultural revitalization involving the renunciation of Spanish beliefs and customs, ritual purification, performance of traditional ceremonies, and an armed insurrection to destroy the Christian missions and retake Pueblo land from Spanish and Hispanic colonists" (Liebmann et al. 2005:48). The leaders of the Pueblo Revolt emphasized the importance of cultural revitalization and the removal of all Spanish influences (Liebmann et al. 2005:48). The Pueblo Revolt began on August 10, 1680, and involved many Pueblo groups as well as allied Navajo and Apache warriors (Dunbar-Ortiz 2007:41). During the rebellion, Spanish settlements and churches were destroyed, Spanish soldiers and friars were murdered, and by mid-August, the Spanish had evacuated the area (Dunbar-Ortiz 2007:41-42). An estimated 380 Spanish settlers and 21 Franciscan missionaries were killed (Liebmann 2012:3). The Spanish survivors of the Revolt fled to El Paso del Norte, three hundred miles down the Rio Grande River (Liebmann 2012:4).

The Spanish did not successfully retake New Mexico until 1692, when Diego de Vargas Zapata y Luján Ponce de León y Contreras (Don Diego de Vargas) recolonized the Rio Grande Valley (Dunbar-Ortiz 2007:44). During the Reconquista, the Spanish

government shifted their focus on converting the indigenous peoples, which was clearly one of the main reasons for the previous revolt, to establishing larger settlements and parceling out the land (Montgomery 2002:25). This time, the goal was to settle the land in a way that was defensible should the Native Americans attack again (Montgomery 2002:25). New Mexico was formally a Spanish province until 1821 (Rothschild 2006:79).

Summary

The colony of New Mexico was isolated from Spain and the only road leading to the capital was the bumpy and often dangerous Camino Real. Therefore, the colonists relied on the indigenous populations for labor, services, and goods such as ceramics. Although the Spanish relied on Pueblo made ceramics, they introduced new ceramic vessel forms, like soup plates, in addition to using the traditional Pueblo forms of jars and bowls. This addition of Spanish vessel forms provides the opportunity to examine both the uses of the ceramic forms and the identity of the users.

CHAPTER 3

SOUTHWESTERN CERAMICS OVERVIEW

When the Spanish colonized New Mexico, they relied on indigenous populations for labor and goods because of the great distance and dangerous travel conditions to Mexico. Pueblo made ceramics were widely used by the Spanish colonists and were of great importance for cooking, serving, and storage purposes. In Southwestern archaeology, ceramics have been widely studied to discern sourcing of the ceramics, how the ceramic tradition changed over time and what decorations on the ceramics mean, among other things. The following chapter outlines the history and manufacture of Southwestern ceramics, ceramic ware types, ceramic vessel forms, and a summary of previous ceramic research in the American Southwest.

History of Southwestern Ceramics

Before the use of ceramic vessels, native groups used gourds, baskets, and bags to transport and store their food and water (Crown and Wills 1995:174; Trimble 1987:6). There are several theories as to how ceramic vessels originated in the New Mexico area including, introduction from Mesoamerica and evolution from forms of basketry (Crown and Wills 1995:174). Additionally, the appearance of ceramic vessels coincides with new food

processing and cooking techniques. Many early vessels recovered have soot on the bottoms indicating use over a fire (Crown and Wills 1995: 175-176). It is interesting to note that native groups were using ceramic technologies to produce ceramic figurines before they produced ceramic vessels such as jars and bowls (Crown and Wills 1995:174).

In the Southwest, the Mogollon people began making crude brown pottery around 400 A.D., while the earliest ceramics made by the Ancestral Pueblos were gray (Hayes and Hayes 2012:13-14; Trimble 1987:6). During this prehistoric period, designs and decorations on the ceramic vessels changed. When these prehistoric cultures moved, they left their pottery and made new ceramics when they arrived at the new location (Hayes and Hayes 2012:14). Initially, ceramic vessels were undecorated and served functional purposes. In the 7th century, potters began decorating their pottery (Trimble 1987:6). There is a long tradition of pottery making in the American Southwest with a somewhat arbitrary distinction between prehistoric and historic ceramics. Prehistoric refers to any ceramics made before 1540, which is when Coronado's expedition first arrived in the area and began documenting the history (Hayes and Hayes 2012:14). Historic refers to any ceramics made after 1540.

Pottery Manufacture

Although color and decoration differed from Pueblo to Pueblo, actual production of ceramic vessels was similar throughout the Pueblo world. When making ceramic vessels, the potter would begin by choosing their clay. This raw clay was fully dried, then soaked, and then sifted to take out any impurities such as rocks or roots (Trimble 1987:10). After the impurities were removed, a temper of sand, ground rock, or ground potsherds was mixed into

the clay. Temper was used because it keeps the clay from being too sticky and from cracking when drying (Frank and Harlow 1990:11). Temper varied by Pueblo: Northern Rio Grande Pueblos used volcanic ash, Zia used ground basalt, and Acoma and Zuni used ground pottery sherds (Trimble 1987:11). The varying substances used as temper were ground using manos and metates. After the temper was fully mixed into the clay, the potter could begin forming the vessel. Coiling was the predominant method of manufacture for Pueblo pottery (Trimble 1987:13; Frank and Harlow 1990:11). Potsherds were often used as scrapers to smooth the vessel and remove any trace of the coils, however, some vessels were left corrugated (Trimble 1987:13). Sometimes a slip would be added and the potter would use a polishing stone to polish the vessel before firing. A new kiln was constructed for each firing. The Pueblo potters would use bark, branches, and animal manure to start the fire and cover the vessels. The vessels were covered but not completely because oxygen was needed to flow through (Trimble 1987:25).

Ware Types

On historic sites in the Southwest, a majority of ceramics recovered from all sites are Pueblo produced. Even on Spanish sites, it is estimated that Pueblo made ceramics account for more than 95 percent of recovered ceramics (Thomas et al. 1992:25). Each type of ceramic is classified as a different ware type. A ware is “a class of pottery whose members share similar technology, fabric, and surface treatment” (Rice 1987:484).

One of the most common ceramic ware dating to the late prehistoric and historic period is glaze ware. Typically, glaze wares are ceramics coated in a lead based glaze which

“is a coating of glass melted in place and thus fused with the surface of a vessel” (Rice 1987:151). Judith Habicht-Mauche (2006:5) notes that in the Southwest, “glazes were applied as a paint to add texture and color to the vessel surface” in addition to decreasing the permeability of the vessels. Glazes on Pueblo ceramics are not a coating over the entire vessel but rather a decorative technique (Herhahn 2006:181). Glaze paint as a decoration was widespread throughout the Southwest until 1700. After 1700, the tradition drops off (Frank and Harlow 1990:19).

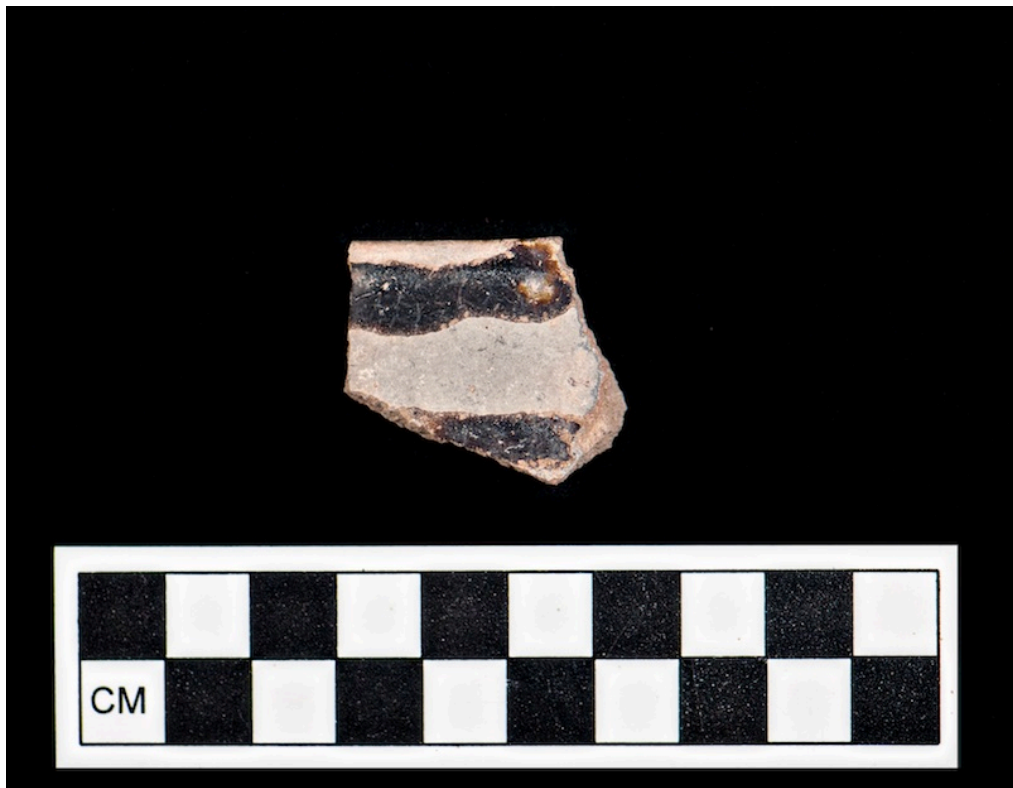


Figure 3.1: Glaze bowl sherd from LA 20,000 collection.

Matte-paint wares are another ceramic ware present on Spanish colonial sites. Matte paint is often flat and dull, as opposed to the glaze ware, which is glossy and raised. There are two types of matte-paint that were used: organic and mineral (Frank and Harlow 1990:19). Organic paint is made by boiling the leaves and shoots of various plants into a thick liquid that was then used to decorate the ceramic vessel (Frank and Harlow 1990:19). Organic paint was only used for black decoration. Mineral paint was made by “adding finely pulverized rock of appropriate type to a binder liquid, whereby various colors can be achieved, principally red, brown, yellow, and black” (Frank and Harlow 1990:19-20).



Figure 3.2: Tewa polychrome bowl sherd from LA 20,000 collection.

An additional Southwest group consists of undecorated utility wares, some of which are micaceous meaning they are tempered with mica. Mica is a natural temper and potters began using clay deposits saturated with mica in 1300 AD (Eiselt and Ford 2007:221). Most utility wares are jars because they were used for storage and transportation purposes. Eiselt and Ford (2007:220) note that utility wares were also used for cooking and serving as well because of their sturdy makeup. It is important to note that the native Pueblo people exclusively produced these ware types (Snow 1984).

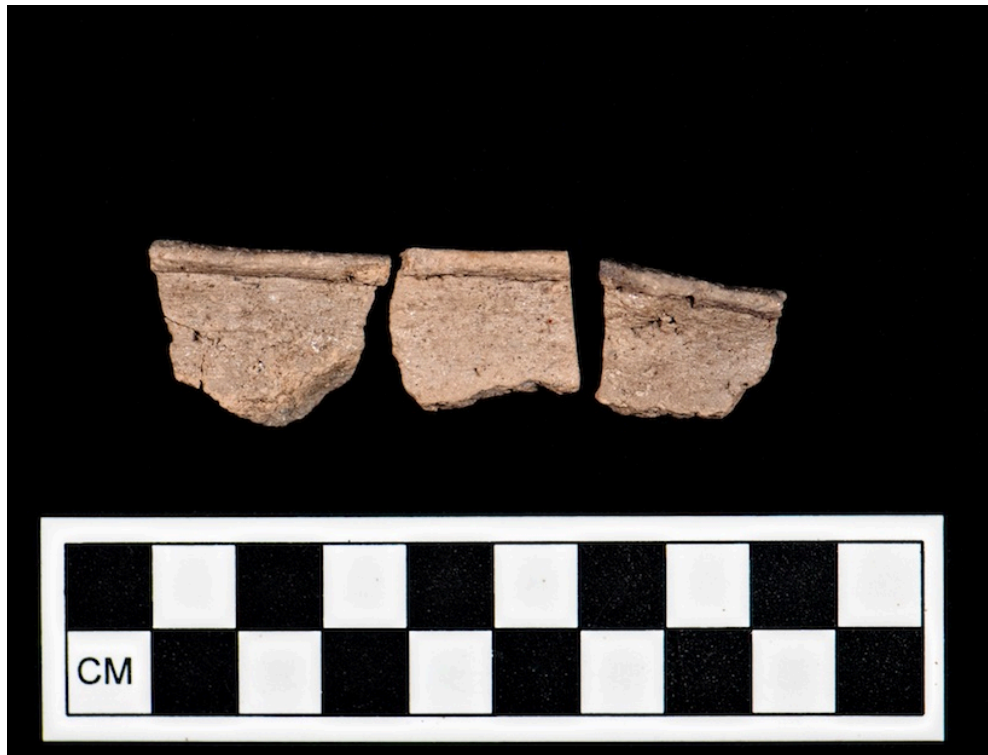


Figure 3.3: Utility ware jar sherds from LA 20,000 collection.

