

University of Massachusetts Boston

ScholarWorks at UMass Boston

Graduate Masters Theses

Doctoral Dissertations and Masters Theses

5-2019

Comales and Colonialism: An Analysis of Cuisine and Ceramics on a 17th-Century New Mexican Estancia

Adam C. Brinkman

University of Massachusetts Boston

Follow this and additional works at: https://scholarworks.umb.edu/masters_theses



Part of the [Archaeological Anthropology Commons](#), [Social and Cultural Anthropology Commons](#), and the [United States History Commons](#)

Recommended Citation

Brinkman, Adam C., "Comales and Colonialism: An Analysis of Cuisine and Ceramics on a 17th-Century New Mexican Estancia" (2019). *Graduate Masters Theses*. 567.

https://scholarworks.umb.edu/masters_theses/567

This Open Access Thesis is brought to you for free and open access by the Doctoral Dissertations and Masters Theses at ScholarWorks at UMass Boston. It has been accepted for inclusion in Graduate Masters Theses by an authorized administrator of ScholarWorks at UMass Boston. For more information, please contact scholarworks@umb.edu.

*COMALES AND COLONIALISM: AN ANALYSIS OF CUISINE AND CERAMICS ON A 17TH-CENTURY
NEW MEXICAN ESTANCIA*

A Thesis Presented
by
ADAM C BRINKMAN

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

MASTER OF ARTS

May 2019

Historical Archaeology Program

© 2019 by Adam C. Brinkman

All rights reserved

COMALES AND COLONIALISM: AN ANALYSIS OF CUISINE AND CERAMICS ON A 17TH CENTURY
NEW MEXICAN *ESTANCIA*

A Thesis Presented
by
ADAM C. BRINKMAN

Approved as to style and content by:

Heather B. Trigg, Research Scientist II
Fiske Center for Archaeological Research
Chairperson of Committee

Douglas Bolender, Research Assistant Professor
Fiske Center for Archaeological Research
Member

David B. Landon, Associate Director
Fiske Center for Archaeological Research
Member

David B. Landon, Program Director
Historical Archaeology Program

Stephen W. Silliman, Chairperson
Department of Anthropology

ABSTRACT

COMALES AND COLONIALISM: AN ANALYSIS OF CUISINE AND CERAMICS ON A 17TH-CENTURY NEW MEXICAN ESTANCIA

May 2019

Adam C Brinkman, B.A., University of Minnesota, Twin Cities
M.A., University of Massachusetts Boston

Directed by Research Scientist II Heather Trigg

The archaeological site of LA 20,000 is an early colonial Spanish *estancia*, or ranch, in New Mexico that was occupied between A.D. 1630 to 1680. Spanish *estancias* became the homes and work spaces for people with a wide range of cultural backgrounds. In this thesis, the author analyses the ceramics and ground stone assemblage of LA 20,000 to understand the daily practice of cuisine on this rural frontier. Cuisine has important symbolic components related to an individual's identity. Through the practice of cuisine, inhabitants consumed foods that fit conceptions of acceptability, enacted preparation and cooking methods that were taught intergenerationally, and consumed meals in a manner that befitted their social status. The results from this thesis indicate that while the inhabitants attempted to eat food that fit Spanish conceptions of acceptability, the food production and cooking

methods primarily drew from practices associated with Native American and Pueblo peoples. However, the food serving and consumption practices were strongly associated with curating a high-status Spanish identity. Through the practice of cuisine, individuals at LA 20,000 recreated familiar tastes and practices, maintained difference with other social groups, and reinforced cultural identity.

ACKNOWLEDGEMENTS

I would like to thank everyone in the University of Massachusetts, Boston, Historical Archaeology program and the Andrew Fiske Center for Archaeological Research for their assistance with this thesis, as well as for the teaching lessons and coursework that built me into the archaeologist I am today. I would especially like to thank my thesis chair, Heather Trigg, for her guidance, encouragement, patience, wisdom, and feedback that lead to the completion of this thesis. I'm proud to be a member of the Trigg team. This thesis would not have been possible without her. I would also like to thank the rest of my committee, Douglas Bolender and Dave Landon, for their insightful reviews and feedback which helped to build this into a strong final product. Thank you to Chantelle Dashner-Griffith for her help with conducting the MNV count. I'm thankful for everyone that excavated and made LA 20,000 an amazing experience: Danny John, Richard Roy, Carolyn Horlacher, Melanie Lerman, Christina Spellman, Maddie Penny, Ivana Ivanova, Marianne Sallum, Eric Johnson, Ana Opinshinski, Anya Gruber, Wade Campbell, Valerie Bondura. I only wish I had more of Danny's fruit concoctions and everyday was veranda day. I would also like to thank my archaeological mentors that I have had over the years, who taught me the skills needed to thrive as an archaeologist: Esther White, Curt Breckenridge, Jack Gary, Eric Proebsting, Lori Lee, Stephen Mrzowski, Alicia Paresi, and Linda Chisholm.

On a more personal note, I would like to thank my family for their unending love and support in this project and everything else in life. I'm finally moving past the "just working on my thesis" mantra! Thanks to Laura Stelson for her love, wisdom, and support as I tackled this project. All my friends in Minnesota deserve a special shout out for listening to me vent and always being an internet away: Mike Floyd, Matt Henseler, Peter Flanagan, Ben Weidman, Bryce Poch, Nicholas Upton.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	vi
LIST OF FIGURES	ix
LIST OF TABLES	x
CHAPTER	Page
1. INTRODUCTION	1
Identity.....	2
Food.....	5
2. HISTORICAL BACKGROUND	12
Colonization	12
LA 20,000.....	16
Pueblo Revolt	20
Summary	22
3. FOOD.....	24
Pueblo Diet	25
Pueblo Food Production and Cooking.....	28
Pueblo Food Service.....	31
Pueblo Cuisine Summary	33
Spanish Diet	34
Spanish Food Production.....	40
Spanish Food Service	45
Spanish Cuisine Summary.....	51
4. METHODOLOGY	54
Research Design	54
Minimum Number of Vessels	54
Jars.....	62
Bowls.....	62
Food Service.....	63
Imported Ceramics	64
Other Food Production Materials	64
Summary	65

CHAPTER	Page
5. RESULTS	66
Common Forms	66
Jars.....	68
Bowls.....	72
Soup Plates	75
Imported Ceramics	81
<i>Comales, Manos, Metates</i>	84
Summary	86
6. DISCUSSION.....	88
Diet	88
Food Production	90
Cooking	91
Food Service.....	94
Identity.....	98
Conclusion.....	102
APPENDIX	
A. BOWL COUNT BY RIM DIAMETER.....	104
B. JAR COUNT BY RIM DIAMETER	105
C. SOUP PLATE COUNT BY RIM DIAMETER.....	106
D. CUP COUNT BY RIM DIAMETER.....	106
E. INDETERMINATE VESSEL FORM COUNT BY RIM DIAMETER...	107
BIBLIOGRAPHY.....	108

LIST OF FIGURES

Figure	Page
1. <i>Casta</i> painting.....	5
2. Map of LA 20,000 and surrounding area.	18
3. Map of LA 20,000	18
4. A <i>casta</i> painting depicting a woman of African descent cooking chocolate over a raised firebox with a <i>puchero</i> and display ceramics in the background.....	45
5. An example from a <i>casta</i> painting of using <i>majolica</i> as display pieces.....	48
6. Bowl rim forms of Rio Grande glazewares.....	58
7. Reconstructed bowl profiles of vessels from LA 20,000.	59
8. Reconstructed jar profiles of vessels from LA 20,000.....	59
9. Vessel form proportions by typological groupings across LA 20,000.....	67
10. Burned jars by type.....	70
11. Linear graph of jar rim diameters by type, $n < 5$	70
12. Box-and-whisker graph of jar rim diameters by type.....	71
13. Burned bowls by type.....	74
14. Line graph of bowl rim diameters count by type, $n < 5$	74
15. Box-and-whisker graph of bowl rim diameters by type.....	75
16. Burned soup plates by ware type.....	77
17. Line graph of soup plate rim diameter by Type, $n < 5$	77
18. Box-and-whisker soup plate rim diameter by type	78
19. Distribution of Soup plate and small bowls by room.....	80
20. Imported serving vessels by sherd count.....	82

LIST OF TABLES

Table	Page
1. Common Ingredients in Pre-Hispanic Pueblo Cuisine.....	27
2. Summary of Materials Associated with Pueblo Culinary Practice.	34
3. Domesticated Plants and Animals in New Mexico.	35
4. Macrobotanical and Palynological Remains from LA 20,000.	39
5. Estimated Meat Weight of Food Species at LA 20,000.	42
6. Summary of Materials Associated with Spanish Culinary Practice.....	53
7. Ceramic Types and Typological Groups.....	60
8. Small Bowl and Soup Plate X^2 Test of Independence.....	79
9. Imported Serving Vessels by Sherd Count.....	82
10. Imported Iberian Olive Jars and Burnished Mexican Ceramics by Sherd Count	84
11. Spatial Distribution of Groundstone Implements.....	85
12. Comparison of Expected and Observed Foodways Materials.....	99
13. Comparison of Expected and Observed Food Service Materials.....	102

CHAPTER 1

INTRODUCTION

The archaeological site of LA 20,000 lies buried in a dusty desert field fifteen miles southwest of modern Santa Fe, New Mexico. We do not know the precise details of the 17th-century individuals that inhabited this archaeological site, but an observant eye can spot the material remains of their everyday activities in the scatter of small sherds of lead-glazed Pueblo Indian made ceramics and linear arrangements of basalt cobblestone foundations likely produced by Pueblo laborers (Liebmann 2012; Weber 1992). Digging through the slopewash from the nearby hill and hardened layers of melted adobe reveals one of the earliest and best preserved early colonial New Mexican Spanish *estancias*, or ranches (D. Snow 2009). The initial colonization of New Mexico by Juan de Oñate in 1598 marked the beginning of the early colonial period. Colonists dispersed throughout the Rio Grande River and established rural *estancias* in the high-desert environment, often in close proximity to Pueblo villages (Barrett 2012). The first Spanish colony in New Mexico was brought to a forceful conclusion with the Pueblo Revolt of 1680, when the Pueblo people and their Apache allies set fire to the outlying Spanish *estancias*, destroyed Franciscan missions, and sieged the Palace of the Governors. LA 20,000 was one of these outlying *estancias* which was burned during the Pueblo Revolt.

LA 20,000 was a day's ride from Santa Fe and was situated near other rural Spanish properties as well as the Pueblo villages of San Marcos, La Cienega, Cieneguilla, and Cochiti (Barrett 2012; D. Snow 2009; Trigg 2014:6). Spanish *estancias* were homes and work sites to people from a constellation of different backgrounds including Pueblo people, Spanish colonists, and Plains people (Pratt and Snow 1977; Scholes 1935). Food served as a powerful means of expressing cultural identity through the innumerable decisions people made regarding its use, including: (a) the choice of ingredients, (b) the manner of processing food, (c) the method of cooking, (d) how food was presented to consumers, and (e) how food was consumed (Gumerman 1997; Twiss 2007). Inhabitants of LA 20,000 made these decisions regarding food production, cooking, and consumption through the performance of daily practice (Bourdieu 1977; Lightfoot et al. 1998; Ortner 1984). By investigating the material culture associated with the practice of cuisine, this thesis demonstrates that while the inhabitants attempted to eat food that fit Spanish conceptions of acceptability, the food production and cooking methods primarily drew from practices associated with Pueblo peoples. Despite this, food serving and consumption practices were strongly associated with curating a high-status Spanish identity. Through the practice of cuisine, individuals at LA 20,000 recreated familiar tastes and practices, maintained difference with other groups, and reinforced cultural identity.

Identity

In this thesis identity is defined as the “affiliation of an individual or group with a selected broader group and not with other groups. It is a dynamic and situationally specific phenomenon, one that both shapes and is shaped by cultural practices and experiences”

(Twiss 2007:2). Identities are multi-faceted and individuals have multiple identities that are emphasized or suppressed depending on the context (Jenks 2013; Lightfoot et al. 1998; Loren 2001; Silliman 2004; Trigg 2004; Voss 2008). Identity is expressed and manifested through *habitus*, practice, and taste (Bourdieu 1977, 1984; Loren 2001). By manipulating taste – what people ate, how people ate, how they dressed, and architectural form – individuals manipulated the expression of personal identity and influenced how other people viewed them (Bourdieu 1984; Loren 2001:60-61). Through taste, people communicated a desire to belong to certain groups and a rejection of others (Hastorf 2017:220; Twiss 2007).

The demographics of the colonizing forces had large impacts on identity, race, and ethnicity in the Spanish colonial world. Colonizing populations were frequently overwhelmingly male, and the initial colonizing force in New Mexico was no different (Deagan 1983; Trigg and Gold 2005). With a limited pool of mates among the colonizing force, settlers looked to local Native American communities for sexual partners. These sexual relationships were not always consensual; slavery, domestic servitude, rape, concubinage, and sexual assault were a widespread element of Spanish colonial rule (Rothschild 2003:31; Voss 2008a). In consensual relationships, intermarriage with colonizers could provide Native American women with social advantages for themselves and their offspring (Nash 1980). Sexual relations between Spanish and Plains or Pueblo peoples was such a common occurrence in New Mexico that within the first generation, two thirds of native born “Spanish” New Mexicans were *mestizo*, or people of mixed Spanish and Native American ancestry (Trigg and Gold 2005:77). Interethnic unions made homes a microscale locus of colonial processes of cultural change and continuity wherein cultural practices of people from disparate backgrounds were juxtaposed daily. Reactions to this juxtaposition enabled

individuals opportunities to reformulate, contest, mimic, adapt, and incorporate foreign practices into novel colonial routines (Lightfoot et al. 1998; Voss 2008b).

The official doctrine of colonial Spain attempted to regulate identity through the system of racialization called the *regimen de castas*. Through the *regimen de castas*, 22 racial categories were identified which gave assigned social status according to a hierarchical with Peninsula born Spaniards at the pinnacle and African or Native American ancestry at the base (Pavao-Zuckerman and Loren 2012:203). Effectively, this system was designed to form legal and social distinctions between “us” (high-status Spanish) and “them” (low-status mixed bloods and colonial “others,” namely Native Americans and Africans) (Loren 2001:58). This racial hierarchy was symbolically codified through a series of *casta* paintings that represented how families from different ethnic categories should eat, live, adorn themselves, dress, and interact with the material world (Figure 1) (Katzew 2004; Loren 2001; Pavao-Zuckerman and Loren 2012). Archaeologists have used these *casta* paintings to provide documentary insight as to how idealized conceptions of race and identity were represented by depictions of clothing, cuisine, comportment, mannerisms, past-times, and work in *casta* paintings (Figure 1) (Katzew 2004; Loren 2001; Pavao-Zuckerman and Loren 2012). *Casta* paintings were idealized versions of race and identity; archaeological analysis of Spanish colonial sites has demonstrated that the lived experience is far more nuanced and complicated than these paintings represent (Katzew 2004; Loren 2001; Pavao-Zuckerman and Loren 2012). By comparing the material culture associated with the practice of cuisine at LA 20,000 with depictions of food and cooking in *casta* paintings, this thesis explores the extent to which the inhabitants “bought into” and maintained acceptable tastes associated with high-status individuals within the *casta* system (Sunseri 2009:105).



FIGURE 1. *Casta painting*. From: Katzew (2004:36)

Food

Food and cuisine is the primary lens through which identity is explored in this thesis. Anthropologists differentiate diet from cuisine, with diet consisting of the actual foods people ate, the nutritional value of foods, and the proportions of foods consumed (Crown 2000; Hastorf 2017). Cuisine represents the overall style of eating things.

A cuisine is a unique and consistent set of ingredients, cooking techniques, and flavor principles, carrying psychological, social, and religious attitudes toward food, eating practices, and meals...It is the larger system of rules that weaves together foodstuffs, technologies, recipes, and table manners through time and space (Hastorf 2017:67).

This thesis incorporates descriptions of Spanish and Pueblo cuisine in conjunction with prior analysis of the diet in order to analyze the assemblage of material culture associated with preparing, cooking, and serving food at LA 20,000. Through this, I demonstrate how cuisine was practiced by the inhabitants (Crown 2000; Defourneaux 1970; Gruber 2018; Opinshinski 2019; Spielmann 1998; Trigg 2004, 2005). This is not a recreation of specific recipes or meals, but instead an investigation of the material culture that was used in daily practice to produce a variety of meals that fit the overall structure of cuisine (Hastorf 2017; Twiss 2007). By focusing on the *practice* of cuisine, this thesis attempts to understand the routine actions, labor, and internal structures that guided the creation and consumption of food at LA 20,000 (Lightfoot et al. 1998; Ortner 1984; Silliman 2006; Voss 2008b).

For people throughout history, the practices of cooking and food production constituted a significant portion of their day (Twiss 2007). Historic ethnographic accounts described that Hopi women ground maize for three to five hours per day to feed their family and that girls began preparing food by the age of eight (Crown 2000:245). The skills and practices involved with food production are often passed down intergenerationally within the home and community starting at a young age. Once these motor skills become ingrained through routine, they become difficult to change (Crown 2000:227). Through this labor, ingredients are imbued with meaning and transformed into cultural objects before being

incorporated into the consumer (Hastorf 2017). As food preparation and cooking is a form of routine and practice, expressions of identity are encoded within the performance of these activities (Twiss 2007). These routines are taught and shared among a community; thus, “the bodily techniques involved in cooking and eating create membership through the embodied memories of repetition and form” (Hastorf 2017:225). Thus, by analyzing the material remains from the practices of food production, cooking, and consumption, this thesis seeks to understand how identity was expressed and recreated through daily food practice at LA 20,000.

Taste is an important component of cuisine. Taste is culturally constructed but influences the preferences for flavors of sweet, salty, sour, bitter, and umami. Since communities share constellations of preferred tastes and flavor combinations, taste helps to reaffirm the identity of the individual and group (Hastorf 2017:30). All cultures have considerations of edibility which structure consumption based on cultural taboos and tastes (Hastorf 2017; Trigg 2004). These categories are mutable and a cultural construct. Colonization brought people together that had different considerations of taste, taboo, and edibility. Spanish colonists in La Florida, Texas, Mexico, and New Mexico frequently complained when they were forced to consume foods that were taboo or did not align with their tastes (Pavao-Zuckerman and Loren 2012; Rodríguez-Algeria 2005; Scarry and Reitz 1990; Trigg 2004, 2005). The presence of foods that did not align with Spanish taste are analyzed in relation to cuisine to consider how the inhabitants of LA 20,000 negotiated the limitations of the colonial environment in recreating a familiar cuisine.

Food serves as a powerful means of creating and maintaining social boundaries. Consuming a type of cuisine associated with a group can be a means of asserting or rejecting

membership with a group (Mintz and Du Bois 20002; Pavao-Zuckerman and Loren 2012; Twiss 2007). For the burgeoning class of nobility in 16th-century Spain, preparation technique, the quality of food, and the various cuts of meat were all used to differentiate elite cuisine from the fare of the commoners (Nadeau 2016:54-55). Cultural differences were underscored when social groups ate foods that were considered unacceptable by others (Pavao-Zuckerman and Loren 2012:200). In addition, the bodily posture of food consumption could also signal cultural affiliation. For example, eating on the floor was a taboo for Spaniards that in 16th-century Mexico and Melchor Rodríguez was accused in court of being “so degraded that he eats with the Indians on the floor like an Indian” (Rodríguez-Alegría 2005:557). Establishing and maintaining social difference between Spanish colonist and Indigenous people through bodily display was a means of managing official fears over “going native.” Official Spanish accounts from the period attest to a governmental anxiety over subjects adopting Native American practices and “going native,” which was considered akin to losing a person’s civility (Loren 2001:63). The ability to maintain social distinction through food was constrained by real world factors, such as environmental, economic, political, religious, and ideological realities of the subjects’ time (Scarry and Reitz 1992; Twiss 2007). In this thesis, I argue that elements of the practice of cuisine at LA 20,000 reflected an attempt by the Spanish inhabitants to maintain the appearance of difference between them and their Indigenous neighbors.

The goal of this project is to understand the practice of cuisine of the inhabitants of LA 20,000. This is accomplished by analyzing the ceramic assemblage and non-ceramic implements of food production and cooking; *comales*, *manos*, and *metates*. This project also incorporates historical background on cuisine in Spanish and Pueblo society in conjunction

with results from prior analysis on the faunal, palynological, and ethnobotanic assemblage (Gruber 2018; Opishinski 2019; Trigg 2004, 2005). By reconstructing practice of cuisine at LA 20,000, this thesis answers the question of *how* was food produced, cooked, and served at LA 20,000. Through this analysis, I answer the following questions: how were staple raw ingredients processed into edible foods? Were the inhabitants preparing ingredients in methods that emulated Spanish or Pueblo styles of cooking? Was food served and consumed in communal vessels, individual portions, or a mixture of the two? Did the practice of cuisine correspond with high-status taste and acceptable behavior as portrayed in *casta* paintings?

This thesis is organized into seven chapters. Chapter Two is devoted to the historical background of early colonial New Mexico. It begins with the initial colonization of New Mexico by Don Juan Oñate in 1598 and describes how the colony fitfully developed over time in close association with Pueblo villages (Kessel 2002; Weber 1992). A description of the archaeological record from LA 20,000 is presented. The Pueblo people endured drought, famine, religious persecution, and economic exploitation by the Spaniards until they chose to revolt in 1680 which brought an abrupt halt to the early colony (Knaut 1995; Liebmann 2012).

Chapter Three tackles food in depth. It describes the diet and cuisine of the Pueblo people and the Spanish as well as their methods of food production, cooking, and consumption. Summaries of the material culture associated with these practices is presented (TABLE 2). Prior research on LA 20,000 has already provided strong evidence of the diet of the inhabitants, the results of which are presented in this chapter (Gruber 2018; Opishinski 2018; Trigg 2004, 2005).

Chapter Four details the methodology that was employed to answer the overall thesis question. This chapter describes how the minimum vessel count was conducted. Each vessel form historically had a range of uses. The methodology section links modern observable ceramic characteristics with potential use activities. Imported ceramics and non-ceramic implements of food production and consumption were also considered during this analysis. Chapter Four describes how these implements were incorporated into the overall research design.

The results of this research are presented in Chapter Five. An overall breakdown of the vessel forms by type demonstrates a range of uses for each type of ceramic. For jars, bowls, and soup plates, an analysis of the size and evidence of burning provide evidence for which vessels were used to cook foods, which vessels were used in food production, and what vessels were likely serving containers. Imported ceramics were not physically available for analysis, however artifact inventories and notes provided evidence for the vessel form and how these ceramics were used. The distribution of non-ceramic implements of production is summarized which provides evidence for how and where food was produced and cooked at LA 20,000.

Chapter Six brings everything together. It discusses how the preexisting data on diet and cuisine at LA 20,000 can be combined with this ceramic analysis to understand how food was produced, cooked, and consumed at the *estancia*. Through this analysis of food production and consumption at LA 20,000, the material expression of identity creation and maintenance in the rural *estancia* are discussed.

Chapter Seven concludes this thesis. A summary of the findings and interpretation is presented. Additional research opportunities further implications of the research are explored.

This thesis is the first in-depth analysis of ceramics on a rural Spanish *estancia* in early colonial New Mexico. Most of the historical record from this period was destroyed during the Pueblo Revolt and only seven *estancias* have been excavated, mostly in cultural resources management contexts (Pratt and Snow 1977; Trigg 2004, 2005). The ceramic assemblages from other *estancias* have not been analyzed in depth or presented in a manner that would enable comparisons with the collections from LA 20,000 (Rothschild 2003). The raw ceramic data alone will be a useful comparative collection for future scholarship on early colonial New Mexico. My incorporation of this data into an overall analysis of the practice of cuisine at LA 20,000 and discussion on how these practices relate to identity maintenance on the frontier contributes to our understanding of the colonial interactions in the New Mexican Spanish frontier.

CHAPTER 2

HISTORICAL BACKGROUND

This chapter provides an overall background on the colonial experience in early colonial New Mexico. This region had been inhabited by Indigenous peoples for thousands of years before Spanish colonization. By the 17th century it was home to semi-autonomous Pueblo villages and groups of nomadic Plains people. By outlining the basics of Pueblo culture, this chapter provides a baseline understanding of the world and people the colonists encountered. Once this foundation is established, the basics of the colony and its eventual failure are described. The primary themes of this chapter include the agricultural, labor, environmental hardship, and the cultural entanglements that were a part of colonization. Finally, the chapter concludes with an overview of the archaeological site, LA 20,000, which is the focus of this thesis.

Colonization

Permanent Spanish colonization in New Mexico came on the heels of Juan de Oñate and his expedition north from Santa Barbara in Northern Mexico to the northern Rio Grande River in 1598 (Kessell 2002; Trigg 2005; Weber 1992). These lands were initially scouted by

Fray Marcos de Niza and Esteban in 1539 which brought Indigenous cultures of the region into contact with Spanish explorers. The first extensive exploration of the region was conducted by Francisco Vázquez de Coronado in 1540 (Trigg 2005:50). In total, eight scouting expeditions including two failed illegal colonization attempts were made into the region throughout the 16th century. Prior to colonization, Oñate had become wealthy by inheriting his father's mining riches and he was granted the right to lead a sanctioned colonization of New Mexico (Chávez 2006:47). Oñate's colonizing force of more than 200 individuals departed Mexico in 1598 and entered the Rio Grande river which was inhabited by the Pueblo peoples.

The Pueblo people lived in multi-storied semi-autonomous villages and practiced dry farming on the hills, valleys, and plains of the Rio Grande. Archaeologists estimate there were between 75 and 100 Pueblos in the Rio Grande with a total population between 20,000 and 65,000 at the time of colonization (Liebmann 2012; Pratt and Snow 1977). Gaspar de Villagr , a Spanish settler, wrote in 1610 of his impressions of the Pueblo people and their villages.

(The Pueblo villages) are all well built with straight, well-squared walls. Their towns have no defined streets. Their houses are three, five, six, and even seven stories high, with many windows and terraces. The men spin and weave and the women cook, build the houses, and keep them in repair. They dress in garments of cotton cloth, and the women wear beautiful shawls of many colors.... These people till the soil and raise beans, pumpkins, melons berries, and in the more desolate regions great quantities of grapes. After coming in contact with them they readily adopted such

vegetables as we brought them, such as lettuce, cabbage, peas, chick-peas, cumin-seed, carrots, turnips, garlic, onions, artichokes, radishes, and cucumbers [Espinosa 1933:143-144].

The first Spanish capital in New Mexico was the village of San Juan de los Caballeros which was located on a “vacant” section of the Ohke Pueblo in 1598 (Liebmann 2012). Six months later, the capital was moved across the river and reestablished as San Gabriel del Yunque in a different portion of the Ohke Pueblo (Kessell 2002; Trigg 2005). Instead of establishing a self-sufficient source of food, Oñate and the colonists spent time on multiple failed expeditions to find exploitable mineral resources (Trigg 2005:52; Weber 1992:86). The limited attempts to establish a source of food involved the construction of irrigation ditches and a mill, which were required to grow wheat and make flour in the new colony (Trigg 2005:52). This field system did not provide enough food for the colonists. Instead, the colonists focused on extracting food and resources from the Pueblo communities. Labor, maize, hides, blankets, and firewood were taken from Pueblo villages by hungry colonists, which led to hardship, malnutrition, and starvation conditions for all (Liebmann 2012; Rothschild 2003:50).

The extraction of Pueblo Indian labor and resources was codified through the colonial systems of *encomienda*, *repartimiento*, and slavery. Through the *encomienda* system, Pueblo peoples were forced to give tithes of maize and cloth or hides to a designated Spanish person, or *encomendero*. The *repartimiento* system forced Pueblo laborers to work on public work projects such as constructing the capital of Santa Fe (Liebmann 2012). Abuse of this system by colonists forced Pueblo laborers to work on private *estancias* and houses (Liebmann

2012; Scholes 1935). Wage labor was the primary lawful way of extracting Pueblo Indian labor, but there are many instances where Indigenous laborers were “unpaid, underpaid, paid in overvalued merchandise, unwed, underfed, or kept for longer periods of time than regulations permitted” (Weber 1992:126). Enslavement was another option for extracting Native American labor, though there were limits. The Spanish could enslave Pueblo people as punishment for perceived crimes and Spanish slave raids into Apache, Navajo, and Ute territory brought enslaved individuals to work on private properties. These enslaved peoples were often forced to work as domestic servants on Spanish properties or were exported to Mexico to work in mines (Kessel; 2002; Trigg 2005; Weber 1992). Through coerced or voluntary labor, Pueblo and Plains peoples were often integral to the daily operations of Spanish colonial properties.

The combination of the harsh climate, lack of precious minerals, and difficult growing conditions lead to a massive desertion by the early colonists. Over two-thirds of the founding population deserted by 1601 (Knaut 1995). Word of the desertions and hardships reached Mexico City, and Spanish authorities recognized that extensive subsidies would be required to support the colony in the future (Knaut 1995:49). The Franciscans were able to convince the Spanish government that the missionary efforts to convert Pueblo people were tremendously successful and it was their religious imperative to stay and convert them (Knaut 1995:49). In the end, Viceroy Luis de Velasco made the decision to keep the colony afloat as a religious enterprise, but Oñate was held accountable for abusing the Indigenous and misrepresenting the economic resources of New Mexico to settlers (Knaut 1995:52).