Unfortunately, there is a lack of whole vessel preservation of historic pottery in New Mexico. When the Spaniards arrived, they instituted their own religious rules. They prohibited Pueblo Indians from burying whole vessels with their deceased (Frank and Harlow 1990:6). The Spaniards did, however, utilize the Pueblo pottery because it was difficult to import Spanish-made ceramics to the frontier (Frank and Harlow 1990:5). Generally, bowls tended to break more often because they were subject to cooking hazards along with domestic wear and tear. Jars tended to be used for storage purposes so they were not moved often, thus decreasing the chances of breakage (Frank and Harlow 1990:9). When vessels broke, efforts were taken to mend them when possible. They would drill holes in the broken pieces and tie string through them to put the vessels back together (Frank and Harlow 1990:9).

Pottery Traditions at the Pueblos

Each Pueblo had their own tradition with distinct clay composition and decoration of ceramic vessels. Below I provide an overview of the ceramics produced in Tewa Pueblos (San Juan, Santa Clara, San Ildefonso, Pojoaque, Nambe, and Tesuque) and the Middle-Southern Rio Grande Valley. These areas are close to LA 20,000, may have provided ceramics to the colonists at the site, and provide a background for my ceramic results.

The Tewa Pueblos, located north and northeast of Santa Fe in the Upper Rio Grande Valley, have a long tradition of pottery manufacture. During the early colonial period, Tewa Polychrome was popular. Traditionally, Tewa pottery was decorated with black matte paint but during the 17th century, potters experimented with red, cream, and buff matte pigments

creating a multicolored or polychrome effect (Frank and Harlow 1990:29). Tewa Plain Ware, also referred to as Northern Rio Grande Historic Plain Ware, was typically all one color (ceramics.nmarchaeology.org). Plain Ware vessels are all red (Tewa Red), all black/gray (Tewa Black/Kapo Black), or all buff (Tewa Buff) (ceramics.nmarchaeology.org). Tewa Red can be difficult to determine from sherds because an all red sherd could be a smaller part of a Tewa Polychrome vessel (Frank and Harlow 1990:29). Micaceous utility wares were also produced by the Tewa Pueblos.

While the Tewa Pueblos focused on producing matte-paint wares, the Pueblos in the Middle-Southern Rio Grande Valley focused on making glaze wares. In this area, glaze wares were produced from around 1300 A.D. to the early 1700s (ceramics.nmarchaeology.org). The glaze used is a lead based paint. Glaze wares consist of a variety of colors for the body of the vessel such as red, yellow, buff, and off white (ceramics.nmarchaeology.org). Glaze wares were produced in villages throughout the Southwest notably, San Marcos Pueblo, Pecos Pueblo, and Cochiti Pueblo (ceramics.nmarchaeology.org).

Vessel Types

The Pueblo peoples made a variety of vessel forms for the Spanish including the traditional bowls and jars that they used, but also vessel forms introduced by the Spanish. The most common form introduced by the Spanish is the soup plate. Soup plates are small shallow bowls with everted rims and were used as individual serving vessels (Dyer 2010:47). The Spanish also introduced cups, teacups, baptismal fonts, candlesticks, canteens, and

chamber pots. Jennifer Boyd Dyer (2010) notes that the Spanish may have had stricter guidelines for the production of religious vessels, such as baptismal fonts, but looser guidelines for the production of domestic vessels such as soup plates and cups. Researchers can infer the function of a vessel based on the form, although not all vessels were used for their intended function (Orton et al 1993:76).

The following images are used to show the three vessel forms: bowl (Figure 3.4), jar (Figure 3.5), and soup plate (Figure 3.6). These particular ceramic vessels are not from LA 20,000. Sizes of vessel forms varied but the overall shape remained the same.



Figure 3.4: Largo glaze polychrome bowl (ceramics.nmarchaeology.org).



Figure 3.5: San Ildefonso polychrome jar (ceramics.nmarchaeology.org).



Figure 3.6: Soup plates from the Jemez mission at Giusewa (www.nm.blm.gov).

Glaze Ware Ceramic Typologies

There are a few typologies for glaze wares from the Southwest. For the Western Pueblo region, the focus is on design elements, design layout, and slip color, while the Rio Grande region focuses on temper type and rim form (Eckert 2006:35). Nels C. Nelson “examined design elements and stratigraphic data to establish a chronology of three glaze-painted types at San Cristobal” (Eckert 2006:49). Similarly, A.V. Kidder utilized the ceramic assemblage from excavations at Pecos Pueblo to create a typology that consisted of six ceramic types identified as Glaze I-VI (Eckert 2006:49; Kidder and Kidder 1917). H.P. Mera saw the value in both Nelson’s and Kidder’s work but noted that applying these

typologies to the greater Rio Grande area was somewhat problematic so he created the Rio Grande Glaze Ware Series (Eckert 2006:49; Mera 1933). Mera's typology (see Figure 3.1) consists of six ceramic types like Kidder's, termed Glaze A-F and is based on bowl rims (Eckert 2006:49; Mera 1933). This typology is split up into three temporal phases: Glazes A and B are early, Glazes C and D are intermediate, and Glazes E and F are late (Eckert 2006:49). Glaze A has a terminal date of about 1500 AD while Glaze B is rare making it an inferior temporal marking (Eckert 2006:53-54). Glazes C and D have a terminal date of 1600 AD (Eckert 2006:54-55). Glaze E was popular by the 1520s but researchers have not been able to produce a terminal date while Glaze F was produced between 1575 AD and 1700 AD (Eckert 2006:55-56). There are transitional forms between each glaze series as well (Eckert 2006). Suzanne Eckert (2006:49) notes that these typologies are generally considered to be equivalent, however, Mera's system is the standard for archaeologists working in the Rio Grande region.



Figure 3.7: Mera's ceramic rim typology (Eckert 2006).

Imported Ware Types

In contrast to the Pueblo made ceramics is majolica, a tin glazed ceramic. Majolica is found on sites throughout areas that were occupied by Spain, including, the Caribbean, Florida, Mexico, and New Mexico. In the Caribbean, majolica was directly imported from Spain, while in Mexico, it began being produced by colonists early in the 16th century (Lister and Lister 1974). It is likely that majolica imported into New Mexico was produced in Mexico due to its close proximity. Pieces of Mexican majolica have also been found at non Spanish sites as far away as Maine.

Previous Ceramic Research in the American Southwest

Ceramics are a common artifact class in Southwestern archaeology. Due to their composition, for the most part, ceramics are well preserved in the archaeological record. Some studies have focused on mineralogical and chemical analyses of the ceramic sherds to discern the source of the ceramics, or where they were made (Thomas et al 1992). Other studies focus on using vessel form and size to determine craft specialization, feasting, and household size (Hegmon et al. 1995; Mills 1999, 2007). The following section will cover some of the previous ceramic research on archaeological collections from the American Southwest that relate to my research in some way.

Barbara Mills (1999:99-114) conducted research on prehistoric Pueblo ceramics using rim diameter analysis. She measured rim diameters to see if vessel size increased between 1000 and 1300 AD. The rim diameter measurements showed that vessel size did in

fact increase during this time period. Mills then used this data to interpret why vessel size increased. She concluded that increased vessel size could be due to changing diets, increases in household size, and feasting (Mills 1999:110). Although Mills focused on prehistoric ceramics, her research shows what rim diameter measurements can be used for.

Michelle Hegmon et al. (1995:30) conducted another study that utilized ceramic rim sherds. Prehistoric rim sherds from the San Juan region were examined to determine if the Pueblo people had standardization practices in ceramic production. The researchers measured bowl radii and wall thickness as a way to discern standardization in the production of ceramics (Hegmon et. al. 1995:46). The results showed standardization of some ware types but not others (Hegmon et. al. 1995). This study shows yet another topic that can be discussed using rim sherds as a form of analysis.

Another study by Mills (2007) focuses on bowl sizes to determine evidence of feasting practices. Mills (2007:210) explains that feasting is a social event during which “religion, politics, and identity are simultaneously expressed.” In this study, bowl rim sherds dating from 1000 to 1400 AD were analyzed to determine size and decoration. The results showed that bowl sizes increased through time and decoration switched from interior decoration to exterior decoration (Mills 2007:215-217). Mills (2007) concluded that serving bowls used for feasting were large and had decorations on the exterior for everyone to see when the food was being displayed. Although this study focuses on prehistoric Pueblo use of ceramics in feasting practices, Mills use of rim sherds and discussion of bowl sizes proves enlightening because I am focusing on foodways and feasting is related to this.

Another study, conducted by Jennifer Boyd Dyer (2010), examines ceramic forms that appear after the arrival of the Spanish sometimes referred to as colonowares. She noted that most studies on early colonial ceramics focus on the changes in decoration on the ceramics (Dyer 2010:47). Ceramic forms that appear after the arrival of the Spanish include candlesticks, teacups, and soup plates. Dyer (2010) focuses her analysis on soup plates. Soup plates are small shallow bowls with everted rims (Dyer 2010:47). Dyer (2010) analyzed soup plate rims from four early colonial era sites and concluded that they were most likely used as individual serving bowls. She also explained that the soup plates exhibited regional and Pueblo specific details meaning the Spanish did not make them (Dyer 2010:219-220). The manufacture of soup plates by Pueblo people was likely an effort to appeal to the Spanish call for smaller serving vessels (Dyer 2010:47). This study is especially useful for my research because it is one of the few studies of ceramics from the early colonial period in New Mexico. This study illuminates relationships between the Spanish and Pueblo peoples as well as how rim sherds can be used to study these relationships. Additionally, Dyer's work provides a basis for my discussion of the soup plates in the LA 20,000 assemblage.

Summary

There is a long history of ceramics in the American Southwest. Different ware types originating from different pueblos can enlighten trade routes or sources of labor while vessel types can be linked to foodways. Specifically, the introduction of Spanish vessel forms conveys the relationship of cuisine to identity, ethnicity, and class. This examination of ceramics and foodways continues with the overview of LA 20,000.

CHAPTER 4

LA 20,000: THE SANCHEZ SITE

When the Spanish colonized New Mexico in the early 17th-century, they settled near pueblos in order to have access to goods and labor. Unfortunately, few settlements from this time period have been found and excavated. The following chapter discusses LA 20,000, the Sanchez site, a Spanish colonial *estancia*, or ranching headquarters, located in La Cienega, New Mexico, roughly fifteen miles southwest of Santa Fe.

History of LA 20,000

LA 20,000 was occupied during the seventeenth century prior to the Pueblo Revolt of 1680 (Snow 2009:12). Based on the artifacts and dendrochronology recovered during excavations, the site was likely occupied from the early 1620s to the Pueblo Revolt in 1680 (Snow 2009:12; Thomas et al. 1992: 24). Dendrochronology dates were obtained from Douglas fir and piñon wood fragments. The Douglas fir dates to 1629, while the piñon fragments both date to 1631 (Snow 2009:12). David Snow (2009:12) suggests that LA 20,000 was likely destroyed in the Pueblo Revolt of 1680 based on widespread areas of intense burning discovered across the site during archaeological investigations. There is, however, no way of concretely proving this because of the lack of documentary evidence and

the fact that the site could have burned down prior to the Pueblo Revolt. Whether LA 20,000 was abandoned as a result of a fire, or was abandoned and then burned in the Pueblo Revolt as Snow suggests, is unknown.

Unfortunately, there are very few surviving historical documents that date to the 17th century in New Mexico because of the destruction and burning of churches and Spanish buildings during the Pueblo Revolt of 1680. Since these documents were destroyed, it is not known who inhabited LA 20,000, how many people inhabited LA 20,000, how long they lived there, and when or why they left. David Snow (2009:12) explains that from the documents that survived several families occupied the general area of La Cienega including Alonso Varela Jaramillo, an initial settler from Oñate's colonization, but the identity of LA 20,000's residents cannot be obtained with certainty. At the time, it was common for Spanish colonists to use Native Americans as a source of labor. Trigg (2004:230) suggests that LA 20,000 likely housed an extended family of colonists as well as Pueblo laborers and perhaps enslaved Plains peoples.

History of Archaeological Investigations at LA 20,000

LA 20,000 is roughly two acres in size with a spring fed arroyo cutting through part of it. On account of this arroyo, there is heavy erosion of the southern portions of the site. The Museum of New Mexico's Laboratory of Anthropology undertook initial investigations of LA 20,000 in 1980 and 1982 after installation of a gas line exposed cultural materials. Subsequent excavations between 1987 and 1994 were completed as field schools under the direction of Marianne Stoller of Colorado College and assisted by David Snow. Excavations

included a series of test pits, trenches, and one meter-by-one meter units (Snow 1994:2-3). During the late 1980s, the owner of the property on which the site resides planned to build a sub-development making it necessary for the archaeologists to recover as much data from the site as possible before the site was destroyed (Snow 1994:4). In 1987, a research design was created “whose goal was recovery of sufficient cultural data which might inform on the interrelationships between local 17th century colonial subsistence and economic activities, viz a viz Pueblo-Spanish interactions, as well as the interactions between the local and regional socio-economic and subsistence networks and the interior of Mexico” (Snow 1994:6). More recent excavations were conducted over the past few years by Heather Trigg of the Andrew Fiske Memorial Center for Archaeological Research at the University of Massachusetts Boston, but I am focusing on the ceramic materials recovered from Snow and Stoller’s excavations.

The site is divided into five units lettered A through E (Figure 4.1). Unit A and E comprise the main residential unit. Unit A contains an *horno* (Feature 60), a bee hive shaped oven used for baking wheat bread. Unit B is barn located to the east of Unit A and consists of more basalt rock footings and three cobblestones-in-adobe-mortar columns (Snow 1994:8). A large amount of fauna was recovered from Unit B. Unit C, the corral, is located to the east of Unit B, is nearly square, and was identified by the presence of basalt rock footings west of the main house structure (Snow 1994:6). Both of the southern portions of Units B and C are heavily eroded due to the arroyo which borders the site to the south. It is likely that both Unit B and C are related to the keeping of livestock based on the rock alignments being identified as corrals (Snow 1994:11). Unit D is located at the eastern most

end of the site is a collection of basalt rock aligned in a way that suggests an architectural feature. It is, however, most likely a more recent effort to halt erosion of the terrace (Snow 1994:9). Unit E is the northeastern portion of the main house and lies on a separate property adjacent to the site. On the opposite side of the arroyo, a suspected *torreon*, or tower, was located during the 1980s and 1990s field seasons (Snow 2009:13).

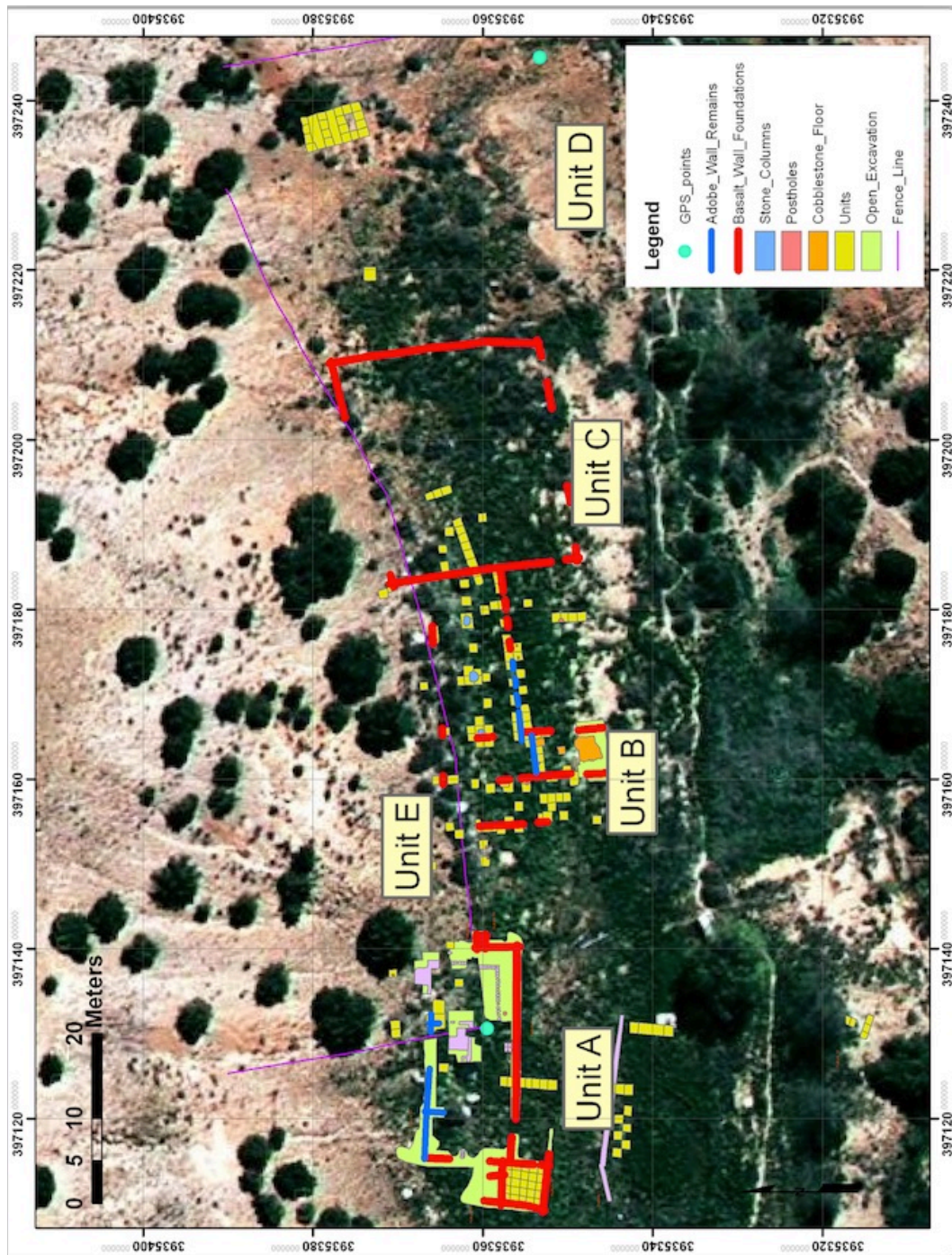


Figure 4.1. Site Map of LA 20,000

David Snow (1994:6) explains that Unit A is a placita style house. The placita was a courtyard that was encircled by the residential rooms of the dwelling (Bunting 1976:60). A typical 17th century placita style house had two or three rooms and was rectangular in size, however, LA 20,000 is much larger than this (Bunting 1976:60). Any windows in the residence faced the placita. This was generally for safety as these houses were usually isolated (Bunting 1976:67). The typical building material was adobe bricks.

Adobe was widely used throughout the Southwest and the color of the adobe depended on the clay available in the area. Bunting (1976: 62) notes that the typical 17th century house would have a corral attached to the back of the dwelling surrounded by rooms containing livestock. This is not the case for LA 20,000. The corral is located to the east of the residence and not the rear, and it is attached to the barn. Perhaps this is because the house was built against a hill, likely for protection, so the corral was placed beside the house instead of behind it.

Previous Research at LA 20,000

Some previous analysis has been completed on the ceramic assemblage recovered from LA 20,000. David Snow (2009:17) conducted a ware type analysis of all 30,673 ceramic sherds collected between 1980 and 1995. He determined that 63.1% of the assemblage is Rio Grande glaze-ware, 36% is matte-paint, .49% is imported from Mexico and China, .3% is prehistoric, and .12% is unidentifiable (Table 4.1). It is important to note that Pueblo people produced a majority, 98.3%, of the ceramic sherds recovered from LA 20,000. Historic utility wares, which Snow categorized as matte-paint, are also present in the

assemblage. Additionally, Snow (2009:17) utilized Mera's typology for the Rio Grande glaze-ware rim sherds. The results of this analysis are as follows: Glaze F is 77.5%, Glaze E-F is 2%, Glaze E is 19%, and there are trace percentages of Glaze D-E, Glaze D, Glaze C-D, and Glaze C (Snow 2009:17), (Table 4.2). As stated previously, Mera's Rio Grande Glaze typology is useful in dating both the ceramics and the sites they are recovered from. Snow's work shows that none of the ceramics were produced after 1700 AD, which confirms the assertion that LA 20,000 was abandoned and burned during the Pueblo Revolt. David Snow is extremely knowledgeable about Southwestern ceramics so his classifications and assignments of the ware types are implemented in this thesis.

Table 4.1 Ware Type Percentages of all Excavated Sherds

Ware Type	Percentage of Assemblage
Glaze Ware	63.1
Matte-Paint (including Utility wares)	36
Imports	.49
Prehistoric	.3
Unidentifiable	.12

Table 4.2: Mera's Glaze Rim Typology Results

Glaze Rim Typology	Percentage of Assemblage
Glaze F	77.5
Glaze E-F	2
Glaze E	19
Glaze D-E	Trace
Glaze D	Trace
Glaze C-D	Trace
Glaze C	Trace

In addition to ware type analysis, an x-ray fluorescence analysis was conducted on a sample of ceramic sherds with the goal of determining the source Pueblos for the ceramics at LA 20,000. In addition to ascertaining production location, a major goal of this study was to gain insight on the complex economic relationships between the Spanish settlers and nearby Pueblo people (Thomas et. al 1992:25). A total of 99 sherds of various ware types from the Spring 1990 excavations were selected for analysis (Thomas et al. 1992:26). The results show that the glaze ware types originated from Pueblos located east, south, and southwest of LA 20,000, while the matte wares derived from Tewa Pueblos to the north (Thomas et al. 1992:32). Multiple origins of the ceramics indicate the possibility of an extensive trade network involving the surrounding Pueblos (Thomas et. al. 1992). This analysis was used to provide a preliminary look at social relationships between the Spanish and neighboring Pueblo people, however, a more complete examination was never undertaken.

Another study, conducted by Heather Trigg (2004), examined the plant remains recovered from LA 20,000 in order to illuminate the food consumed by the inhabitants. The results show that the colonists were consuming both Old World and indigenous foods at LA 20,000. Old World foods represented in the assemblage include “two types of wheat (bread wheat and emmer), peas, apricots, and peaches” (Trigg 2004:231). Indigenous foods represented in the assemblage include maize, pinon nuts, cholla, ground cherries, and purslane (Trigg 2004:232). Additionally, “wheat rachis fragments (the part of the plant that holds the kernel to the stalk) were also recovered, indicating that wheat was threshed and probably grown nearby (Trigg 2004: 231). Trigg (2004:240) notes that “re-creating European-style agriculture and livestock production not only provided the desired Iberian cuisine, but also was one way for the colonists to control the land and establish civilization.” This study proves useful for my examination of what the ceramics were being used for and if ceramics are an indicator of identity. I use the plant remains, which indicate what foods the colonists were eating, and relate them to the ceramic vessels recovered from LA 20,000 that were used to prepare, store, and serve the colonists food.

CHAPTER 5

METHODOLOGY

General Ceramic Analysis Methodologies

There are different methods for analyzing ceramic assemblages depending on the focus of the study. For my particular study, methods concerning the identification of vessel form, vessel function, and vessel size are most important. These characteristics can illuminate the foodways and identity of the vessel's users.

Form, function, and size are all somewhat related. Rice (1987:211) and Sinopoli (1991:84) contend that there is a relationship between vessel form and function. Rice maintains that although some vessels could serve multiple functions, the form of the vessel is usually reflective of what the potter intended its use to be (Rice 1987:224). However, the intended use of a vessel may not be what the user actually used it for. James Skibo (2013:27) purports that “the potter made technical choices related to performance in manufacture and use in accord with the vessel's intended function(s), whether techno-, socio-, ideo- or emotive functions.” Similarly, Rice (1987:207) contends that “each use places different demands on the vessel, and so its suitability for a particular task depends on its design, in an engineering as well as an artistic sense.” Not everyone is convinced that form and function are relational especially in circumstances where the makers and the users are from two very

different groups. Anna Shepard (1971:224), author of *Ceramics for the Archaeologist*, asserts that the relationship between vessel form and function is not simple or easy to discern. This is due to the fact that the same vessel form may have multiple functions, or the same function may come in many different forms (Orton et al 1993:76; Shepard 1971:224). I recognize that specific ceramic function may not be correlated to form, however, I use broad function functional categories that are related to general activity sets (see Rice 1987).