With this decision, the colony began to receive increased support from the Crown, more settlers from New Spain moved north, and the colony gradually grew over the next 20

years (Rothschild 2003:51). The capital was moved from San Gabriel del Yunque to the new settlement of Santa Fe in 1610, located in an unpopulated valley. Most New Mexican settlers did not live in the urban core of Santa Fe, but instead moved to outlying clusters of farms and *estancias* (Weber 1992:90). These farmers and ranchers settled up and down the Rio Grande and its tributaries, often in close proximity to existing Pueblo villages (Weber 1992:90). As these rural Spanish properties sprang up, the personal lives of Spanish colonists, Pueblo people, and Plains people became intertwined through intermarriage, foodways, labor extraction, farming, and trade. Rural *estancias* were at the forefront of daily intercultural interaction between Pueblo Indian, Spaniard, and enslaved Plains peoples. Through these interactions, people from disparate backgrounds learned from one another and exchanged food, material goods, and technologies. These people from different backgrounds recreated novel colonial identities in relation to one another through daily practice (D. Snow 1992:187). The archaeological site of LA 20,000 presented an opportunity to study one such outlying *estancia* wherein the daily practice of food production, cooking, and consumption served as a means for a multi-ethnic household to maintain and reify group identity on the northern frontier of Spanish colonialism.

LA 20,000

LA 20,000, or the Sanchez site, is located 15 miles south of Santa Fe, about a day's ride along el Camino Real. Its geographic location situated it in a junction of multiple Pueblo ethnic groups, including Keresan, Galisteo Basin, and Tewa. LA 20,000 was in close proximity to the large pueblo villages of San Marcos, Cochiti, and Cieneguilla (Figure 2) (Trigg 2014:6). Dendrochronological evidence from charred wooden beams in the barn

indicated the compound was built at least by 1630. Archaeologists are not certain about who lived at LA 20,000, though genealogical records indicated it may have been the family of Alonso Varela Jaramillo (Barrett 2012). Jaramillo was one of the founding settlers mentioned in documentary records and was the brother-in-law of the prominent Santa Fe resident, Simón Péres de Bustillo (Barrett 2012:97). David Snow and Marianne Stoller conducted excavations with a series of field schools from 1987 to 1994. These excavations identified four primary structures of the site: a multi-room adobe house (Unit A), a multi-room adobe barn (Unit B), a corral (Unit C), a *torreon*, or tower, and utilized yard space (Figure 3). Only a few basalt foundations from the residential compound and the corral are currently visible on the surface. All other architectural elements are subsurface deposits. Most recently, Dr. Heather Trigg with University of Massachusetts Boston lead excavations in the summers of 2015 through 2017. LA 20,000 represents an opportunity to study one of “the largest, most complex, and best-preserved 17th-century Spanish New Mexican ranches thus far archaeologically identified” (Trigg 2014:6).

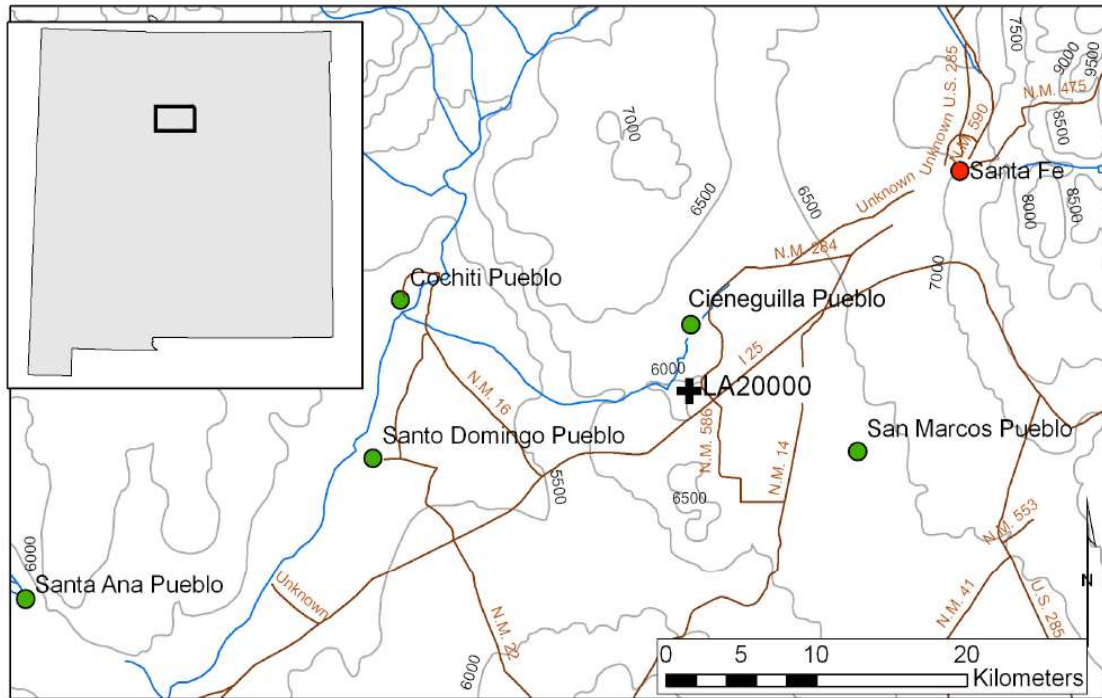


FIGURE 2. Map of LA 20,000 and surrounding area. (Map by John Steinberg nd.)

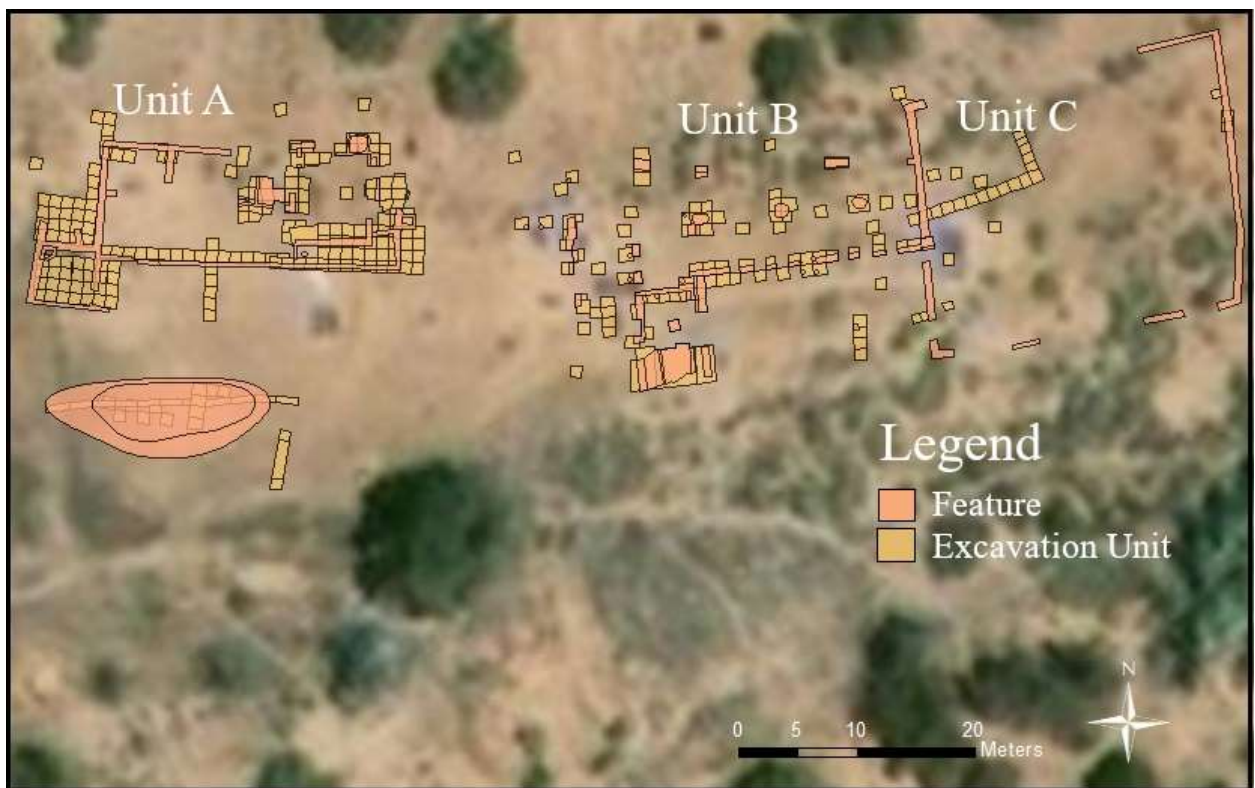


FIGURE 3. Map of LA 20,000. (Map by author.)

Evidence of foodways infuse the archaeological record at LA 20,000. More than 29,000 ceramic sherds were recovered during these excavations. Many of these sherds were once whole vessels that were used to store food, mix ingredients, cook food, and serve meals. For each vessel, the shape and form influenced how it was used, while decorations communicated aspects of taste and class with visitors and consumers. Hand-held basalt grinding stones, or *manos*, and ground stone basalt platforms, or *metates*, were used to slowly grind whole maize kernels into fine cornmeal. Foods were cooked in the corner hearth in the southwest corner of the house, as well as a Spanish-style bread oven, or *horno*, and indeterminate fire feature in the yard space. Through the patterned deposition of these architectural elements and artifacts, evidence of the daily routines of food production and consumption can be observed in the archaeological record of LA 20,000. As these practices were based on learned behavior, the reproduction of these practices could correspond with cultural identity on the frontier.

From the archaeological remains, archaeologists can tell that the owners of LA 20,000 were wealthy. The residential structure was approximately 4,000 ft² (380 m²). Six rooms have been delineated, though D. Snow (1992) estimated the actual room count to be between 10 and 15. Rural commoners lived in more modest houses such as the Signal site (LA 9142), which housed a small family in two to three rooms (Trigg 2005:93). LA 20,000 was significantly larger than these homes.

LA 20,000 had a corral that measured 5,800 ft² (540 m²) as well as a barn that measured approximately 3,600 ft² (334 m²). The faunal assemblage and archaeologically observed distribution of manure across the barn, corral, and yard demonstrate the inhabitants maintained herds of livestock that included goats/sheep, oxen, and horses (Opishinski 2019).

Documentary evidence from 1639 indicates that many colonists were considered poor because they lacked livestock; however, the presence of the barn, corral, and herds of livestock signified the inhabitants were wealthy (Trigg 2005). As Native American labor was instrumental in building Spanish settlements and herding Spanish livestock, the wealth of the owners was likely in part a product of Native American labor (Pratt and Snow 1977; Trigg 2003, 2005).

Charcoal and destruction debris across the site indicated it was burned during a catastrophic event. Inside the residential structure, archaeologists recovered scores of tumbled adobe bricks, which attest to the site's destruction and hundreds of years of exposure. The rain and snow had melted many of the bricks, leaving the soil as compacted adobe melt. The site was not intensively re-inhabited after the *estancia* burned, and ceramic evidence corroborated an early colonial habitation of the site. Most likely, the burn episode was related to the Pueblo Revolt which brought about a forceful end to the Spanish colony. Because of the sudden and catastrophic end of occupation of LA 20,000, the spatial distribution of materials in the archaeological record likely reflects the distribution of activities when the site was occupied.

Pueblo Revolt

The Pueblo Revolt of 1680 was the response of many Pueblo villages to years of colonial theft and abuse, religious persecution, restricted mobility, disease, death, drought, and famine (Kessell 2002; Knaut 1995; Liebmann 2012; Weber 1992). These precipitating conditions had gradually worsened throughout the 17th century, which placed additional strains on the Spanish and the Pueblo people. Numerous waves of disease ripped through

Pueblo villages causing massive population decline. Even conservative estimates of population decline suggest that 2/3rds of the Pueblo villages were abandoned between 1600 and 1680 (Liebmann 2012:40). This population decline meant the burden of providing food for the Spanish fell on the backs of a smaller population of Pueblo people. Drought struck the colony starting in 1663 and was followed by 14 years of one of the most severe droughts in the past 1,000 years in the American Southwest (Ivey 1994; Liebmann 2012; Trigg 2005). For years, crops were not harvested in the colony. Famine led to the deaths of hundreds of Pueblo people from starvation (Ivey 1994). These droughts also stressed the neighboring Apache tribes, who increased their raiding and attacks upon the sedentary Pueblo people and Spanish colonists (Ivey 1994; Liebmann 2012). With dwindling food supplies, Spanish and Pueblo people struggled to survive and were forced to consume less desirable foods (Minnis 1991; Trigg 2004, 2005). The rich were slightly insulated from the effects of the famine as they could barter for limited amounts of food at a high cost. However, the poor that could not afford the high cost were vulnerable and hit especially hard by the famine (Ivey 1994:85).

These droughts came on the heels of increased persecution of native religious practices by Franciscan priests. Pueblo religious dances, ceremonies, iconography, and paraphernalia were outlawed in 1660 and violently suppressed (Liebmann 2012). After forty-seven Pueblo spiritual leaders were imprisoned in 1675 for witchcraft, the Tewa religious leader, Po'pay, organized a secret uprising in 1680 with 22 war captains from various Pueblo villages (Kraut 1994). Not all Pueblo villages or Pueblo Indian people supported the plan to rise-up in unison and violently expel the Spanish from the colony (Liebmann 2012). However, Po'pay and his war captains were able to enlist Apache allies and organize enough Pueblo villages to support the revolt.

At daybreak on August 10th, 1680, Pueblo Indians throughout the colony began killing the Spanish colonists in rural households and *estancias* on the frontier as well as friars that were living among the Pueblo villages. The Pueblo pillaged grain stores, captured livestock, seized women and children, and set fire to Spaniards' homes (Liebmann 2012:61). These attacks spread and soon all Spanish *estancias* and rural homes were put to the torch. Around 380 settlers were killed on that day. Santa Fe itself was put under siege on August 13th. On August 21st, the Spanish surrendered and were allowed to retreat south. The exhausted and depleted Spanish colonists limped 300 miles south to El Paso del Norte, while bands of Pueblo Indian warriors followed them and ensured they did not return.

Summary

LA 20,000 was a large and complicated *estancia* that was inhabited during a fascinating period of history. The northern Rio Grande was inhabited by the Pueblo peoples that lived in an unforgiving high desert landscape (Cordell 1997). The initial Spanish colony began as a mining colony which lacked readily exploitable minerals (Kessel 2002; Weber 1992). Colonists suffered from widespread disillusionment, frequently deserted, and those that stayed survived in harsh conditions (Knaut 1995). Eventually, the primary goal of the colony became religious conversion of the Pueblo peoples. Pueblo peoples were also forced to provide food and resources to the colonizing Spanish through *encomienda* and wage labor (Kessel 2002; Trigg 2005; Weber 1992). Most of the Spanish colonists lived in rural farmsteads and *estancias* near Pueblo villages. Inter-marriage was common between Spaniard and Pueblo or Plains people, and rural *estancias* became a microfrontier of intercultural interaction between disparate cultural groups (D. Snow 1992). LA 20,000 was an example of

a wealthy *estancia* that was inhabited during this period. Eventually, environmental hardship, colonial abuses, and religious persecution caused the Pueblo people with their Plains allies to revolt and sack the colony (Knaut 1995; Liebmann 2012). LA 20,000 was one of the *estancias* that was likely burned during this uprising. Much of the material culture that was recovered from excavations at LA 20,000 represents products of food storage, production, cooking, and consumption. The next chapter explores foodways in Spanish and Pueblo cultures, providing necessary context for the consideration of the remains of foodways at LA 20,000.

CHAPTER 3

FOOD

Food scarcity was common and a critical concern for people living in 17th-century New Mexico. For people living on the frontier, the food that was available was prepared, cooked, and consumed according to long standing cultural practices and preferences (Trigg 2004, 2005). The archaeological record is full of discarded material remains from the enactment of these practices. The contents of this chapter describe the diet, methods of food production, cooking, and consumption for Spanish and Pueblo peoples. In these descriptions, I highlight the signatures of these practices that are observable in the archaeological record (Table 2, Table 6). The intention of these descriptions is not to paint Pueblo or Spanish cuisine as unchanging or monolithic. Documentary, archaeological, and ethnographic evidence attests to the eventual incorporation of new staples, fruits, vegetables, domesticated animals, and cooking techniques into the culinary repertoire of Pueblo and Spanish - especially as a byproduct of colonization (Ford 1987; Spielmann et al. 2009; Trigg 2004, 2005). However, the incorporation of new ingredients was a selective and gradual process infused with the underlying symbolic meaning of colonial relationships (Ford 1987; Trigg 2004, 2005). By establishing a range of foodway practices among these groups and the

associated material culture, the material culture of foodways in the archaeological record of LA 20,000 is contextualized within a framework of expected practice. This is not to rule out the possibility of the invention of novel colonial practices, but with this framework it is possible to observe where these practices differ significantly from prior cultural norms and thus represent new colonial practices (Lightfoot et al. 1998).

Pueblo Diet

In the pre-Hispanic American Southwest, women were responsible for most tasks associated with food preparation and cooking (Crown 2000). Men often cooked in specific contexts, such as for ritual meals, when away from home, or when roasting meat (Crown 2000). Patricia Crown (2000) leveraged ethnographic data, alongside bioarchaeological stress markers, mortuary data, imagery on pottery and kivas, and ethnographic work from Pueblo people and Piman-speaking peoples to establish the primacy of women's role in food processing and cooking in the American Southwest. In Pueblo communities, the labor involved with food production is intrinsically linked with religion as well as conceptions of femininity, reciprocity, and respect for elders (Burgio-Ericson 2018; Gutiérrez 1991:9). The implied responsibilities of food production are symbolically gifted to young women during marriage and courtship. In 1582, Hernán Gallegos observed the following gift giving and courtship practices among the Pueblo people.

(T)he people place before the bride a grindstone, an *olla* (jar), a flat earthenware pan (*comal*), drinking vessels, and chicubites. They also put a grinding stone in her hand... (T)he gifts set before her, which are all entirely new, signify that with them

she is to grind and cook for her husband; that she is to prepare two meals every day for him, one in the morning and the other in the afternoon; that they are to dine and retire early, and rise before daybreak... (Gutiérrez 1991:11)

Through the labor involved with grinding maize, cooking food, childbirth, and managing the household, Pueblo women manifest and reproduce their personal identity as well as their social position within the family and community (Burgio-Ericson 2018; Gutiérrez 1991).

Native American cultures in the prehispanic American Southwest were heavily dependent upon maize by at least A.D 500; estimates indicated between 50 to 80 percent of the diet was maize (Crown 2000:238). An analysis of coprolite samples from Ancestral Puebloan people in the Four Corners region underscored this point “corn is... *the* single most ubiquitous and abundant plant food consumed” (Minnis 1989:559). Squash and beans were also important staples, though beans were more common in the southern regions of the American Southwest (Cordell 1998; Crown 2000). Ancestral Puebloans and Pueblo people grew these domesticates using a system of dry farming techniques that carefully managed the intermittent rain and water that fell on the land (Sunseri 2009:120). This diet of domesticates was supplemented by a variety of weeds that are found in agricultural fields and other locally foraged plants (Minnis 1989). These plants added seasonal variety as well as different flavors, textures, and nutrients to the cuisine of Native Americans in the Southwest (Table 1) (Crown 2000; Minnis 1989; Sutton and Reinhard 1995).

TABLE 1

COMMON INGREDIENTS IN PRE-HISTORIC PUEBLO CUISINE

Maize	Juniper berries
Beans	Piñon nuts
Squash	Prickly pear cactus
<i>Amaranthus</i>	Purslane
<i>Chenopodium</i>	Ricegrass
Blueberries	Sunflowers
Cholla	Wild grapes
Gourds	Wild rice
Ground-cherries	Yucca

Source: Ford (1987); Trigg (2004:232, 2005:117-118)

Coprolite analysis from of the Pueblo II-III (A.D. 950-1300) settlement of Antelope house by Sutton and Reinhard (1995) illustrated the types of meals that are representative of this diet. Whole kernel maize meals were common for the inhabitants of Antelope House. These meals incorporated freshly harvested as corn on the cob or in soups and stews. Whole-kernel stews were made from a mix of wild herbaceous plants, sumac (*Rhus*), purslane (*Portulaca*), beeweed (*Cleome*), prickly pear fruit (*Opuntia*), beans (*Phaseolus*), as well as small game and flavors such as groundcherry (*Physalis angulata*) (Hastorf 2017:65). Soups with whole-kernel maize and sweet ingredients such as groundcherry fruit and sumac indicate sweet flavors were a valued component of the cuisine (Hastorf 2017). Ground maize meals were consumed later in the season when fresh foods were not available. These were simpler meals were gruels primarily made from maize flour, sometimes mixed with *Chenopodium/Amaranthus* seeds (Sutton and Reinhard 1995). Finally, there were meals that only consisted of local wild plants and animals, primarily built on milled

Chenopodium/Amarathus seeds accompanied by wild species; these meals could have been consumed at any time of year as the ingredients could be stored long term (Sutton and Reinhard 1995).

Meat from domesticated turkeys, potentially dogs, and wild game supplemented the plant-based diet for Pueblo people and their predecessors (Crown 2000:238; Potter and Ortman 2004). Large game such as bighorn sheep, pronghorn antelope, and deer were typically hunted by ritualized male hunting parties. Smaller game, such as birds, rabbits/hares, mice, rats, reptiles, amphibians, and fish were often collected by women and children while foraging or farming (Szuter 2000). Small game was typically spitted over an open fire or consumed in stews. Communally taken large game was widely shared and roasted or cooked into soups and stews (Hill 1982). Smaller game was likely shared with a smaller group or consumed individually (Szuter 2000). Large game often suffered from overhunting as populations became sedentary and aggregated. As large game stocks dropped, Native Americans increasingly relied upon lagomorphs (rabbit/hares) and domesticated turkeys for meat consumption (Potter and Ortman 2004).

Pueblo Food Production and Cooking

In the Santo Domingo Pueblo, ethnographers observed that after maize was harvested and transported from the field to the Pueblo, it was processed for long-term storage. Most maize was husked with a knife-like wooden tool and placed into a crib or on top of a ramada for drying (Hill 1982:31). This task was typically accomplished by groups of women and “husking bees were frequently occasions for social interplay, the tedium being enlivened by gossip and story-telling” (Hill 1982:31). If time allowed, kernels were removed from the cob

for storage; if not, they were simply stored on the cob. Evidence of these activities could be observed in the archaeological record through concentrations of maize pollen in areas related to maize processing (Gruber 2018).

Fresh green corn could be boiled, roasted, or steamed (Hill 1982). Dried whole-kernel maize was frequently prepared in soups and stews (Hill 1982). When maize was not consumed in a whole-kernel form, it required additional processing steps to make it edible. Processing maize into a lime-treated maize dough (*nextamalli*) was a common treatment method (Brumfiel 1991:237). By soaking maize overnight in jar with a solution of warm lime or alkali, the hulls of the maize could be loosened, and additional nutrients could be absorbed by the body (Brumfiel 1991; D. Snow 1990). These steps released the crucial amino acids and vitamins: lysine, tryptophan, and niacin (Brumfiel 1991; D. Snow 1990). This lime solution could be made from wood ashes, soda and lye, lime, “rock-ash,” shell, and travertine (D. Snow 1990). Early 16th-century Spanish explorers described Pueblo women making *nixtamal*, and ethnographic accounts from the Santa Clara Pueblo San Ildefonso, and Zuni confirmed this practice continued into the 19th century (D. Snow 1990:293). Evidence of *nixtamal* processing can be observed in bands of light-colored concentrate around the rims of jars (Sunseri 2007). After making *nixtamal*, the maize was ground into cornmeal or flour. This time was spent hunched over a flat basalt slab, or *metate*, slowly grinding maize with a handheld grinding stone, or *mano*, and letting cornmeal fall into mealing bins (Hegmon et al. 2007). Mealing bins were architectural features that are observable in the archaeological record. *Metates* are not easy to transport and archaeologists have used the distribution of *metates* to identify spaces of food production (Brumfiel 1991; Hegmon et al. 2007). The

presence and distribution of mealing bins, *metates*, and *manos* in the archaeological record can attest to practices of maize grinding by the inhabitants.

Grinding maize offered several benefits for the consumer over whole maize. The smaller surface area of the cornmeal aided the digestion of additional nutrients contained within the maize (Crown 2000:246). Cooking cornmeal required less fuel compared with whole maize (Crown 2000). Grinding maize enabled cooks to produce a more varied array of meals with different tastes and textures including: *tamales*, maize dumplings cooked in a cornhusk; *atole*, a maize flour gruel; tortillas and *piki* bread, a maize based flatbread (D. Snow 1990).

Soups and stews were made by combining ingredients, sometimes using a large mixing bowl (rim diameter > 25cm), and slowly simmering them over a hearth in a utilitarian cooking jar (Crown 2000; Frank and Harlow 1974; Habicht-Mauche 1993). Prior to the introduction of micaceous wares, utilitarian cooking jars were often some form of gray ware (Crown 2000; Habicht-Mauche 1993). Utilitarian gray wares typically incorporated coarse tempering materials in the paste to add resistance to thermal shock (Carillo 1997; Crown 2000; Habicht-Mauche 1993). Other non-utilitarian jars were often used to store and transport water or to store ingredients (Chapman 1970; Hill 1982; Sunseri 2009). Meat was often roasted or broiled on a spit over an open fire (Hill 1982). After the 13th century, *piki* bread, tortillas, and fried foods were cooked on sandstone *comales* supported by fire dogs, which were adobe or stone supports surrounding a fire that could hold vessels above the fire (Crown 2000; Snow 1990). The types of cooking features in the American Southwest include roasting pits, ovens, fire pits within houses, and fire pits in outdoor areas; after the 12th

century the eastern Pueblos began using rectangular slab-lined hearths featuring fire dogs (Crown 2000; Snow 1990).

Pueblo Food Service

The material culture related to food service and consumption in the pre-Hispanic American Southwest incorporated many items that rarely survive in the archaeological record: gourd ladles, woven mats, leaves, and gourd drinking vessels. However, ceramic sherds from bowls and ladles are ubiquitous in the archaeological record and a key component of Pueblo food service traditions. Wet food was served with gourd or ceramic ladles from communal bowls of various sizes (Elkins 2007). Meals were served while seated on the bare earth or woven mats laid across the floor (Burgio-Ericson 2018).

Prior to the 14th century, black-on-white bowls were the standard food consumption vessels among the eastern Pueblo people (Spielmann 1998). Starting in the 14th century, large (rim diameter > 25 cm) black-on-white bowls began to be replaced by lead glazed red- and yellow-slipped ceramic ware types (Crown 1994; Spielmann 1998). This abrupt transition in ware types is interpreted as evidence of a new religious cult that swept the American Southwest that incorporated communal feasting and new feasting contexts (Crown 1994; Spielmann 1998). Small (rim diameter < 25 cm) black-on-white bowls continued to be produced until the 15th century. Spielmann (1998) interprets this as evidence that bowls in sizes associated with household consumption did not require replacement with glaze-decorated bowls immediately. However, small black-on-white bowls were gradually replaced by small glaze-decorated bowls throughout the 15th century. One important observation from this pattern is that small bowls, typically under 25 cm in rim diameter, were most closely

associated with individual and family consumption, whereas large bowls over 25 cm in rim diameter are associated with family consumption *and* suprahousehold feasting events (Elkins 2007; Mills 1999, 2007; Ortman 2002; Potter and Ortman 2004; Spielmann 1998). During the historic period, serving bowls and cooking jars increased in size to accommodate the larger-body size of domestic animals (D. Snow 1982; Mills 1999). Large dough bowls began to be produced during this time as well, which were used to proof leavened-wheat dough (D. Snow 1982). In descriptions of the Santo Domingo Pueblo, Chapman (1953:9) writes that bowls used for mixing and proofing dough were typically between 12-18 inches (30-46 cm) in diameter.

Platos or soup plates are an introduced vessel form that were produced by female Pueblo potters after Spanish colonization of New Mexico (Liebmann 2015). Soup plates are shallow, wide rimmed bowls, based on Spanish *majolica platos*, and were used for serving individual portions of soups and stews (Dyer 2010; Lister and Lister 1976; McEwan 1992). Evidence of the incorporation of these vessel forms into Pueblo dining practice was observed in the distribution of soup plates at 17th-century mission Pueblos, Spanish colonial sites, rural Pueblo field houses (small one to two room buildings adjacent to agricultural fields), and nonmissionized Pueblo villages (Kulischek 2005; Liebmann 2015:332; Preucel 1990; Rothschild 2003; Trigg 2005). These soup plates often had decorative design motifs that reflected Pueblo Indian religious and aesthetic taste, which may have helped the vessel form gain acceptance in Pueblo communities (Dyer 2010; Liebmann 2015).

Pueblo Cuisine Summary

By understanding the diet and overall practices involved with food production, cooking, and serving associated with Pueblo cuisine, it is possible to identify traces of these practices that would be observable in the archaeological record at Spanish historical sites (Table 2). As maize was *the* most important component of Pueblo diet and cuisine, many of the tools associated with the production of this cuisine are related to processing maize into food (Gutiérrez 1991; Minnis 1989; Trigg 2004, 2005). Maize and other ingredients were prepared into soups, stews, flatbreads, and roasted meats (Crown 2000; Hill 1982; Szuter 2000). Thus, cooking jars, *comales*, square hearths, and cooking pits are most closely associated with cooking food in Pueblo practice. Wet foods were served in communal ceramic bowls in prehistoric Pueblo dining practice (Elkins 2007). Archaeologists have demonstrated that vessel size, ware type, and use-wear patterns are attributes that correspond with the use of these vessels (Mills 1999, 2007; Spielmann 1998; Sunseri 2009). Table 2 summarizes the material culture associated with all of these practices. Ethnographers, archaeologists, and ceramicists have built the connections between Pueblo diet, cuisine, and material culture through an engagement with descendent communities, historical documentation, historical ethnography, and the archaeological record (Crown 2000; Elkins 2007; Hegmon et al. 2000; Hill 1982; D. Snow 1992; Spielmann 1998; Sunseri 2009). Ceramic and non-ceramic evidence of foodways at LA 20,000 is compared with Pueblo culinary practice to identify elements of the Pueblo practice of cuisine that was present in the culinary repertoire of the inhabitants of LA 20,000.