There are three main functional categories of ceramic vessels in the American Southwest during the period: storage, processing, and transfer (Orton et al. 1993:217; Rice 1987:211). Processing refers to food preparation and/or cooking while transfer refers to serving and eating. It is important to note that some vessels may fit into multiple categories. A vessel's function is usually based upon its size and shape (Rice 1987:225-226). Rice (1987:216-217) explains that orifice size helps determine vessel form. Larger openings are usually indicative of bowls or plates, while smaller orifices are indicative of jars (Frank and Harlow 1990:9; Rice 1987:216-217). Rice (1987:236) contends that "vessels used in both cooking and processing have larger orifices than those used for storage," while "vessels used for long-term storage have greater volumes than those used for short-term storage." Additionally, "serving and eating vessels tend to have their greatest diameter at the rim" (Rice 1987:236). Rice clearly demonstrates that the size and shape of the vessel can aid in determining the function of the vessel.

Rim sherds are the most useful type of sherd for determining vessel size and form when a whole vessel is not available (Rice 1987:222; Shepard 1971:245). Shepard (1971:247) explains that rim sherds are especially useful because they are an element of style

and function. Additionally, rim sherds are vital because the rim “profile shows both interior and exterior outline at once and also gradual thickening that is not perceived in the perspective view, it will give the impression of a greater diversity of form” (Shepard 1971:247). In Southwestern ceramic studies, examining rim sherds is a common practice. The prehistoric rim sherds recovered from the Transwestern Pipeline Expansion Project were used to determine vessel size and vessel function (Mills et al. 1993:335). Only bowl rim sherds were examined because bowls fulfill cooking and serving purposes, while jars can serve multiple functions (Mills et al. 1993:336). Although their study is on prehistoric ceramics, many forms are the same as those found at LA 20,000, and Mills and colleagues demonstrate the ways in which rim sherds can be examined.

Methods

When examining the form, function, and size of the rim sherds from LA 20,000, I began by determining if a sherd originated from a jar, bowl, or soup plate. To do this a few characteristics were considered such as the curvature of the rim and the location of glazes. Generally, bowls have wider orifices, while jars have smaller openings (Frank and Harlow 1990:9; Mills et al. 1993:335). Additionally, bowls tend to have paint or glaze decoration on the interior and perhaps exterior, while jars typically only have paint or glaze decoration on the exterior. Mera’s diagrams of bowl rims for Glazes A-F were also consulted for the identification of bowls (Mera 1933). Since soup plates are serving platters, they have an everted rim that tends to be flatter and less concave than bowl or jar rim sherds. Some sherds

in the collection were too small to make a determination. Also, since these vessels were made by hand, there are imperfections. In some cases, the imperfections made it difficult for me to confidently provide an accurate determination of vessel form.

The next step was measuring the rim diameter of each bowl and jar sherd. The measurement of the rim sherd must account for at least five percent of the total vessel size in order for the measurement to be accurate. The best way to calculate the orifice diameter of a vessel is to use a standard diameter-measurement template (Figure 5.1), which is marked in centimeters and also shows what percentage of the total rim the sherd encompasses (Orton et al 1993:173; Rice 1987:222-223). Rice (1987) provides a clear explanation of the proper way to measure a rim sherd using the standard diameter-measurement template. The lip of the rim sherd must form the same plane as the original vessel and in order to do so, one must hold the lip of the rim at eye level (Rice 1987:222). To properly measure a rim sherd, “a horizontal plane can be envisioned by tilting the sherd until three points along the uppermost edge – one at each end of the sherd and one in the middle – are aligned horizontally” (Rice 1987: 222-223). I followed Rice’s guidelines when determining the rim diameter of all sherds in the LA 20,000 collection that met the five percent guideline.

I used the above methods to analyze the ceramic rim sherds recovered from the structural components (house, barn, corral, etc.) of LA 20,000 that were excavated between 1980 and 1995. I did not look at rim sherds recovered from the midden. A total of 30, 673 body and rim sherds were discovered across the entire site, including the midden, during these excavations. I looked at 1,240 rim sherds, or roughly four percent of the total ceramic assemblage. I created an Excel spreadsheet to record the following attributes when

appropriate: field specimen/artifact number, unit, feature, quadrant, grid, level, vessel type, ware type, rim diameter, glaze bowl rim type, physical description (body color, glaze color, location of glaze decoration, etc.), and any extra pertinent notes about the sherd.

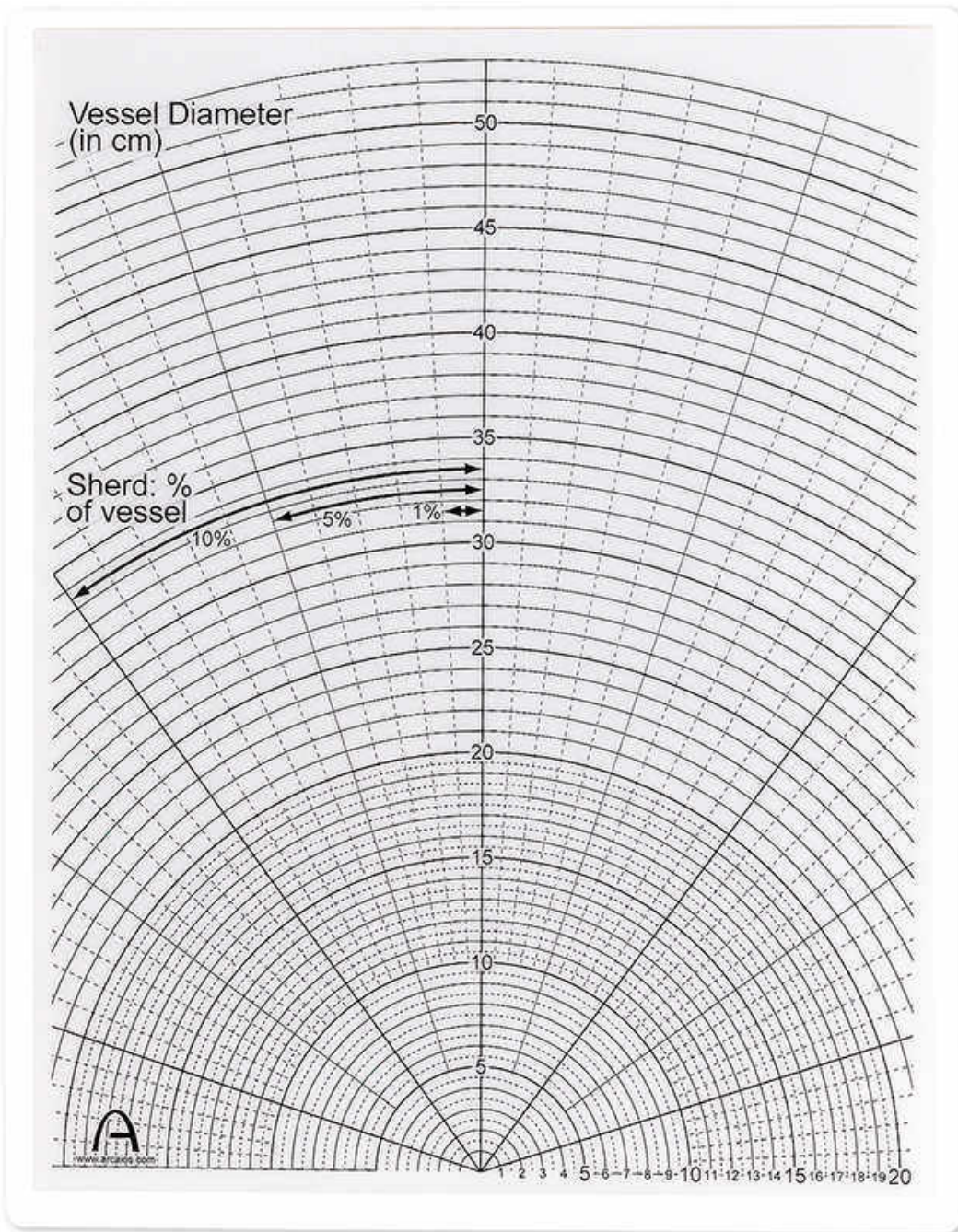


Figure 5.1. Rim Diameter Measurement Form (http://www.forestry-suppliers.com/product_pages/Products.asp?mi=75852)

CHAPTER 6

RESULTS

I analyzed a total of 1,240 ceramic rim sherds for this study from excavations undertaken from 1980 until 1995. These sherds were collected from all areas of the site except the midden.

Of the 1,240 rim sherds studied, 1,088 were excavated from Unit A, 120 came from Unit B, 6 from Unit C, 1 from Unit D, and 25 from Unit E (Table 6.1). The high number of sherds recovered from Unit A confirms Snow's theory that Unit A was the house or residential unit.

There are four prehistoric ceramics in the assemblage including one prehistoric utility, one Wiyo Black on White, and two Santa Fe Black on White. According to David Snow (2009:16), LA 149, a prehistoric glaze-ware field house, is situated on the top of the hill above the residential Unit A. It is likely that the four prehistoric rim sherds came from this site, and ended up at LA 20,000 through the process of erosion. The rest of this chapter focuses on the 17th-century ceramic materials. First I discuss the vessel form results, then the ware type results, and then rim diameter results.

Table 6.1: Sherd Count by Unit

Unit	Sherd Count
A	1,088
B	120
C	6
D	1
E	25

Vessel Form

A variety of vessel forms were present in the ceramic assemblage from LA 20,000. Bowls are the most common vessel form present with 472 rim sherds. There are 394 soup plate sherds in the assemblage and 286 jars. Vessel form was not able to be determined for 88 of the rim sherds due to small size or irregularities of the ceramics (Table 6.2 and Figure 6.1).

Table 6.2: Vessel Form Counts

Vessel Form	Sherd Count	Percentage
Bowl	472	38
Soup plate	394	32
Jar	286	23
Indeterminate	88	7

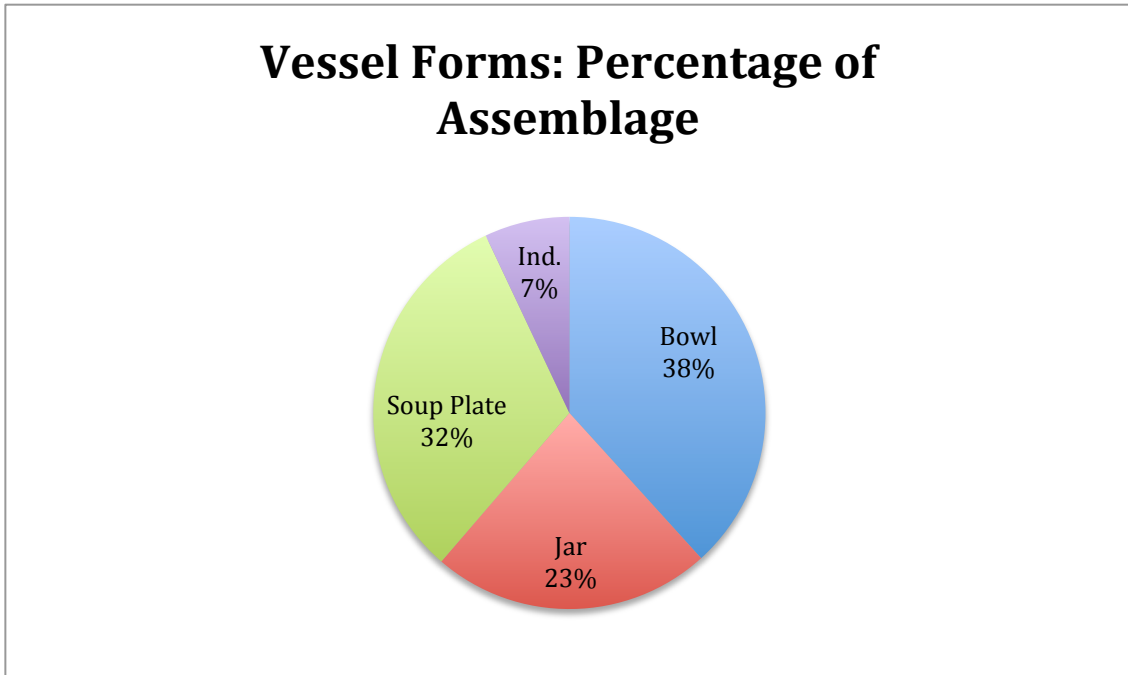


Figure 6.1. Percentage of each vessel form in assemblage

Ware Type

According to Snow (2009) ware types present in the assemblage include, glaze, utility, Tewa, Tabira B/W, Wiyo B/W, Santa Fe B/W, majolica, Hopi yellow ware, Acoma, prehistoric utility, and indeterminate. A large majority of the rim sherds are glaze ware at 910 with the next most prevalent being utility wares at 232 (Table 6.2).