TABLE 2

SUMMARY OF MATERIALS ASSOCIATED WITH PUEBLO CULINARY PRACTICE

Behavior	Archaeological Signature
Food Preparation	<i>Manos</i> , <i>metates</i> , mealing bins, mixing bowls, jars, jars with <i>nixtamal</i> bands
Cooking	Jars, micaceous cooking jars, sandstone <i>comales</i> , square hearth, cooking pit
Food Service	Ceramic ladles, small bowls (<25 cm) for family service, large decorated bowls (>25 cm) for suprahousehold and quotidian consumption

Source: Carillo (1997); Crown (2000); Elkins (2007); Hegmon et al. (2000); Hill (1982); Potter and Ortman (2005); Rodríguez-Alegría (2005); D. Snow (1972, 1992); Spielmann (1998); Sunseri (2009); Trigg (2004, 2005).

Spanish Diet

Spaniards on colonial expeditions to the New World brought familiar plants and animals into new lands to recreate familiar foods, generate animal products, and have access to beasts of burden (Opinshinski 2019; Scarry and Reitz 1990; Trigg 2004, 2005). While environmental factors often limited the success of plants and animals, colonists still made the effort to establish new crops and herds in their new homes (Ford 1987; Scarry and Reitz 1990; Trigg 2004, 2005). Evidence these practices was observed through the macrobotanical and faunal assemblages from 17th-century archaeological sites. Documentary evidence in the form of initial colonizing inventories, Villagra's *History of New Mexico* from the first decade of the colony, letters from San Gabriel residents, and Benavides' written account from 1633 further flesh out the variety of plants and animals that were imported into New Mexico

(Table 3)(Ford 1987; Hammond and Rey 1953; Trigg 2004, 2005). Once the colony was established, cereals were grown in larger farm plots while the vegetables were grown in smaller house gardens for family consumption (Ford 1987; Trigg 2005). The presence of maize, beans, and chilies within the Spanish fields and garden plots attested to the influence of Mesoamerican culinary traditions that were previously incorporated into the colonizing Spanish cuisine (Trigg 2004, 2005). Triennial caravans from Mexico City brought exotic spices, olive oil, vinegar, cocoa beans, and nuts that were otherwise unavailable New Mexico (Hammond and Rey 1953; Trigg 2005).

TABLE 3

DOMESTICATED PLANTS AND ANIMALS IN NEW MEXICO

Staples	Vegetables	Fruit	Grown Spices	Imports	Animals
Wheat	Artichokes	Watermelon	Garlic	Aniseed	Chickens
Barley	Cabbage	Cantaloupe	Cumin	Sesame	Cows
Maize	Carrots	Plums*	Chilies	Almonds	Horses
Lentils	Cucumbers	Apricots*	Pepper	Hazelnuts	Sheep
Chickpeas	Peas	Peaches*		Walnuts	Goats
Beans	Turnips			Rosemary	Pigs
Lima beans	Onions			Lavender	Dogs
Broad Beans	Radishes			Pennyroyal	
	Lettuce			Marjoram	
				Black pepper	
				Quince	
				Raisins	
				Olives	
				Cinnamon	
				Coriander	

*Grown at least by 1630

Source: Ford (1982:76-77); Hammond and Rey (1953); Opishinski (2018:44); Trigg (2004:232, 2005:117).

From this extensive list of plants and animals that were imported and established in the new colony, it was clear that the Spanish colonists went to great lengths to consume a broad range of familiar animals and plants. This enabled the cooks and consumers to recreate elements of Spanish cuisine from the Iberian Peninsula and Mesoamerica. Recreating this cuisine in the New World was an important component of recreating Spanish identity in colonial contexts (Hastorf 2017; Trigg 2004, 2005; Twiss 2007).

Bread and meat were the most important elements of Spanish cuisine (Nadeau 2016). All Spaniards incorporated meat into their diet, though social stratification influenced the type of meat and the cut of meat that was consumed. In 16th-century Spain, meat preferences were hierarchical in nature. *Carnero* [mutton] was the most important meat followed by *ternera* [veal], *cabrito* [kid], *Puerco* [pig], *cabra* [chevon], *vaca* [cow], *oveja* [ewe], and *cabrón cojudo* [billy goat] (Nadeau 2016:57). In the Middle Ages social stratification and prestige were expressed through the quantity of consumption. This changed during the 16th century, as the quality of food served came to distinguish the aristocracy from commoners. High-status individuals started eating the best cuts of meat. Spanish nobility were considered to have a better capacity to digest higher quality cuts of meat, whereas workers could easily digest tougher cuts of meat (Nadeau 2016:54). The nobility had their cooks roast or prepare these meats with exotic spices and elaborate sauces which were then served in multiple courses (Trigg 2004, 2005).

Spanish colonists sought to maintain acceptable Spanish cuisine in the New World. Spanish colonists “feared regular consumption of American foods would convert their bodies into something more Native through assimilation. They considered eating American foods a marker of *criollo* or ‘de-natured’ European identity and lower social status” (Burgio-Ericson

2018:448). When Spanish colonists in Florida were forced to eat local foods they complained “when there was nothing they ate herbs, fish and other scum and vermin” (Connor 1925:98-99; Scarry and Reitz 1990:344-345). Archaeological research has demonstrated that these colonists were not physically starving, they had an adequate and nutritious diet. However, these protests stemmed from a discontent with the foreign diet rather than starvation (Trigg 2004:245). Maintaining acceptable cuisine eating was thus a cultural imperative that represented hearth and home, created difference between Spaniard and *indio*, and differentiated high-status Spaniard from low-status *criollo* (Burgio-Ericson 2018; Laudan and Pilcher 1999; Scarry and Reitz 1990; Trigg 2004, 2005).

On the Iberian Peninsula, bread was the basis for most meals and a foundational element of Spanish cuisine (Defourneaux 1970; Laudan and Pilcher 1999; Trigg 2004). Baking bread in the New World enabled the colonizing Spanish to consume a socially significant food with familiar taste, texture, and place in the meal (Nadeau 2016; Trigg 2004). However, the climate of the New World was not always amenable to growing wheat and colonists often had to pay a premium for the opportunity to eat their traditional staple. In 17th-century Mexico, wheat was highly prized and was four times more expensive than meat by weight (Trigg 2004:241). For the rich in colonial Mexico, eating bread differentiated Spanish colonists with the multitudes of Mexican Indian laborers who subsisted primarily on maize (Laudan and Pilcher 1999; Nadeau 2016; Trigg 2004:240). Archaeological evidence of bread production can be observed in the presence of *hornos* and the presence of wheat in the archaeobotanical assemblage (Trigg 2004, 2005).

One of the most common meals for all Spaniards, rich and poor alike, was *olla podrida*. This was a one-pot stew that consisted of meat, legumes, and seasonal vegetables. It

was a flexible meal that incorporated many varied ingredients and the ingredients would change depending on the season, the cook's economic status, and area. Recipes for *olla podrida* in elite cooking manuals attest to its place in elite cuisine (Nadeau 2016). For the elite, the consumption of *olla podrida* was typically the first course in a meal, followed by courses of roasts, vegetables, salads, stuffed meats, empanadas, pies, fish, eggs, and fruit. For the poor, bread and *olla podrida* was the meal (Nadeau 2016:63). Vegetables were consumed raw, in salads such as *salpicon*, stuffed with meat, fried in oil, pickled in vinegar, or in stews (Nadeau 2016). The consumption of salads and vegetables was inversely correlated with wealth; low-status individuals ate more vegetables and salads when compared with high-status individuals (Nadeau 2016:78).

Were the inhabitants of the New Mexican colony able to maintain a Spanish diet? The results from the macrobotanical and palynological analysis of LA 20,000 indicate they were able to maintain elements of a proper Spanish diet but were forced to incorporate locally foraged ingredients and American domesticates (Table 4) (Gruber 2018; Trigg 2004, 2005). American domesticates at LA 20,000 could have been grown at LA 20,000 or acquired from local Pueblo villages. The Spanish were often dependent upon local Pueblo villages for food supplies which were acquired through theft, tithes from the *encomienda* system, and bartering (Spielmann et al. 2009; Trigg 2004, 2005; Weber 1992). Trigg (2004) argues that the presence of locally foraged foods on rural *estancias* was a pragmatic incorporation of famine foods to survive drought and famine. As many of the women on Spanish *estancias* had Pueblo heritage, foraging local products may have been a means of feeding the household during famine using traditional foraging techniques (Trigg 2004:244). While the macrobotanical and palynological evidence indicates certain ingredients were a component of

the diet of the inhabitants, this data does not reveal how these ingredients were prepared and cooked into the cuisine of the inhabitants, nor does it reveal how these foods were served in meals. This thesis attempts to get at the core of *how* food was produced, cooked, and consumed at LA 20,000.

TABLE 4

MACROBOTANICAL AND PALYNOLOGICAL REMAINS FROM LA 20,000

Domesticate	Foraged
Wheat	<i>Cheno/Ams</i>
Apricots	Piñon Nuts
Peaches	<i>Cylindropuntia</i>
Maize	Ground-cherries
Squash	Purslane
	Prickly Pear

Source: Gruber (2019:39); Trigg (2004:232).

The faunal analysis from LA 20,000 demonstrated that the meat portion of the inhabitants' diet was primarily composed of domesticated animals and supplemented with fish, *Leporidae sp.* (rabbit/hare), and wild birds (Table 5) (Opishinski 2019:54). The preference for *Ovis/Capra* (sheep/goats) was observed in the large number of goats/sheep individuals that were identified ($n=6$). However, Opinishinski (2019:55) estimated the amount of meat that could have been harvested from these animals and determined that *Bos taurus* (cows) contributed the most meat to the diet of the inhabitants (Table 5).

Domesticated animals made up more than 94% of the edible meat by weight (Opishinski 2019:42-45). Overall, the high proportion of domesticated animals in the diet indicated the inhabitants sought to consume meats that were acceptable to Spanish taste, and the large quantity of *Ovis/Capra* demonstrated that they consumed the highest status Spanish meat

(Nadeau 2016; Opishinski 2019). However, additional details from the faunal assemblage revealed the inhabitants were not always consuming the choicest cuts of meat.

Spanish Food Production

The incidence of lower limb bones in the faunal assemblage indicated that the inhabitants were consuming meat from the lower limb bones of domesticated animals. These cuts of meat would have had a small amount of meat on them and were sometimes considered low-status cuts (Opishinski 2019:67). However, as LA 20,000 was an active *estancia*, higher-status cuts may have simply been traded for other foods and goods (Opishinski 2019). Spiral fractures were common on long bones, which indicated the inhabitants were frequently breaking the bones to access the highly nutritious bone marrow (Opishinski 2019). The cut marks on the bones indicated meat was not cut into individual servings, such as bone-in steaks, but were instead prepared through boiling or drying (Opishinski pers. comm). Cutting meat into individual steaks and portions was a high-status method of consumption, and the lack of these cut marks indicated the meat was not specifically prepared in a high-status manner.

An analysis of the age of the *Ovis/Capra* specimens determined the animals were either slaughtered at a young or an advanced age (Opishinski 2019:75). In contrast, the *Bos taurus* were mostly slaughtered as subadults and juveniles, which would have been a prime-age for beef production. There was one example of a *Bos taurus* sesamoid bone that was heavily warped, which would have come from a mature individual that was heavily worked during its life (Opishinski 2019:77). In Spanish cuisine, meat from young animals, such as veal, kids, and lamb, was afforded a higher status than meat from old and mature animals

(Nadeau 2016). Thus, the consumption of young lambs or kids would have been higher status than the consumption of mature ewes. Beef was the lowest status domestic meat and the *Bos taurus* at LA 20,000 were consumed as both lower-status old oxen and subadult animals, which likely represented higher-status meat (Nadeau 2016; Opishinski 2019).

Butchery marks on *Equids* also indicated the inhabitants were forced to also consume horseflesh, which was taboo for the Spanish (Gifford-Gonzalez and Sunseri 2007; Opishinski 2019). The butchery marks on the *Equids* did not indicate they were systematically processed in the same manner as other domesticates. These *Equids* were processed as an opportunistic food source (Opishinski 2019:65). This could have been the butchery practices of Native American laborers on the *estancia*, as they would not have had the same cultural taboo against horse consumption (Opishinski 2019). However, it should be considered that taboos can be broken in cases of starvation (Hastorf 2017). As early colonial New Mexico had periods of extreme drought and famine, food stress may have broken down some of the social taboos that individuals maintained in normal circumstances.

In sum, the inhabitants primarily consumed high-status domesticated meat. However, this meat was not specifically prepared as bone-in steaks or served as individual cuts of meat, and they were eating both young and old animals. In addition, some of the inhabitants of LA 20,000 ate a type of meat that was taboo for the Spanish (Nadeau 2016; Opishinski 2019).

TABLE 5

ESTIMATED MEAT WEIGHT OF FOOD SPECIES AT LA 20,000

Taxa	Common name	MNI	Meat Weight (lbs)
Anatidae	Duck/Goose/Swan	1	1.40
Anserinae	Goose	1	4.06
(cf.) Phasianidae	Turkey	1	9.10
	Ground-dwelling		
Galliformes	avian	2	7.98
<i>Gallus gallus</i>	Chicken	1	3.99
(cf.) <i>Bos taurus</i>	Cow	2	900.00
(cf.) Cervidae	Deer	1	105.00
<i>Equus caballus</i>	Horse	1	350.00
<i>Equus</i>	Horse/Donkey	1	225.00
<i>Leporidae</i> sp.	Rabbit/Hare	1	6.09
(cf.) <i>Ovis/Capra</i>	Sheep/Goat	6	405.00
Suidae/ <i>Sus scrofa</i>	Pig	2	225.00
cf. <i>Sylvilagus</i>	Rabbit/Hare	1	0.95
Cypriniforms	Ray-finned fish	1	1.50
Perciforms	Ray-finned fish	1	4.65

Source: Opishinski (2019:54)

Ethnographers in the early 20th century observed a basic *chaîne opératoire* of bread baking at Santa Clara Pueblo (Hill 1982). As bread baking technology had initially been learned from the Spanish, the bread baking methods the ethnographers observed likely had roots in the old Spanish practices. Early in the morning on baking day, women and children would gather and mix flour, water, and sourdough starter in dough bowls, or large ceramic bowls with a rim diameter between 30-50 cm (Cohen et al. 1993; Harlow and Frank 1974). The dough was given time to rise next to the oven as it heated (Hill 1982). After the initial rising, the dough was separated into individual loaves, kneaded and placed on a cloth over a board, and allowed to rise again (Hill 1982:43-44). Spanish-style bread ovens, or *hornos*, were free-standing beehive-shaped adobe ovens and were typically located outside a home.