Table 6.3: Sherd Count by Ware Type

Ware Type	Sherd Count
Glaze Wares	910
Utility	232
Tewa (matte)	76
Indeterminate	12
Majolica	1
Hopi Yellow ware	1
Prehistoric Utility	1
Wiyo B/W (Prehistoric)	1
Acoma	2
Santa Fe B/W (Prehistoric)	2
Tabira B/W	2

Of the glaze ware sherds present in the assemblage, 417 originated from bowls, 98 originated from jars, 360 originated from soup plates, and 35 are indeterminate (Table 6.3 and Figure 6.2).

Table 6.4: Glaze Ware Sherd Count by Vessel Form

Vessel Form	Sherd Count
Bowl	417
Jar	98
Soup Plate	360
Indeterminate	35

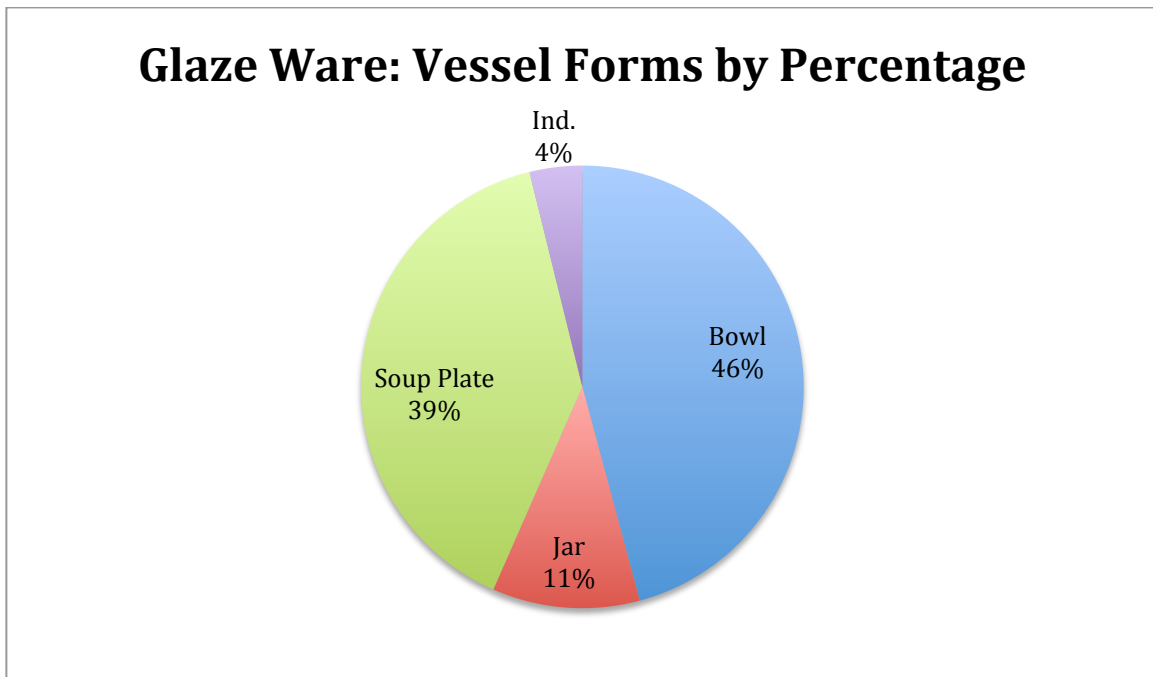


Figure 6.2. Glaze ware: vessel forms by percentage

A majority of the utility ware rim sherds, 173, originate from jars while 3 are from bowls, and 17 originated from soup plates. Thirty-nine of the utility ware sherds are indeterminate (Table 6.4 and Figure 6.3).

Table 6.5: Utility Ware Sherd Count by Vessel Form

Vessel Form	Sherd Count
Bowl	3
Jar	173
Soup Plate	17
Indeterminate	39

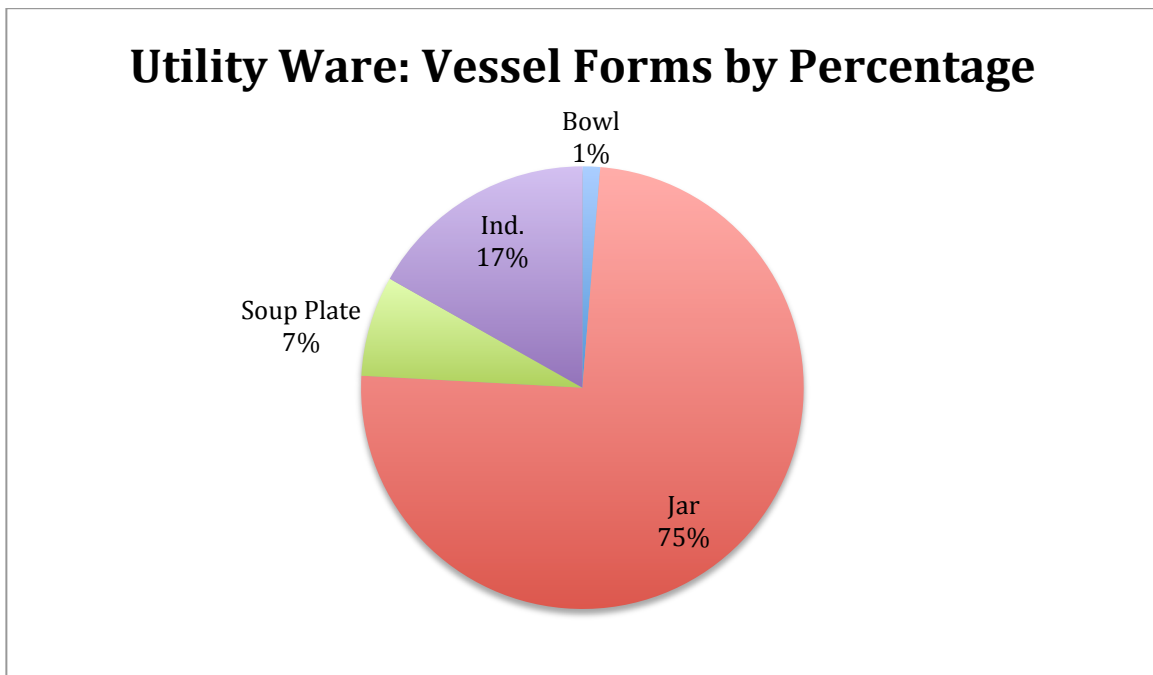


Figure 6.3. Utility ware: vessel forms by percentage

Summary of Vessel Forms and Ware Types

It is not surprising that a large majority of the ceramics were recovered from Unit A, because Unit A was the house, which is where ceramics were likely used the most. Bowls are typically the most common vessel form recovered on Spanish sites in New Mexico and this is true for LA 20,000. However, I was surprised at the large number of soup plates present in the assemblage. Soup plates are traditionally used as individual serving vessels so this large number speaks to the foodways practices at LA 20,000. This is discussed further in the next chapter.

A majority of the glaze wares are bowls and soup plates. Bowls are used for food preparation and serving, soup plates are used for serving, and jars are used for storage and transportation. It makes sense that vessels used for serving would have decorations on them. A large majority of the utility wares are jars which makes sense because one would likely not use their most decorated vessel to store grain in a back room. Additionally, jars were used to transport water and agricultural goods a process that exposes the vessel to potential breakage.

One surprise was the amount of matte-paint wares in the rim sherd assemblage. Snow's (2009) results show that 36 percent of the entire assemblage, both rim and body sherds, are matte-paint wares. My results show that only 6 percent of the rim sherds are matte-paint wares. Upon further research, I realized that Snow (2009) included the utility wares in the matte-paint category. When adding the number of utility rim sherds to the number of matte-paint rim sherds, 24 percent of the rim sherd assemblage is what Snow (2009) considers matte-paint. This is much closer to the 36 percent that Snow (2009)

recorded. This discrepancy could simply be due to the fact that more body sherds were recovered from the site than rim sherds. Snow (2009) notes that 30,673 were recovered from LA 20,000 between 1980 and 1994. I only analyzed the 1,240 rim sherds.

Rim Diameter

Of the 1,240 ceramic rim sherds, I was able to determine the rim diameter of 323 sherds because a large majority of the rim sherds were too small to extrapolate accurate vessel size. Rim diameters ranged from 6 cm to 40 cm. Of the rim sherds measured, 127 are bowls, 100 are jars, 87 are soup plates, and 9 are indeterminate (Table 6.4). Diameter range and mean diameters were calculated for each vessel type (Table 6.5). Figures 6.6, 6.7, and 6.8 show the distribution rim diameter sherd counts of bowls, jars, and soup plates.

Table 6.6: Vessel Form of Measured Rim Sherds

Vessel Form	Sherd Count
Bowl	127
Jar	100
Soup plate	87
Indeterminate	9

Table 6.7: Diameter Range Mean Rim Diameter by Vessel Form

Vessel Form	Diameter Range	Mean Rim Diameter
Bowl	6 cm – 40 cm	15.82 cm
Jar	6 cm – 29 cm	11.81 cm
Soup plate	12 cm – 40 cm	15.19 cm