Fires were built inside the oven and the coals were carefully managed until the oven was hot. Once the oven had heated, the fire and coals were removed, the interior was swept, the temperature was checked with a corn husk, and when ready the bread was moved with a wooden paddle and placed inside the *horno*. A wet rag and board was placed over the entrance while the bread baked until golden brown (Hill 1982:44). The bread was then removed and served or stored in large jars.

Medieval period kitchens and halls typically had open hearths in the center of the room and smoke escaped through windows and vents (Burgio-Ericson 2018). By the 16th century, floor-hearths were placed adjacent to walls, away from the center of the room. Architectural smoke bays or chimneys vented these hearths. These were typically large hearths, and people could comfortably sit under the eaves of the smoke bay and conduct their cooking (Albala 2003; Burgio-Ericson 2018:256). Cooking technology continued to evolve and by the 17th century, Spanish cooking practice incorporated raised cooking ranges with sets of fireboxes that enabled cooks to prepare multiple dishes simultaneously while standing (Figure 4) (Albala 2003; Burgio-Ericson 2018:456). Ingredients were mixed in bowls or crushed with a mortar and pestle (McEwan 1992). Iron cauldrons were often used to cook soups and stews in the kitchens of the Iberian Peninsula and New Spain (Lister and Pilcher 1999). Cooking pots (*pucheros*) and *cazuelas* (wide-mouthed bowls) were also frequently used to cook wet foods over hearths and raised fireboxes. McEwan's (1992:97) ceramic analysis of the 16th-century Baños site assemblage in Seville, Spain, found that over 50% of the *cazuela* and *puchero* fragments were sooted. This implied that peninsular Spanish cooking practice typically incorporated cooking pots and bowls (Lister and Lister 1976; McEwan 1992).

The excavations at the 17th-century Zuni mission, *Purísima Concepción*, revealed a Spanish style kitchen with Mexican and Zuni influences. The kitchen had a paved workbench which could have been used for cutting and chopping ingredients (Burgio-Ericson 2018). The back wall had four cooking stations, including two raised fireboxes, and an overhead smoke hood (Burgio-Ericson 2018). Zuni influence on the kitchen design was observed through the presence of polished and treated griddle stones which were used to produce the culturally significant Zuni flatbread, *hewe* (Burgio-Ericson 2018:459). The raised work bench may have interfered with cooking on the range; Zuni cooks likely stood on the bench and cooked while squatting, as was standard for Zuni cooking practices (Burgio-Ericson 2018). Thus, while Spanish kitchen forms were used at 17th-century Spanish colonial missions, the use of these kitchen forms did not necessarily correspond with Spanish cooking techniques or practices. Instead, in this example, traditional Pueblo cooking techniques were practiced in the production of food from a Spanish style kitchen (Burgio-Ericson 2018).



FIGURE 4. A *casta* painting depicting a woman of African descent cooking chocolate over a raised firebox with a *puchero* and display ceramics in the background. Source: Katzew (2004:30).

Spanish Food Service

Medieval serving and consumption styles were communal in nature, with food being served into the hollowed-out center of a large loaf of bread, or trencher, and consumed with their hands and knives. Drinks were served in communal goblets, knives were used to eat

meat, and bread was used to take up soups and stews (Hastorf 2017; Nadeau 2016). Starting in the 16th century, European social elite began to accentuate their difference from commoners through elaborate table manners and a more selective cuisine (Hastorf 2017; Pavao-Zuckerman and Loren 2012). New table manners and individual utensils “increasingly separated people from nature – they no longer touched the food they ate – as well as putting distance between each other, seen in the place settings that blossomed into a series of plates and cutlery for each person” (Hastorf 2017:34). This can be observed in the *casta* paintings, which show that high-status families set tables with individualized place settings. Each place setting had a plate, cup and saucer, utensils, and a glass (Pavao-Zuckerman and Loren 2012). Low-status interracial families ate in a communal manner similar to medieval consumption and were frequently depicted sharing plates or loaves of bread and drinking from shared cups (Pavao-Zuckerman and Loren 2012:204). Further, high-status families ate from decorated exotic ceramics, while the commoners used local undecorated plates and bowls (McEwan 1992).

Using decorated imported ceramics to serve food was important in expressing Spanish identity. *Majolica*, a decorated tin-glazed earthenware that is often white and lustrous, was the most common type of imported Spanish serving ware. It was originally manufactured in Spain and Italy, but colonial factories were established in Mexico soon after colonization (Lister and Lister; 1976; Rodríguez-Algeria 2005). *Majolica* was often made into serving vessels, plates, bowls, jars, pitchers, and candleholders (Rodríguez-Algeria 2005:553). *Casta* paintings of high-status households frequently had cupboards displaying *majolica*, copper vessels, vases, glassware, porcelain cups, and porcelain plates (Figure 5) (Katzew 2004; Pavao-Zuckerman and Loren 2012). Low-status households also used

ceramics as display pieces, though the ceramics were frequently earthenware or redware and were often chipped or well worn (Figure 4) (Pavao-Zuckerman and Loren 2012). While *majolica* was ubiquitous in the Caribbean, Florida, and Mexico, it was rare on frontier Spanish colonies that lacked access to the sea, such as New Mexico and the interior of Texas (Pavao-Zuckerman and Loren 2012). D. Snow (2009) argues that *majolica* is not necessarily an indicator of wealth as each piece only costs between two to three *reales* in Mexico, regardless of the size or form. Instead, imported Chinese porcelain was more likely associated with wealth and status, as porcelain pieces cost at least one peso (one *reale* is worth one-twelfth a peso). Porcelain was made into tablewares including cups, plates, serving platters, saucers, and bowls (D. Snow 2009). The difficulty and cost of obtaining imported ceramics in 17th-century New Mexico can be seen in the fact that *majolica* and porcelain only make up 1-3% of the ceramic assemblage at all Spanish colonial sites (D. Snow 2009; Trigg 2004, 2005).



FIGURE 5. An example from a casta painting of using *majolica* as display pieces. Source: Katew (2004:32).

Throughout the colonial period, the Spanish used large quantities of Indigenous ceramics in food storage, production, cooking, and consumption. This fact has been interpreted in a variety of ways depending on the context. Kathleen Deagan's (1983, 1995, 2003) groundbreaking work in Florida and the Caribbean first identified a pattern wherein Indigenous, African, and syncretic influences were observed in the material culture of

domestic contexts associated with women. This was interpreted as evidence of intermarriage and *mestizaje*, or genetic and cultural mixing, between Spanish colonists and Indigenous or African women (Deagan 1983, 1995, 2003; Voss 2008a). Intermarriage and *mestizaje* were vital to the overall acculturative processes in Spanish colonies in the New World. This work highlighted the active role Indigenous and African women had as cultural brokers and demonstrated their participation in colonial cultural change and acculturation (Deagan 1983, 1995; Voss 2008a, 2008b).

Van Buren (1999) compared the assemblage from Tarapay, Bolivia with Puerto Real, Haiti. In elite Spanish households in Tarapay, the table was mostly set with Indigenous ceramics; 68.5% of the tableware ceramics were Indigenous in manufacture, 16.6% were *colono*-wares, and 14.9% European (Rodríguez-Alegría 2005; Van Buren 1999). This revealed that the use of Indigenous ceramics in Spanish households transcended class and ethnic differences (Van Buren 1999). The vast majority of ceramics (96.4%) recovered from wineries near the Potosi mines in the Moquegua Valley, Peru, were locally made earthenwares (Rice 1997; Van Buren 1999). These practices were interpreted as a byproduct of trade restrictions and evidence of long-term craft specialization in the region.

In Mexico City, Rodríguez-Alegría (2005) found that Spanish households used both Aztec serving vessels and Spanish *majolica*, though this practice varied by household. Rodríguez-Alegría (2005) considers that Indigenous and European ceramics were strategically deployed depending on the circumstances. For the poor, the use of European ceramics was a way of differentiating themselves from Indigenous peoples; whereas the elite used Indigenous foods and serving vessels when hosting local Indigenous elite to serve

appropriate food which facilitated political alliances and marriages (Rodríguez-Alegría 2005).

At the Presidio Los Adaes in Texas, Pavao-Zuckerman and Loren (2012) found that all Spanish used Indigenous ceramics and ate Indigenous foods to a degree. However, class and status influenced the serving vessel form and the proportion of imported to local ceramics.

Individuals living in the governor's house made efforts to obtain the material trappings of elite foodways, including costly, higher-status tableware, and when these ceramics were not available, strove to replicate the form of vessels needed for "civilized" dining. These residents of the household were able to wield economic power to access and use material wealth in ways that were important to them, and keeping with colonial expectations with regard to the *regimen de castas* (Pavao-Zuckerman and Loren 2012:223).

Considering these various interpretations of Indigenous ceramics found in Spanish contexts, there are a few patterns to keep in mind. The colonial experience varied greatly depending on the context and each colonial endeavor was influenced by local conditions and cultures (Voss 2008b). Wealth, status, ethnic background, and race did not determine the use of Indigenous ceramics, and archaeologists should consider that material culture was strategically employed to negotiate local politics, manipulate racial categories, maintain or

downplay colonial difference, and accommodate multi-ethnic households (Deagan 1983, 1995, 2003; Pavao-Zuckerman and Loren 2012; Rice 1997; Rodríguez-Alegría 2005; Van Buren 1999). Finally, when access to European ceramics was limited, the manufacturer of the ceramics may not be as important as the vessel form and the practice of food serving and consumption (Pavao-Zuckerman and Loren 2012).

Spanish Cuisine Summary

On the Iberian Peninsula the Spanish diet was primarily composed of bread and meat which was supplemented with vegetables, cheese, and fruit (Defourneaux 1970; Nadeau 2016; Trigg 2005). Commoners primarily consumed these ingredients in stews which were cooked in cooking pots and jars, whereas high-status individuals ate higher quality cuts of meat that were prepared in stews, roasted, cut into individual portions, baked into pies, served with salads, and prepared with elaborate sauces (Laudan and Pilcher 1999; McEwan 1992; Nadeau 2016; Trigg 2005). Bread was a signature food for the Spanish and a cornerstone of Spanish cuisine (Laudan and Pilcher 1999; Nadeau 2016). Reproducing Spanish cuisine in colonial contexts was often challenging due to environmental conditions, and colonists complained when they were forced to rely upon local ingredients that did not correspond with Spanish taste (McEwan 1992). The cuisine of the New Mexican colonists incorporated elements of Highland Mexican Indian cooking from the past 100 years of colonization, namely the incorporation of maize, tortillas, chilies, beans, and squash (Trigg 2005). Food was typically cooked on raised hearths or fireboxes while breads were baked in outdoor *hornos* (Albala 2003; Burio-Ericson 2018; Nadeau 2016). For high-status individuals, food was served at individual place settings while seated at a table, whereas low-

status individuals were served from communal bowls reminiscent of medieval consumption practices (Hastorf 2017; Loren 2001; Pavao-Zuckerman and Loren 2012).

Table 6 summarizes the material culture that is associated with the practice of a Spanish-style cuisine. As it has been already established that Spanish properties in New Mexico primarily used local Indigenous made ceramics in their daily practice, it is not expected that the ware types identified at LA 20,000 would mirror the ware types of ceramics at other colonial properties. However, Pueblo potters were able to recreate Spanish ceramic forms, such as soup plates, Catholic chalices, and candlesticks (D. Snow 1982). By recreating Spanish vessel forms, the Spanish had a functional equivalent that enabled a facsimile reproduction of Spanish practice in New Mexico (Pavao-Zuckerman and Loren 2012). If a Spanish style cuisine was being strictly reproduced and practiced at LA 20,000, it is expected that the array of ceramic vessel forms in the assemblage would resemble the array of Spanish forms identified in *casta* paintings and archaeological sites in the Iberian Peninsula (Table 6) (Loren 2001; McEwan 1992; Pavao-Zuckerman and Loren 2012). If Spanish cuisine was not strictly practiced across the board at LA 20,000, a comparison of the assemblage with the summary (Table 6) can identify which components in the overall scheme of food production, cooking, and consumption most closely resembled the traces of Spanish practice and cuisine. The next chapter explores the methodology for analyzing the practice of cuisine at LA 20,000.

TABLE 6.

SUMMARY OF MATERIALS ASSOCIATED WITH SPANISH CULINARY PRACTICE.

Behavior	Archaeological Signature
Food Preparation	Dough bowls (rim > 30 cm), mixing bowls, ceramic mortars.
Cooking	<i>Hornos</i> , <i>pucheros</i> (cooking jars), <i>cazuelas</i> (cooking bowls), iron cauldron, braziers, ceramic or metal <i>comales</i> , multi-chambered fire boxes.
Food Service	<i>Escudillas</i> (individual serving bowls), <i>platos</i> (soup plates), <i>tazas</i> (cups), <i>servidores</i> (serving platters), glassware, <i>majolica</i> , porcelain.

Source: Burgio-Ericson (2018); Carillo (1997); D. Snow (1982); Lister and Lister (1976); Loren 2001; McEwan (1992); Pavao-Zuckerman and Loren (2012); Rodríguez-Alegría 2005; Sunseri (2009).

CHAPTER 4

METHODOLOGY

Research Design

Archaeologists understand the basics of the diet of the inhabitants of LA 20,000 based on the macrobotanical analysis by Trigg (2004, 2005), the palynological analysis by Gruber (2018) (Table 4), and the faunal analysis by Opishinski (2019) (Table 5). In order to understand how these ingredients were combined in daily practice to create the cuisine of the inhabitants, this thesis incorporates this prior research with an analysis of the ceramics and ground stone tools from LA 20,000. This chapter describes the methodology of the ceramic and ground stone tool analysis. By comparing the results from this analysis with archaeological signatures of Spanish (Table 6) and Pueblo (Table 2) practices of cuisine, overall analysis underscores how Pueblo and Spanish cuisine was recreated and identity was reified on the frontier.

Minimum Number of Vessels

Barbara Voss and Rebecca Allen's (2010) detailed methodology for conducting MNV served as the methodological basis for conducting the MNV of ceramics at LA 20,000. MNV counts provide a better analytical basis for considering how ceramics were used in daily life

(Voss and Allen 2001:1). While simple sherd count and weights could help to show the distribution of ceramics across a site, an MNV provided better data for considering vessel form, function, use, type, size, and spatial distribution.

Most of the archaeological assemblage from LA 20,000 is currently being held at El Rancho de las Golondrinas outside of Santa Fe and near LA 20,000. However, the rim sherds were previously transported to the Fiske Center at University of Massachusetts Boston. In total, I analyzed 1,200 rim sherds between December and July of 2016 for this MNV.

As the ceramics from LA 20,000 were predominantly hand-made ceramics, a qualitative approach was used to vesselizing the ceramics at LA 20,000 (Voss and Allen 2010). Following Voss and Allen's (2010) step-by-step laboratory process, sherds were first broken into ware types and sorted accordingly. The assemblage from LA 20,000 was dominated by three distinctive ware types – Kotyiti and Pecos glazewares, Tewa matte-painted wares, and Micaceous wares. These wares could be easily distinguished by temper materials (fine tuff or coarse basalt), paste, and decoration (glaze or matte-painted) (Capone and Preucel 2012; Harlow 1973; Mera 1939).

After creating broad groups of ware types, I was able to identify attributes that could be used to differentiate sherds into individual vessels (Voss and Allen 2010). These categories were: vessel form, rim profile, rim form, rim thickness, decoration, paste characteristics, surface treatments, evidence of burning, and vessel diameter. Once these analytical categories were determined, sherds were sorted into groupings of sherds that shared the same assortment of attributes (Voss and Allen 2010:5). I used a conservative approach sorting groups, with the Voss and Allen's (2010:5) guidance "if there is any possibility that two sherds *could* be from the same vessel, they should be grouped together even if their attributes

are somewhat different”. Sherds that could be refitted together were cross-mended. Rim diameters were measured using the curve-fitting method to the nearest even-numbered centimeter (Rice 1987: 223; Voss and Allen 2010). Each distinctive group of sherds with shared attributes was classified as a single vessel. Soot stains and evidence of burning were recorded with the vessel attributes. In the ceramic analysis, burn marks are only considered to be evidence of cooking if the soot stains are not present on the broken sherd edges. Soot stains on broken sherd edges could have been caused by post-depositional burning and cannot be firmly attributed to the actual use of the vessel. The attributes of each vessel were recorded on a master Microsoft excel spreadsheet. In total, I identified 290 vessels from the study assemblage.

Vessel form was determined by comparing the rim profile, rim thickness, and surface decoration with illustrations and profiles from the seriation of Rio Grande glazewares established by Nels Nelson (1916), Madeline Kidder and Alfred Kidder (1917), and revised by H.P. Mera (1933) (Figure 6). In addition, H.P. Mera’s (1939) *Style Trends of Pueblo Pottery* provided comparative material for identifying vessel form. Sherds with rim profiles that matched the profiles of Mera’s (1933) revised seriation of bowls and soup plates were classified as bowls or soup plates respectively. Bowl sherds from LA 20,000 were primarily the 17th-century “Glaze F” form which has a distinctive obtuse angle formed between the rim and the curve of the bowl (Figure 6 (F), Figure 7) (Mera 1933:9). “Glaze F” bowl rims have a uniform thickness from the rim down to the curve of the bowl. Jars were distinguished from bowls if the interior of the vessel lacked decoration and the rim profile matched the everted or concave rim profiles that were identified in comparative literature (Figure 6, Figure 8) (Chapman 1953, 1970; Harlow 1973; Mera 1939).

After sherds were organized into groups that represented individual vessels, the vessels were assigned a typology based on the previously mentioned attributes. Each vessel was compared with the typology presented by the New Mexico Office of Archaeological Studies' ceramics typology website, <<http://ceramics.nmarchaeology.org/>>, as well as the typologies presented in Mera (1939), Chapman (1953, 1970), and Harlow (1973). While Kotyiti glazewares dominated the assemblage, there was a range of ceramic types that were represented by individual examples. This range of typologies with low counts was not conducive to statistical data analysis. Since this thesis is focused on how ceramics were used in the practice of foodways and not necessarily the origins of Pueblo ceramics, I assigned the typologies to larger typological groupings based on the external display attributes of surface decoration and surface color (Table 7). Both matte painted and lead glazed polychrome vessels were combined into the overall category of "Polychrome". Similar ceramic analytical groupings were used by Sunseri (2007) in his analysis of food production and serving at the 18th-century *Casitas Viejas* site in northern New Mexico.

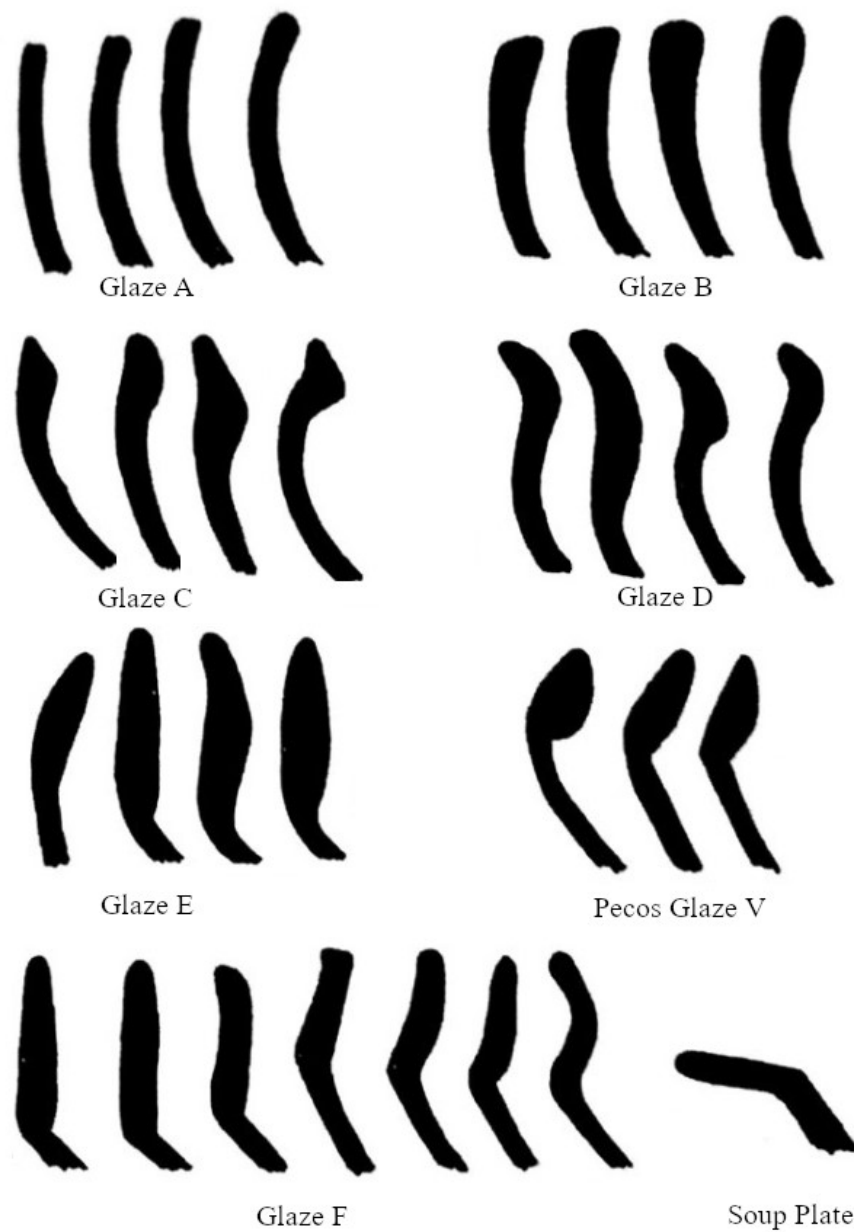


FIGURE 6. Bowl rim forms of Rio Grande glazewares. Adapted from (Mera 1933:3-10).

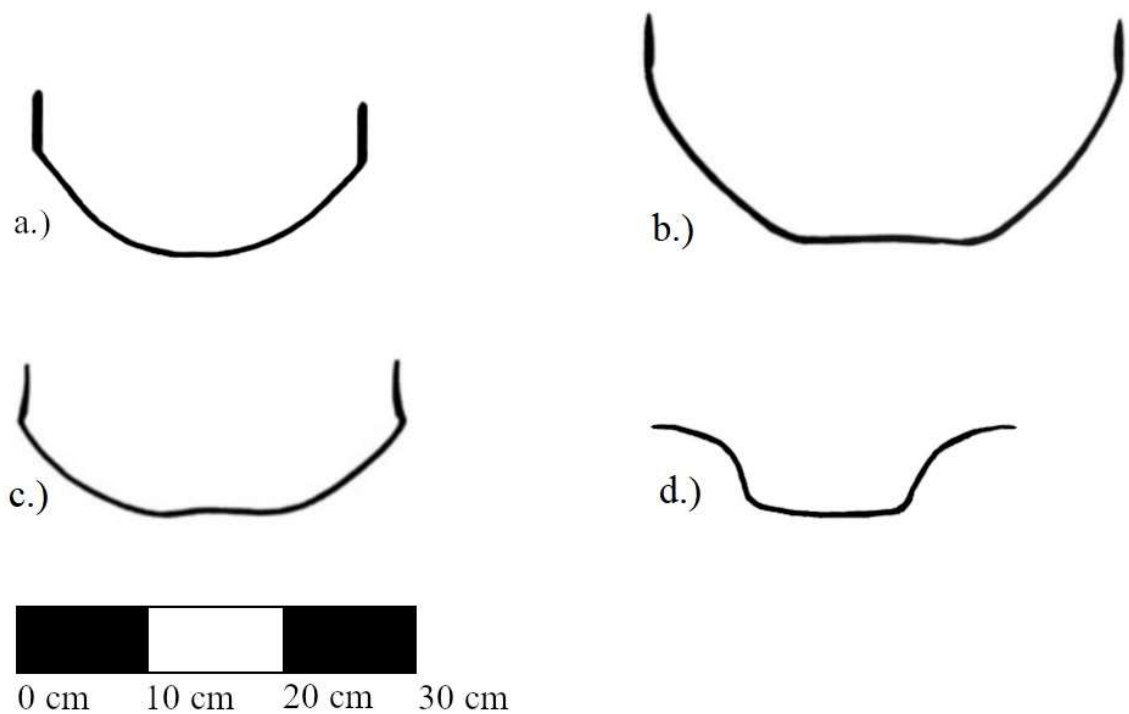


FIGURE 7. Reconstructed bowl profiles of vessels from LA 20,000. Adapted from Chapman (1970); Mera (1939). A.) Kotyiti Glaze-on-Yellow Bowl B.) Kotyiti Polychrome Bowl C.) Tewa Polychrome Bowl. D.) Rio Grande Glaze Red Soup Plate

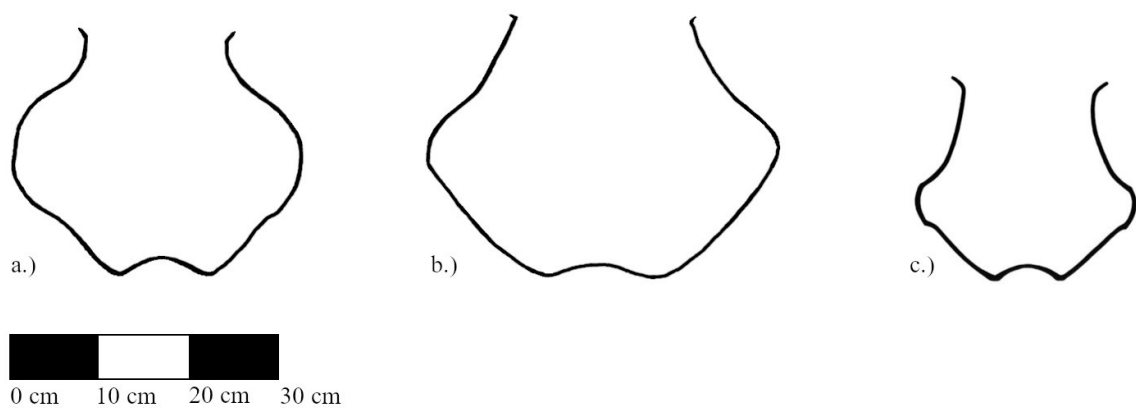


FIGURE 8. Reconstructed jar profiles of vessels from LA 20,000. Adapted from Chapman (1970:39); Mera (1939:92, 95, 99). A.) Kotyiti Glaze Polychrome Jar (globular) B.) Kotyiti Glaze Polychrome Jar C.) Kapo Black Jar.

TABLE 7.

CERAMIC TYPES AND TYPOLOGICAL GROUPS.

Ceramic Typology	Typological Group
Kotyiti Glaze-on-Red	Glaze-on-Red
Rio Grande Glaze-on-Red	
Pecos Glaze-on-Red	
Salinas Red ^a	
Agua Fria Glaze-on-Red	
Espinosa Glaze-on-Red	
Salinas Red ^a	
Tewa Red	Matte-on-Red
Kotyiti Glaze-on-Yellow	Glaze-on-Yellow
Pecos Glaze-on-Yellow	
Kapo Grey	Burnished Black
Kapo Black	
Tewa Black	
Kotyiti Glaze-on-Polychrome	Polychrome
Tewa Polychrome	
Pecos Glaze-on-Polychrome	
Buff	Plain
Tewa Polished Micaceous	Micaceous
Ocate Micaceous	
Black-on-White	Black-on-white
Hopi Yellow-ware	Hopi Yellow-ware

^a: undecorated red-bodied types.

Source: Chapman (1953, 1970); Harlow (1973); Kidder and Kidder (1917); Mera (1933, 1939); Nelson (1916); New Mexico Office of Archaeological Studies
<<http://ceramics.nmarchaeology.org/>>

Throughout the excavations in the 1980s and 1990s, LA 20,000 had many different systems for naming excavation units and recording provenience. The provenience information for sherds collected in the 1990s was intact and accurate. The provenience information on artifacts from the 1980s excavations was more limited, but I was able to correct this by correlating the FS (field sample) numbers from the artifacts with the FS logs.

The quality of stratigraphic information ranged from excellent to limited or non-existent throughout the excavations. This information was recorded when possible but stratigraphic relationships were not incorporated into the analysis of the cuisine. Since most of the vessels were constituted from sherds collected in different excavation units, the primary spatial attribution for each vessel was assigned to the excavation unit that contained the greatest weight of ceramic sherds of the vessel.

One of the purposes of the description of foodways presented in Chapter Three was to build connections between foodways in Spanish and Pueblo cultures and the material culture that would be observable in the archaeological record (Table 2, Table 6). Ethnographic and archaeological evidence has indicated that the characteristics of vessels that were important to the practice of cuisine was vessel form, size, decoration, and use-wear (Cohen et al. 1993; Chapman 1970; Hill 1982; Spielmann 1998; Sunseri 2009:175). In this analysis of the materials associated with the practice of cuisine at LA 20,000, prior data on the diet (Table 4, Table 5) is incorporated into a comparison of how the material culture from LA 20,000 aligns or diverges from materials associated with the practice of Spanish (Table 6) and Pueblo (Table 2) cuisine that have been identified in other archaeological excavations and *casta* paintings (Elkin 2007; Gruber 2018; Mills 1999, 2007; Opinshinski 2019; Spielmann 1998; Trigg 2004, 2005). Evidence of the practice of cuisine is not observed through one specific ware type or form. Instead, in this thesis I consider the overall suite of artifacts associated with food practice to understand how the daily routine and methods of production reflected expressions of identity by the inhabitants (Silliman 2010; Sunseri 2009). If the inhabitants sought to maintain a strict adherence to the norms of Spanish or Pueblo identity and acceptable food, then the assemblage should materially reflect the dichotomous expectations

presented in Table 2 and Table 6 along each stage of food production, cooking, and consumption (Sunseri 2009:105). If the inhabitants incorporated materials associated with the practice of both culinary traditions, then an analysis of where these practices diverged can be used to interpret how the influences Spanish and Pueblo identity, practice, and acceptable cuisine were expressed to create a novel colonial cuisine in New Mexico.