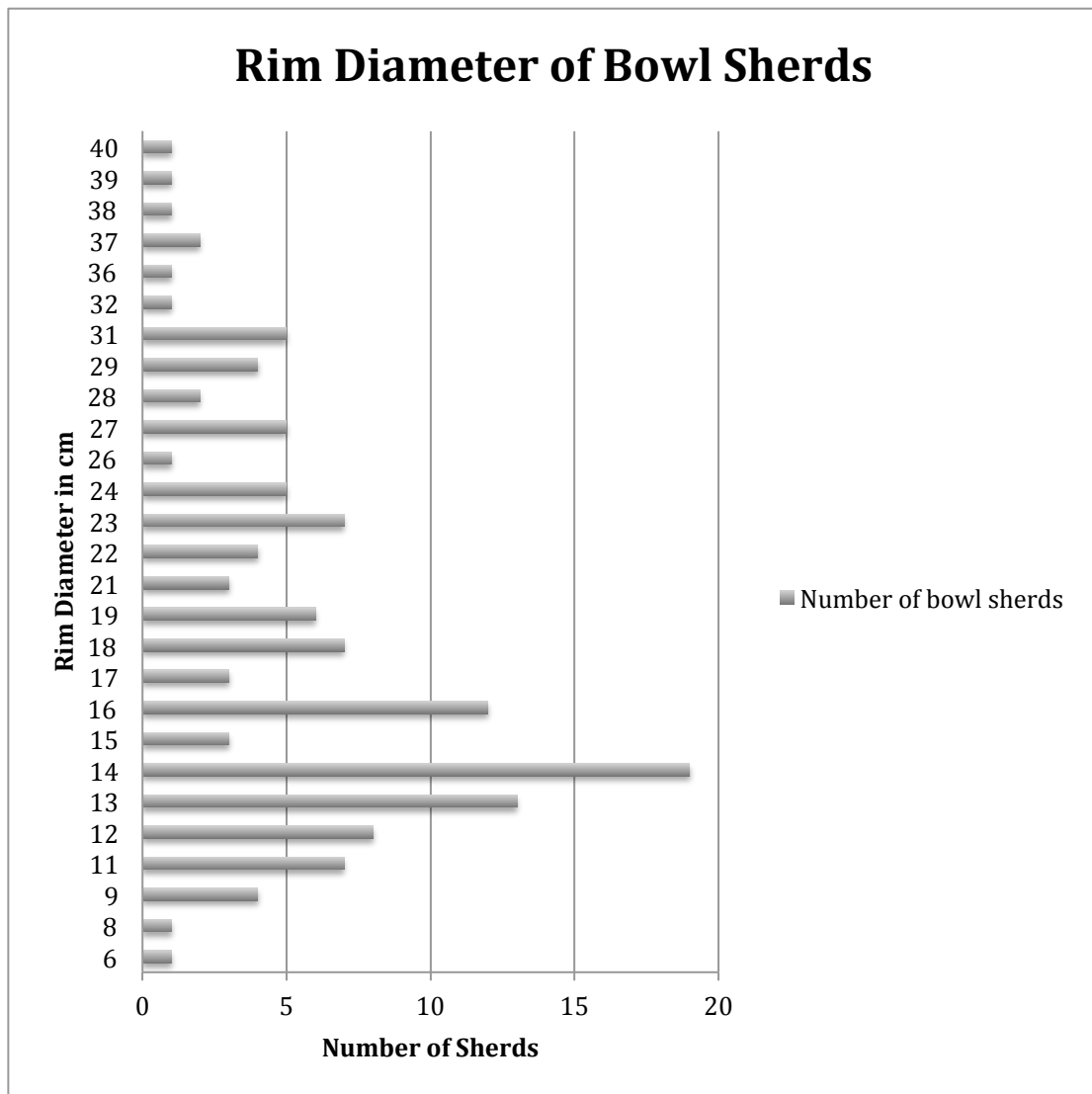


Figure 6.6: Rim diameters of bowl sherds

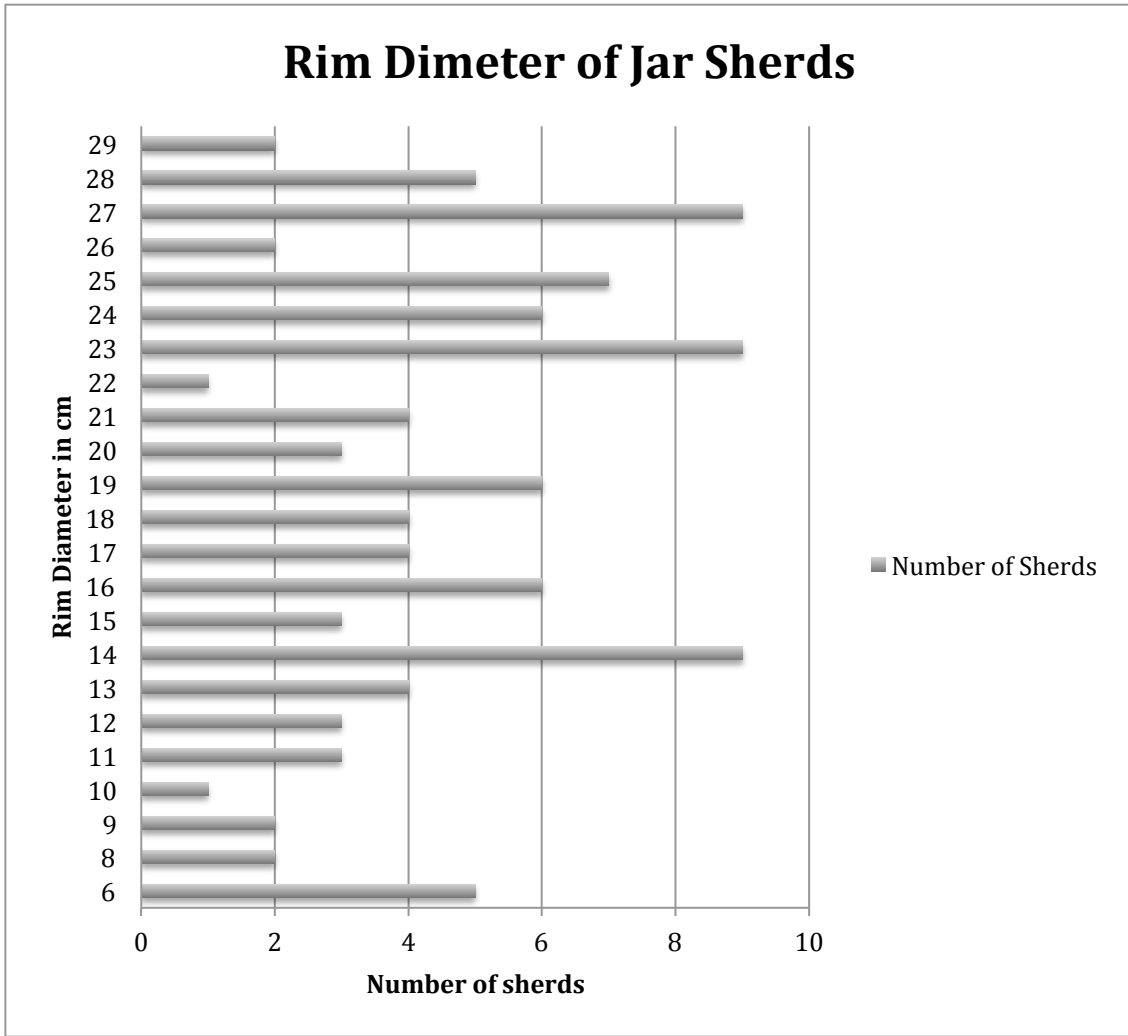


Figure 6.7: Rim diameter of jar sherds

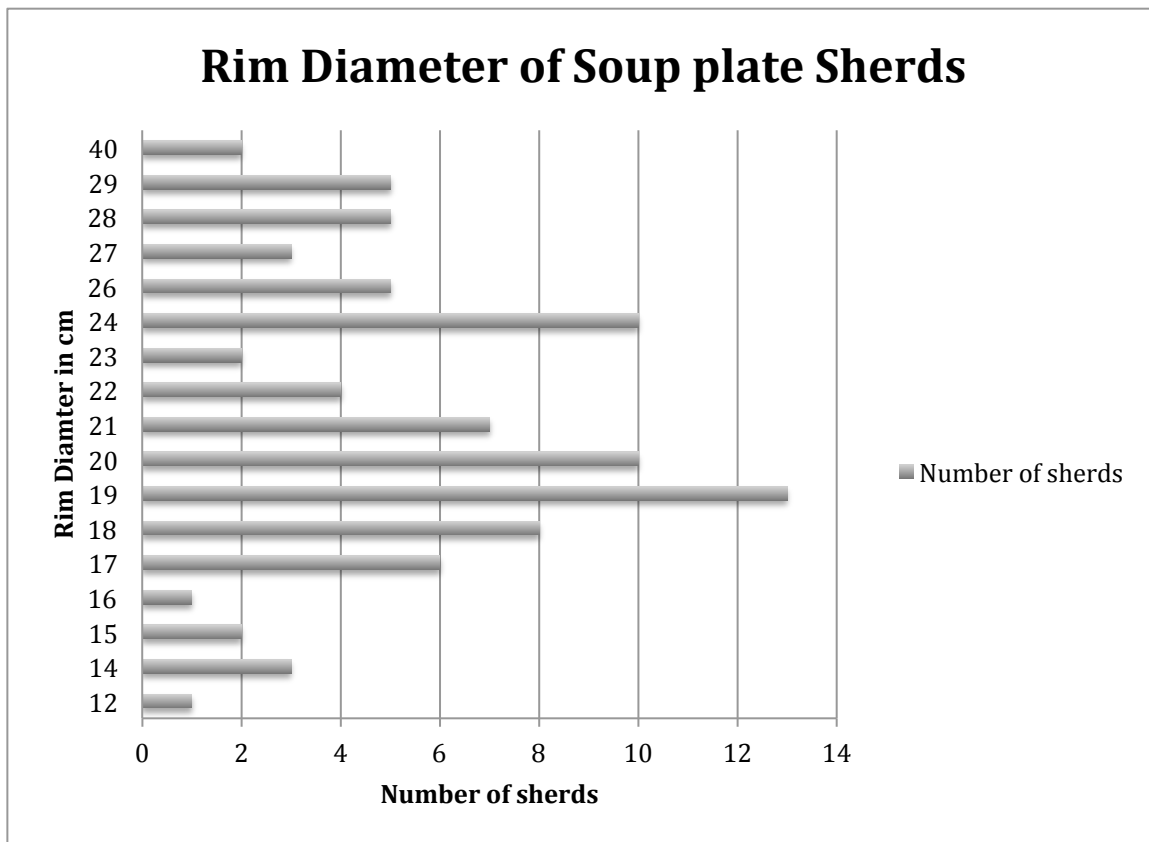


Figure 6.8: Rim diameter of soup plate sherds

Summary of Rim Diameter

The wide variety of rim diameters shows that there were small, medium, and large size bowls, jars, and soup plates. Bowls were used for food preparation and serving and it is possible that certain sized bowls were used for certain foodways practices. For instance, large bowls, called dough bowls, were typically used to knead and make wheat dough. There is a fairly wide range for jar diameters as well. The form and shape of jars make them ideal

for storing and transporting items such as water and agricultural products. Perhaps, like bowls, certain size jars were used for certain products.

There are a few clusters present in the size data. For the bowl sherds, there is a cluster from 11 cm to 16 cm and for the jar sherds, there is a cluster from 12 cm to 19 cm and 23 cm to 28 cm. There are no clusters for the soup plates, however, there is a wide range of sizes. In New England, different sized plates have different names such as saucer (small), plate (medium sized), and platter (large) but this is not the case for New Mexico. These clusters could represent different functional categories for the different vessel types, however, due to the lack of documentary evidence, this cannot be determined with absolute certainty.

Michelle R. Zulauf completed a study on indigenous cuisine on the isthmus of Tehuantepec in Mexico during the 17th century. In her examination, she focuses on the types of food the Zapotec community ate as well as the vessels they used to cook and serve their food in. In this area of Mexico, *ollas*, flat-based globular vessels, *comales*, flat clay griddles, and *jarras*, amphora-shaped vessels, are the most common (Zulauf 2013:73-77). *Ollas* were used for food preparation and sometimes storage, while *comales* were used to cook or sear food, and *jarras* were used to transport liquids (Zulauf 2013:73-77). Zulauf notes that certain size vessels likely have specific purposes (2013:73). She suggests that small *ollas* were for storage while large *ollas* were for cooking (Zulauf 2013:73-74). Although this study focuses on a different culture, Zulauf's work shows that often times, vessel size is an indicator of vessel function.

Hardin and Mills (2000) examined a collection of Zuni ceramics dating to the 19th century. They note that both small and large jars are present in the assemblage and attribute this to smaller vessels being used by girls and larger vessels being used by women (Hardin and Mills 2000:144). Similarly, there is a wide variety of bowl sizes which the researchers classified as small, medium, and large (Hardin and Mills 2000:148). Hardin and Mills (2000:148) maintain that small bowls were used for individual eating, medium bowls were used for communal eating, and large bowls were used for preparing bread. Although this study is from a much later time period than LA 20,000 and is from a pueblo population, it can still be useful in terms of thinking about vessel function and its relation to vessel size.

Perhaps, younger individuals at LA 20,000 used small jars while adults used larger jars. Often, jars were used to transport water and it makes sense that smaller individuals may not have been able to carry large quantities at a time and therefore used smaller vessels. Similar to the Zuni study, the large bowls at LA 20,000 were likely used for bread making. Whatever the purpose, it is likely that different size vessels had different or more specialized purposes.

Indications of Trade Relationships

The composition of the ceramic assemblage indicates that the inhabitants of LA 20,000 were in fact engaging in trade. There is no indication of ceramic production at LA 20,000 in the archaeological record. The large majority of Pueblo made ceramic sherds indicates those living at LA 20,000 traded or bartered for ceramics from the native populations. As noted previously, there were no forms of currency used in colonial New

Mexico at this time so they would not have purchased these ceramics. This is consistent with prior ceramic research from the 17th century (Snow 2009; Trigg 2003).

There is one rim sherd of imported majolica in the assemblage that I analyzed (Figure 6.9). David Snow (2009:13) reported 4 majolica rim sherds in his analysis of the entire site assemblage. Majolica has been studied the most out of all Spanish colonial ware types. In most of these studies, majolica is seen as a luxury item and is used to indicate economic status (Voss 2012:40). During the 17th century, the only people with access to imported goods were the Franciscans, so how did the inhabitants of LA 20,000 obtain these imported ceramics? A concrete answer to this question may not be possible. Perhaps the inhabitants of LA 20,000 were friendly with the friars and received the ceramics as a gift or perhaps they traded agricultural goods or other goods with the friars. Unfortunately, the archaeological record does not give us a complete answer to these relationships, however, the presence of majolica shows that the people of LA 20,000 had some sort of relationship with the friars.

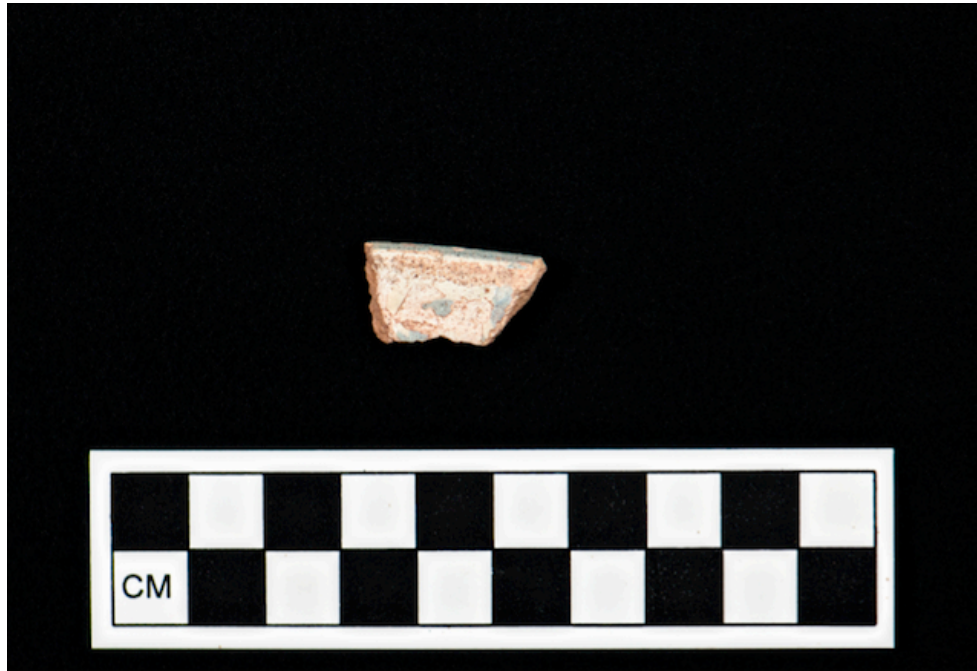


Figure 6.9: Majolica sherd

In addition to the majolica sherd, there is one Hopi yellow ware sherd in the assemblage (Figure 6.10). The Hopi resided in northeast Arizona several hundred miles from Santa Fe and began making yellow ware around 1300 AD. This type of ceramic is characterized by a pale yellow color and the appearance of a lack of temper (Wilson 2012). The only temper within yellow ware is fine natural inclusions and the potters added no extra tempering materials (Wilson 2012). Typically, these wares were not slipped, but heavily polished and often decorated with black mineral paint (Wilson 2012). Wilson (2012) notes that Hopi yellow ware was produced exclusively in Hopi territory but has been found on sites throughout the Southwest. Hopi yellow ware is hard and durable which made it a desirable

ceramic to have (Wilson 2012). This sherd indicates that there was trade with groups outside of the Santa Fe area. However, we do not know if the Spanish were trading with the Hopi or if Pueblo groups traded with the Hopi and then with the Spanish, or down the line trade. It is striking that a small Hopi sherd was present in the LA 20,000 assemblage due to the distance between the Hopi and the site. However, at the Las Majadas Site (LA 591), occupied from 1620-1680, a Hopi soup plate was recovered (Warren 1979:239), so the occurrence of a Hopi vessel at another 17th-century Spanish site shows that this was perhaps not uncommon.



Figure 6.10: Hopi sherd

Evidence of Mending

Often times, instead of discarding broken ceramics, people would mend the pieces back together. They did this by drilling a hole on either side of the crack and would then lace the two pieces together with twine, leather, or sinew (Young and Nagrant 2004:54). Young and Nagrant (2004) studied mend holes in ceramics recovered from two prehistoric sites in Arizona dating from 1100 to 1300 AD. They sought to relate mend holes to the value of a vessel. Young and Nagrant (2004:54) believe that repairs can be used to identify valuable objects because the repairers thought the object was “valuable enough to warrant extra time and effort.” Results of this study show that bowls were mended more often than jars which the researchers attribute to vessel function (Young and Nagrant 2004:56). Jars are typically used for storage, and the users would not want their stored food or seeds spoiling due to a crack in the vessel, therefore a mended jar would not be functional especially for liquid storage. Additionally, mend holes are found more on decorated wares than utility wares (Young and Nagrant 2004:56).

One sherd in the assemblage shows evidence of mending (Figure 6.11). This sherd is from a bowl that was recovered from Unit A. The placement of the hole near the rim, the fact that it is a bowl sherd, and is decorated indicates that this is a mend hole (Young and Nagrant 2004:65). Sometimes, broken ceramics were made into pendants, however, these pieces usually are formed into different shapes that no longer look like the ceramic vessels they originated from (Young and Nagrant 2004:65). After researching, it is my belief that the inhabitants of LA 20,000 mended broken ceramics at least once. This piece may have been mended because it was not easily replaceable or perhaps the inhabitants valued this

bowl and took the extra effort to repair it. We will never know for certain why the ceramics were mended, however, this particular ceramic sherd tells us that the inhabitants of LA 20,000 were mending their broken ceramics.



Figure 6.11: Mend hole

Summary

The results of this study show that a majority of the assemblage consists of bowls which likely had a variety of purposes including preparing and baking bread in the larger bowls. Soup plates, or individual serving vessels were the next most common form in the assemblage and jars, of a variety of sizes and likely used to store and transport goods, were the third most common form. Additionally, glaze wares are the most common ware type in the assemblage which makes sense because of LA 20,000's locale in the middle Rio Grande Valley where glaze ware and Tewa wares were common. The implications of these results are discussed in the following chapter.

CHAPTER 7

DISCUSSION AND CONCLUSIONS

Introduction

The results of this research give insight into life at LA 20,000, an isolated *estancia* on the frontier of New Mexico. Since the vessel forms and ware types present in the ceramic rim sherd assemblage are consistent with those from other sites of this time period, I focus on the relationship of ceramics, specifically dough bowls and soup plates, to food and identity. In this chapter, I discuss vessel function related to vessel form and comparisons to other sites.

Ceramics, Foodways, and Identity

Foodways or cuisine are a vital part of conveying identity, whether social or cultural identity. Cuisine is not limited to just the foods being consumed but also the preparation and serving of those foods (Trigg 2004:227; Pavao-Zuckerman and Loren 2012). Cuisine is defined as

cultural constructs that include rules for the appropriate manner of preparation of foods (recipes, tools, combinations of foods), the traditional flavorings of staples, the number of meals consumed per day the manner of serving completed dishes, the use of food in ritual activities, and the importance of food taboos (Crown 2000).

Spanish colonial sites are multiethnic which provides an interesting study of how cuisine is related to identity. The use of ceramics in preparation and serving is directly related to the types of cuisine being consumed.

One study, of particular utility here, is Pavao-Zuckerman and Loren's (2012) analysis of food and tablewares at Presidio Los Adaes, an 18th-century Spanish colonial presidio in Texas. They looked at both the types of food being consumed and the tablewares being used to determine identity. Using zooarchaeology remains and the ceramic assemblages of three distinct households, they determined that although the food being consumed in all three households were the same, the ways in which the foods were being presented using tablewares was different (Pavao-Zuckerman and Loren 2012:202). Animals consumed include both domestic and wild animals, as well as fish, but beef was a staple (Pavao-Zuckerman and Loren 2012:217-218). Like on the New Mexico frontier, a majority of the ceramic assemblage consists of Native American made ceramics. The ceramic assemblage from the Governor's House yielded more individual place settings, while the two other households, of lower status, had more bowls which were used for communal eating (Pavao-Zuckerman and Loren 2012:221). The authors (2012:221) believe that this is due to Iberian eating customs of higher-status individuals serving their meals on individual place settings. Pavao-Zuckerman and Loren (2012:221) came to the conclusion that vessel forms are related to status: lower-status households used bowls for communal meals, while higher-status households used individual vessels. This study is useful because the site they examined is multiethnic and on the Spanish frontier just like LA 20,000. Additionally, the authors show how ceramics can be used to extrapolate identity and cultural customs.

Foodways at LA 20,000

Since LA 20,000 has an horno and there are wheat seeds in the assemblage, I expected there to be dough bowls present in the assemblage. Several sources indicate that dough bowls are large bowls used to mix and knead a large amount of bread dough but do not provide a typical size (Frank and Harlow 1990; Hayes and Blom 1996). Jonathan Batkin (1987) explains that it was not until the 1800s that dough bowls were typically greater than 16 inches (approximately 40 cm). Since there is no recorded standard size of dough bowls prior to the 1800s, I decided to include any bowl within 5 cm of Batkin's 40 cm determination. These ceramics were made by hand, thus, inconsistencies are to be expected. There are 6 bowls in the assemblage that have a diameter larger than 35 cm. I expected more dough bowls in the assemblage because of the presence of an horno and the recovery of wheat at the site. It was time consuming to prepare and bake bread, as well as preparing and cleaning the hornos that the bread was baked in (Batkin 1987). Thus, it would make sense that people would prepare and bake multiple bowls of bread at a time. I only looked at a small percentage of the assemblage which can account for the small number of dough bowls. Not all artifacts survive through time and perhaps there are more dough bowl fragments in the body sherd assemblage.

According to Pavao Zukerman and Loren (2012), a large proportion of bowls would indicate communal meals, but if there were a high proportion of soup plates, that would indicate individual place settings. Excluding the dough bowls, there are roughly 50 more bowls than soup plates in the assemblage. Traditionally, soup plates are used as individual serving vessels (Dyer 2010), while bowls can be used for both preparation of food and

serving. The large number of soup plates in the assemblage, suggests to me that the inhabitants of LA 20,000 were using individual vessels to serve their meals, however, since bowls had multiple purposes, they could have served some food in bowls as well. It is difficult to say for sure, but as far as we know, soup plates were only used as individual serving vessels (Dyer 2010). The use of soup plates as individual serving vessels relates to Spanish identity of foodways. Pavao Zukerman and Loren (2012:221) explain that higher status households used individual serving vessels while lower status households used communal serving styles. Even if the inhabitants at LA 20,000 were not higher status individuals, perhaps they wanted to display the foodways customs of traditional Spanish serving customs of high status individuals. The use of individual serving vessels at LA 20,000 shows that the inhabitants wanted to retain some form of traditional Spanish foodways customs.

The vessel forms present in the assemblage are a good indicator of the identity of the inhabitants of LA 20,000. The presence of dough bowls suggests that the colonists living at LA 20,000 still valued the Old World food they were accustomed to. Cultivating, harvesting, and grinding wheat was a difficult and time-consuming endeavor in the arid climate of New Mexico. Based on the presence of wheat at the site, it is evident that the colonists put the effort into this time consuming activity. Also of note, are the few *manos* and *metates* recovered at the site. I did not specifically study these, however, they are an indigenous tools for grinding maize. The presence of these indicate that even though the colonists were maintaining and Old World part of their diet, the wheat, they were also adopting Native American tools for processing that wheat. Since there were probably Puebloans working or

living at LA 20,000 they could have been the ones grinding the flour, thus the indigenous tools. Either way, the presence of wheat and dough bowls shows that the Spanish colonists still valued and took the time to include Iberian food in their diets.

Another vessel form that is an indicator of social and cultural identity is the soup plate. Since soup plates are individual serving vessels, we know how the inhabitants of LA 20,000 were serving their meals (Dyer 2010). Pavao-Zuckerman and Loren (2012) suggest that the use individual serving vessels originates from the Iberian Peninsula and is indicative of higher status individuals. The large proportion of soup plates implies that the inhabitants at LA 20,000 valued the Spanish way of serving food. It is plausible that the residents of LA 20,000 wanted to keep a part of their Spanish identity in a foreign place where they were subjected to new ways of preparing and consuming food.

Comparison to Other Spanish Sites

Most of the archaeological work pertaining to Spanish occupation has been focused on the Palace of the Governors and downtown Santa Fe. Seven 17th-century Spanish estancia sites, including LA 20,000, have been studied. These sites include, LA 34 (Cochiti Springs Site), LA 591 (Las Majadas), LA 4955 (Signal Site), LA 9142, LA 16,767 (Camino Real Site), and LA 326 (Puaray Site). I was able to locate a minimal amount of ceramic data from some of these sites (Kayser et al. 1971; Snow 1971; Snow and Warren 1969) (Tables 7.1 and 7.2). Please note, however, that I only studied the rim sherds of the LA 20,000 ceramics while the other 17th-century sites examined all ceramics recovered.

LA 591 is a 17th-century ranch located near Cochiti Pueblo. It is a five room house in the shape of an L and has a corral (Snow and Warren 1969). LA 591 is similar in construction to LA 20,000 as it is adobe built upon cobbles (Snow and Warren 1969). There is evidence that LA 591 housed domestic sheep, goats, and cattle (Snow and Warren 1969). The ceramic assemblage from Las Majadas has a “high percentage of 17th century glaze paint pottery, undecorated polished wares, and plain surface utility wares” (Warren 1979:238). Additionally, less than one percent of the assemblage consists of majolica (Snow and Warren 1969). There are also a small amount of Hopi and Acoma wares (Snow and Warren 1969). This is similar to the assemblage at LA 20,000. The report mentions vessel forms include bowls, jars, and soup plates, however, no counts of each vessel form are given (Snow and Warren 1969). Warren (1979) notes that 74 percent of the utility wares are jars.

LA 34 (The Cochiti Springs Site) is also located near Cochiti Pueblo and is a 17th-century Spanish colonial home. Like LA 20,000 and LA 591, this home is of adobe and cobble construction (Snow et al. 1971). LA 34 consists of 12 rooms. Eight rooms were living quarters while the other four rooms were for storage and possibly living quarters for servants (Snow et al. 1971). The most numerous wares present are the utility wares (53.7%) (Snow et al. 1971), and there is a small percentage of majolica. Vessel forms present are also consistent with those at LA 20,000 (Table 7.1)

LA 9142 is a late 17th-century Spanish dwelling located in the Galisteo Basin. This site is a three room home with a corral. Like other sites from this time period, it was constructed of cobbles and adobe (Kayser et al. 1971). The report mentions vessel forms the recovered include bowls and jars, but makes no mention of soup plates and counts of each

were not given. Unfortunately, roughly 44 percent of the ceramic assemblage was too small to determine ware or vessel type (Kayser et al. 1971). The report does mention that 20 majolica sherds were recovered from the site (Kayser et al. 1971).

Table 7.1: Vessel Forms Percentages at 17th C. Spanish Sites in New Mexico

Site	Bowl	Jar	Soup plate	Ind.	Total Sherd Count
LA 20,000	38%	23%	32%	7%	1,240
LA 34	30.3%	64%	4.5%	.06%	576
LA 591	Not given	Not given	Not given	Not given	9,011
LA 9142	Not given	Not given	Not given	44.5%	719

Table 7.2: Percentage of Ware Types at 17th C. Spanish Sites in New Mexico

Site	Glaze ware	Utility	Matte	Majolica	Hopi/Acoma	Ind.
LA 20,000	73%	18.7%	<1%	<1%	<1%	<1%
LA 34	25.8%	51.7%	21.1%	<1%	<1%	<1%
LA 591	47.3%	40.2%	2.35%	<1%	<1%	10%
LA 9142	36.8%	14.1%	<1%	2.7%	<1%	44.5%

More comparisons between vessel form percentages at Spanish sites in early colonial New Mexico could be made if there was more data available, however, some patterns are evident. There is a similar percentage of bowls present at LA 20,000 and LA 34. This makes sense because bowls had a variety of uses including food preparation and serving. It is possible that inhabitants at these two sites had similar diets and therefore a similar use for bowls but unfortunately, there is no way of separating bowls used for food preparation and bowls used for serving and eating. There is a large difference in jar percentages between LA 20,000 and LA 34. Jars make up the majority of the assemblage at LA 34 and a majority (51.7%) of the ceramics recovered are utility wares. Jars are typically utilitarian and used for storage and transportation, so it is possible that the residents of LA 34 had a strong need to transport and store water or agricultural goods. LA 20,000 does not have as high a proportion of jars in the assemblage so perhaps their need to store and transport goods was not as great as those at LA 34. Additionally, LA 20,000 has a much higher percentage of soup plates than LA 34. It is possible that this could relate to identity. Perhaps the inhabitants at LA 34 did not want to signal their Spanish customs and status in terms of foodways like the residents of LA 20,000 did. It is also possible that the higher percentage of utility wares at LA 34 shows that the residents were more willing to use Pueblo style utility wares.

Table 7.2 shows some similarities and differences between the ceramic ware types present at Spanish sites in early colonial New Mexico. It is important to note that for the ware types, at LA 34, LA 591, and LA 9142 both body and rim sherds are accounted for. At LA 20,000, only rim sherds are represented. There is a much higher percentage of glaze

wares present at LA 20,000 than the other sites. LA 20,000 and LA 9142 have similar percentages of utility wares although both are much lower than those at LA 34 and LA 591. When it comes to the matte-paint wares, LA 20,000 has similar results to LA 591 and LA 9142. LA 34 has a higher percentage of matte-paint wares which could be due to easier access of these wares. Ceramics could be sent down the Rio Grande river from the Tewa pueblos which produced mostly matte-paint wares. LA 34 was in close proximity to the Rio Grande river. As stated previously, Snow's (2009) results show a much higher percentage of matte-paint wares for the entire LA 20,000 assemblage.

One striking similarity is the presence of majolica, Hopi, and Acoma wares in all of the assemblages. These wares were widely distributed in small numbers. This is interesting because it shows that residents at Spanish sites had access to ceramic wares that were manufactured hundreds of miles away.

Comparison to Pueblos

In addition to comparing my ceramic results to other Spanish inhabited sites, it is also important to compare the results to Pueblo inhabited sites of the same time period. Spanish *estancias* were often placed near Pueblos in order to have close proximity to goods and labor. By comparing ceramic assemblages between Spanish sites and Pueblos, we can discern any differences between these cultural influences. I chose to compare my results to Pecos Pueblo because there is extensive ceramic research available for comparison.

Pecos Pueblo was formed around 1400 AD in the Pecos Valley, roughly 25 miles southeast of Santa Fe, New Mexico. Prior to 1400, there were a variety of settlements in the

area. These settlements banded together to form Pecos Pueblo (Powell and Benedict 2002). Agriculture was a major focus for this group of Puebloans (Powell and Benedict 2002). Pecos Pueblo became one of the most powerful Pueblos in New Mexico. The Glorieta Pass, located between the Sangre de Cristo Mountains and the Glorieta Mesa, was a vital position to control. Those in control, could control who was able to travel east into the Plains, and who was able to travel west, towards Santa Fe ([nps.gov/peco](https://www.nps.gov/peco)). Thus, Pecos Pueblo was in a position to be involved with trade throughout the Southwest and between the Plains and the Southwest. Additionally, by 1620, there was a Spanish Franciscan mission at Pecos Pueblo which indicates that there was continuous direct contact between the Spanish colonists and the Pueblo people at the site ([nps.gov/pecos](https://www.nps.gov/pecos)). In 1838, Pecos Pueblo was abandoned ([nps.gov/peco](https://www.nps.gov/peco)).

Archaeological investigations began at Pecos Pueblo by Alfred V. Kidder (1914 to 1929). After becoming a National Park site, archaeological work continued. In 2002, *From Folsom to Fogelson: The Cultural Resources Inventory Survey of Pecos National Historical Park*, a two-volume in depth discussion of all archaeological investigations at Pecos Pueblo was released. These archaeological results provide data to compare ceramic vessel use, type, and size at a Spanish *estancia* to an indigenous Pueblo.

The ceramic collection from Pecos Pueblo consists of 30,709 sherds. The vessel forms present in the assemblage are the same as for LA 20,000. There are 12,753 jar sherds, 10,668 bowl sherds, 25 soup plate sherds, and 3,865 indeterminate sherds (Powell 2002). Table 7.3 shows ceramic counts by vessel form for both Pecos Pueblo and LA 20,000 as well

as total percentage of assemblage for each vessel type. The vessel form counts are for all time periods of inhabitation at Pecos Pueblo because a breakdown for just historic wares was not available.

Table 7.3: Vessel Form Totals and Percentage of Assemblage for LA 20,000 and Pecos Pueblo

Vessel Form	LA 20,000 Count	Percentage of Assemblage	Pecos Pueblo Count	Percentage of Assemblage
Jar	286	23%	15,753	51.3%
Bowl	472	38%	10,668	34.7%
Soup Plate	394	32%	25	.1%
Ind.	88	7%	3,865	12.6%

There are several differences between the two assemblages. Bowls are the most common vessel form at LA 20,000 while at Pecos Pueblo jars are the most common. Previously, I discussed the importance of wheat bread and the use of bowls to make the bread. This could be why bowls are more common at LA 20,000. Also, the people of Pecos Pueblo focused on agricultural endeavors and perhaps needed large numbers of jars to store their agricultural products in. However, it is important to note that in both assemblages, the proportion of bowls is similar at roughly one-third of the assemblage.

The most dramatic difference, however, is the percentage of soup plates. Thirty-two percent of the LA 20,000 ceramic assemblage is soup plates while only .1 percent of the

Pecos Pueblo assemblage is soup plates. I previously explained how soup plates were a vessel form introduced by the Spanish, although the ceramics were produced by the Pueblos. It appears that even though the Pueblos were making soup plates for the Spanish to use, they were not typically using this new vessel form themselves. I anticipated a presence of soup plates at the mission at Pecos Pueblo, however, no data about the mission was mentioned.

I also looked at ware type when comparing LA 20,000 to Pecos Pueblo. The ceramic data for ware types are from the historic levels of Pecos Pueblo which date from 1575 to 1700. At LA 20,000, 73 percent of the ceramic assemblage consists of glaze wares, 18.7 percent of the assemblage consists of utility, less than 1 percent is matte-paint, less than 1 percent is Acoma/Hopi wares and less than 1 percent is indeterminate (Table 7.2). At Pecos Pueblo, 49.3 percent of the ceramic assemblage consists of utility wares, 29.5 percent consists of glaze wares, and a small percentage of matte-paint wares (Powell 2002). These results are drastically different. Perhaps, the differences in ware types may relate to the difference in access to ceramics at both areas. The Spanish were accustomed to using individual serving vessels that were often decorated with glazes which could account for the larger proportion of glaze ware vessels at LA 20,000.

The comparison between the LA 20,000 and the Pecos Pueblo ceramic assemblages further shows how the Spanish were intent on retaining some of their Spanish ideals and customs. The larger number of bowls, some of which are dough bowls, shows the desire to keep making Spanish food. I was hoping to determine if there were any dough bowls present in the Pecos assemblage, however, mean rim diameters of bowls were the only measurements I could find. The large number of individual serving vessels also shows the desire to retain

foodways identities. This comparison also shows the interactions between the two cultures. Often times in archaeological endeavors, there is a focus on how the colonizers impact the colonized. The small proportion of soup plates at Pecos Pueblo shows that even though the Spanish introduced this vessel form, the Puebloans did not necessarily adopt it. However, the Puebloans were still willing to produce it which may suggest some level of interest in what the Spanish wanted as well as a willingness to provide it to them.

Importance of this Study

The goal of this study was to illuminate the daily lives of Spanish colonists in early colonial New Mexico through their use of ceramics. The functional uses of different ceramic vessel forms shows how the colonists prepared and consumed their food. Most importantly, my research has given insight to the relationship between the food that the colonists ate and the ceramics they used. The presence of dough bowls shows that the inhabitants of LA 20,000 were making and baking their own wheat bread. Additionally, the use of soup plates shows that they were serving their meals on individual place settings. Both of these are Spanish practices and suggest that the colonists at LA 20,000 retained at least part of their Spanish identity in a new and foreign place. Early colonial New Mexico was very ethnically diverse and the ceramics from LA 20,000 give insight into how the Spanish were adapting to this new and different environment.

So far, seven Spanish rural sites dating to the early colonial period have been studied. My research can be used as a comparison to any similar sites that may be discovered in the future. My study in particular highlights the differences between Spanish sites of the 17th

century. As stated previously, LA 34 and LA 20,000 have a drastic difference in the number of soup plates present in the assemblage. This difference not only shows the variability in how the colonists consumed their food but may also be an indicator of status. Pavao-Zuckerman and Loren (2012) suggest that vessel forms are related to status in that lower-status households used communal vessels, such as bowls, while higher-status households used individual vessels, such as soup plates. Perhaps the ceramic data is indicating that LA 20,000 was a higher-status household while LA 34 was a lower status household.

In areas of colonization, the relationships between the distinct cultural groups are of particular interest for researchers. The ceramic results in the study can also be compared to ceramic assemblages recovered from Pueblos of the same time period. This may give insight into whether or not the Spanish and Pueblo peoples were using the same vessel forms and for the same purposes.

Suggestions for Future Research

Pavao-Zuckerman and Loren (2012) used both faunal and ceramic data. Since LA 20,000 had a barn and a corral, it would be interesting to study the faunal assemblage to see what kinds of meat the colonists were consuming. This examination could further enlighten us on the social and cultural identities of the inhabitants at LA 20,000.

Although there is a lack of primary historical documents and there are many questions about LA 20,000 that cannot be definitively answered, future research on the ceramic assemblage would be beneficial. Preliminary x-ray fluorescence analysis was conducted on a very small portion of the assemblage (Thomas et. al. 1992). As stated

previously, this research aimed to source the ceramics to find out their sources. Each Pueblo used a different type of temper. A temper type analysis could also aid in sourcing the ceramics. A study of the different designs on the ceramics in this assemblage would also be interesting. Looking at the body sherds as well as the rim sherds for sourcing and design analysis could be done. This research can be continued to further illuminate relationships in 17th-century New Mexico.

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