Jars

Jars in Spanish and Pueblo homes were used for a variety of functions related to food. A soot stain analysis of jars from LA 20,000 reveals if and which jars were used to produce boiled foods at LA 20,000. If prehispanic Pueblo methods of food production continued into the historic period, it is expected that jars would be the primary vessel form related to cooking - specifically jars with micaceous paste (Table 2) (Carrillo 1997; Sunseri 2009:107). If jars did not have evidence of burning, then it is considered evidence that wet foods were not commonly consumed at LA 20,000. Vessels without evidence of soot stains indicated the types of vessels that were used for other tasks such as storage, mixing ingredients, or serving (Table 2, Table 6) (Cohen et al. 1993; Crown 2000). A rim diameter analysis of the jars revealed the sizes of vessels that were used for storage, preparation, cooking, and serving.

Bowls

Bowls were one of the major vessel forms at LA 20,000. In both Spanish and Pueblo practices of cuisine, bowls had a wide range of uses associated with food production, cooking, and serving (Table 2, Table 6). Bowls of all sizes were used to mix ingredients for meals. Small bowls (rim diameter < 25 cm) were more well suited to mixing medicines and

saucers, whereas large bowls (rim diameter > 25 cm) were more useful for combining multiple ingredients in preparing dough, salads, and stews (Cohen et al. 1993; Chapman 1970; Nadeau 2016; Sunseri 2009). Utilitarian bowls were used in conjunction with jars to cook food in Iberian cuisine (McEwan 1992). A blend of burned utilitarian cooking bowls and jars at LA 20,000 would indicate cooking practices that aligns with Spanish cuisine (Table 6) (McEwan 1992). In the historic period, dough bowls (rim diameter between 30 – 45 cm) were introduced and used to proof leavened wheat bread (Chapman 1970; D. Snow 1982). A widespread distribution of large dough bowls would be strong evidence for bread production at LA 20,000 (Chapman 1970, D. Snow 1982).

Food Service

In Pueblo communities, small (rim diameter > 25 cm) decorated bowls were used to communally serve small families, whereas large (rim diameter > 25 cm) decorated bowls were used to serve food in suprahousehold feasting events and everyday family consumption (Table 2) (Elkins 2007; Spielmann 1998; Mills 1999, 2007). In high-status Spanish cuisine, small bowls were used in conjunction with plates, cups, and saucers to create place settings for individual consumption (Table 6) (Pavao-Zuckerman and Loren 2012). Low-status Spanish cuisine was characterized by communal consumption from larger bowls, trenchers, and bread plates (Hastorf 2017; Loren 2001; Pavao-Zuckerman and Loren 2012; Sunseri 2009). If dining practices align with Spanish cuisine, it is expected that the ceramic assemblage would consist of an even mix of small bowls and soup plates (Sunseri 2009). If dining practices align more closely with Pueblo or low-status Spanish cuisine, then the ceramic assemblage is expected to primarily consist of small and large sized bowls suited for

communal consumption. If display was an important component of the use, it was expected that small bowls and soup plates would be primarily polychrome vessels.

Imported Ceramics

Beyond locally produced ceramics, Spanish colonists often imported *majolica* and porcelain for display and food consumption. While the imported ceramic collection was not available for analysis for this thesis, the field notes and lab notes (D. Snow n.d) in conjunction with David Snow's (2009) report on the ceramics at LA 20,000 provided enough detail to observe trends between imported ceramics and the locally produced Pueblo and Plains Indian ceramics. An analysis of the vessel forms provided additional detail on food service. Were the imported *majolica* and porcelain used in conjunction with soup plates for individual food service, or were the imported wares in larger serving forms such as platters for communal consumption? If the imported vessels are primarily in forms and sizes associated with individual place settings, it would reflect a practice that resembled high-status Spanish dining (Loren 2001; Pavao-Zuckerman and Loren 2012). If the imported vessels are in larger forms and bowls associated with communal consumption, it would reflect a low-status Spanish style of communal dining (Hastorf 2017).

Other Food Production Materials

In this analysis, I incorporate an overview of the non-ceramic materials associated with food production and cooking in Spanish and Pueblo cuisine (Table 2, Table 6). Evidence of maize production is observed in the distribution of *manos*, *metates*, and sandstone *comales*. This was considered in relation to the palynological analysis that was

completed by Gruber (2018). Pollen of some types of plants have a short dispersal range from where they were planted, harvested, stored, and processed; thus, the spatial distribution of pollen, *manos*, *comales*, and *metates*, was used to elucidate areas of LA 20,000 where these plants were stored, processed into edible foods, and cooked (Gruber 2018).

Summary

By conducting a minimum vessel count on the ceramic assemblage of LA 20,000 as a component of this thesis, I developed a dataset that was used to analyze the form and function of ceramics at LA 20,000. With this data, the research design connected the bowls, jars, soup plates, *manos*, *metates*, and *comales* with existing datasets (Table 4, Table 5) and an overview of the material culture associated with the practices of Pueblo (Table 2) and Spanish (Table 6) cuisine to understand the practice of cuisine at LA 20,000. By comparing the observed materials associated with cuisine practice with the expected materials of cuisine practice (Table 2, Table 6), I explore how the practice of cuisine at LA 20,000 reflected the social identity of the inhabitants. The next chapter describes the results of this ceramic and foodways analysis.

CHAPTER 5

RESULTS

The ceramic assemblage from LA 20,000 represents the material remains from everyday activities on the rural *estancia*. Through the course of the day, individuals dropped pots or bowls slipped off tables, which lead to their breakage and eventual discard. This chapter presents the results of the MNV of the ceramics that had once been used in the daily routine of the inhabitants of the site. First, the chapter breaks down the common ware types and vessel forms that are represented in the assemblage. Then an analysis of each primary vessel form – jars, bowls, and soup plates – is presented. Finally, the data from imported ceramics and non-ceramic foodways materials is described. These results provide a window to view elements of the daily practices of the inhabitants of LA 20,000.

Common Forms

A breakdown of vessel forms by typological groupings provides an overview of the range of forms that each type came in (Figure 9). While the polychromes and glazewares -- Glaze-on-Red, Glaze-on-Yellow -- are the most common ware types at LA 20,000 and come in a range of forms, most of these vessels are in forms suited to food service (Figure 9).

Micaceous vessels are only represented in jar forms. Plain and Burnished Black vessels are primarily jars though there are examples of these types in other forms (Figure 9). At this basic level, it appears that Glaze-on-Red, Glaze-on-Yellow, Matte-on-Red, and Black-on-White are present in a range of forms that represented storage, food production, cooking, and service activities. Micaceous, Plain, and Burnished Black vessels appear to have been primarily used for storage, food production, and cooking (Figure 9). Subsequent analysis of soot stains and rim diameters provides additional evidence for the use of these vessel types and forms.

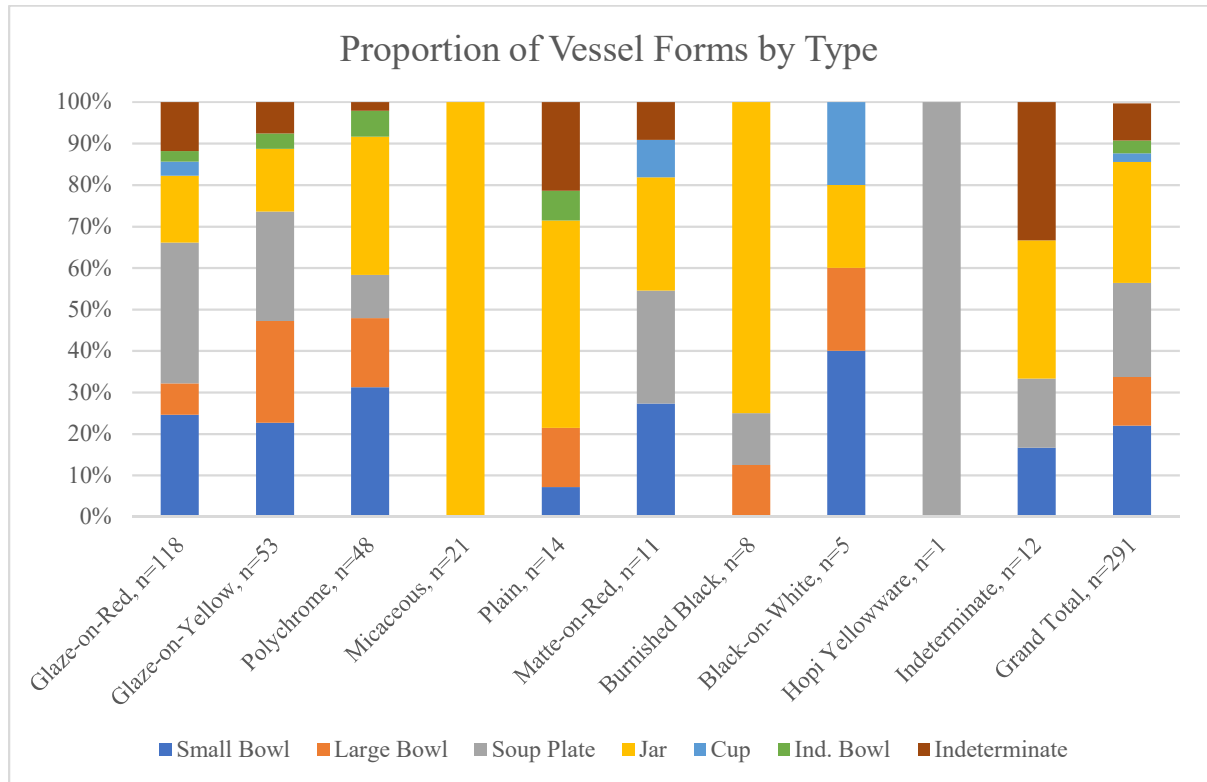


FIGURE 9. Vessel form proportions by typological groupings across LA 20,000. (Figure by author).

Jars

The soot stain data from jars clearly indicates that Micaceous jars are the most common type of jar at LA 20,000 and they have the highest incidence of burning out of any vessel type (Figure 9, Figure 10). These jars were likely burned during their everyday use as cooking pots. The micaceous paste of the ceramics is unpolished and imbues the surface with a rough texture. Experimental archaeology demonstrated that rough surface textures improve the durability of vessels that undergo frequent thermal shock (Crown 2000; Hardin and Mills 2000). Even with surface treatments to improve durability, cooking pots often suffer high breakage rates relative to other vessel forms due to frequent thermal expansion and contraction (Hardin and Mills 2000). The large number of Micaceous jars in the assemblage likely relates to the rigors of daily cooking and the importance of boiled foods in the cuisine of the inhabitants.

Compared with the Micaceous jars, Plain jars have a relatively low incidence of burning, 28.6% (Figure 10). As utility wares, these buff bodied jars likely functioned as cooking vessels at times, but they were not as well suited to this task as micaceous jars were. It was also notable that 15.8% of Glaze-on-Red vessels have evidence of burning, indicating this type was infrequently used as cooking vessels.

The results from the rim diameter analysis indicate that the primary utilitarian cooking jar types, Micaceous and Plain, are larger on average than the rest of the jars in the assemblage (Figure 11, Figure 12). Micaceous and Plain jars have a similar median rim diameter of 26 cm, whereas the Glaze-on-Red, Glaze-on-Yellow, and Polychrome jars have median rim diameters between 18 to 20 cm (Figure 12). In addition, the smallest 50% of

Micaceous and smallest 25% of Plain jars are similar in size to the largest 25% of the Glaze-on-Red, Glaze-on-Yellow, and Polychrome jars (Figure 12). A bar graph of the rim diameters reveals a bimodal distribution of Micaceous jars with peaks at 26-28 cm and 34-36 cm; whereas the Plain jars had a single peak at 26-28 cm (Figure 11). Thus, the cooking vessels are larger on average than the decorated glazewares, and while there is a range of cooking jar sizes, two distinct sizes were preferred.

The rim diameters of the glazewares range between 8 cm and 28 cm. Within this range, 69.4% of the glazewares have rim diameters between 16 cm and 24 cm (Figure 12). Glaze-on-Yellow and Polychrome jars have single modal plateaus between 18 and 22 cm for the former and 20 to 24 for the later (Figure 11). Glaze-on-Red jars have a larger range of sizes than the other glazewares and have a peak between 22-28 cm (Figure 11). Overall, the results from the jar rim diameter analysis demonstrated that glazeware jars were smaller than the purely utilitarian cookware jars and had a range of acceptable sizes between 16 cm and 24 cm.

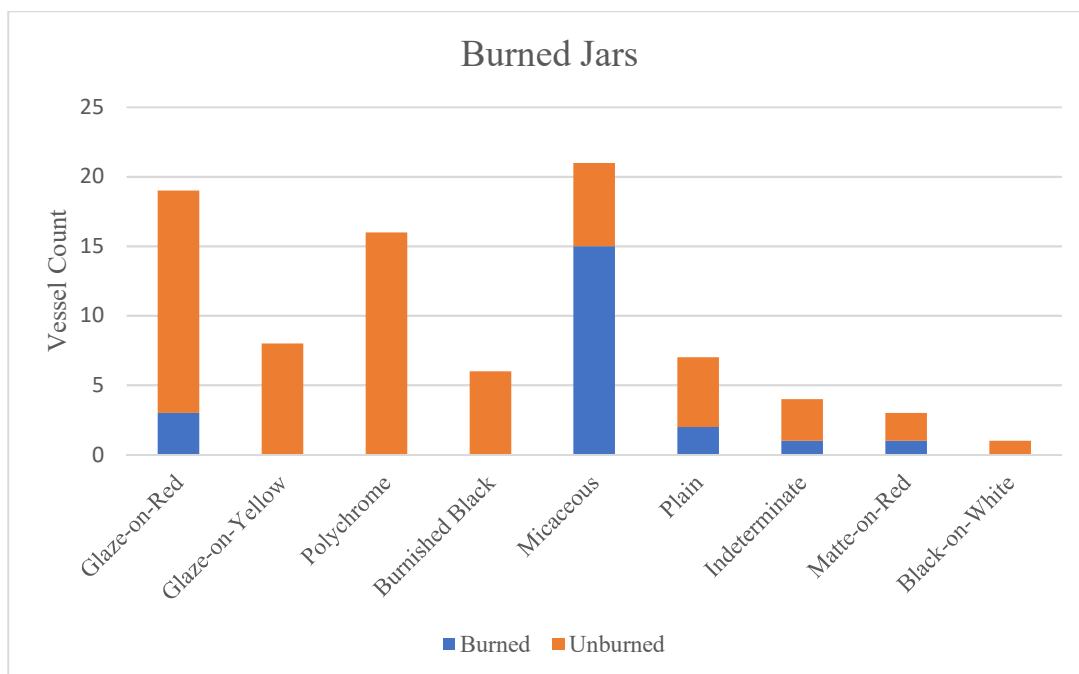


FIGURE 10. Burned jars by type. (Figure by author).

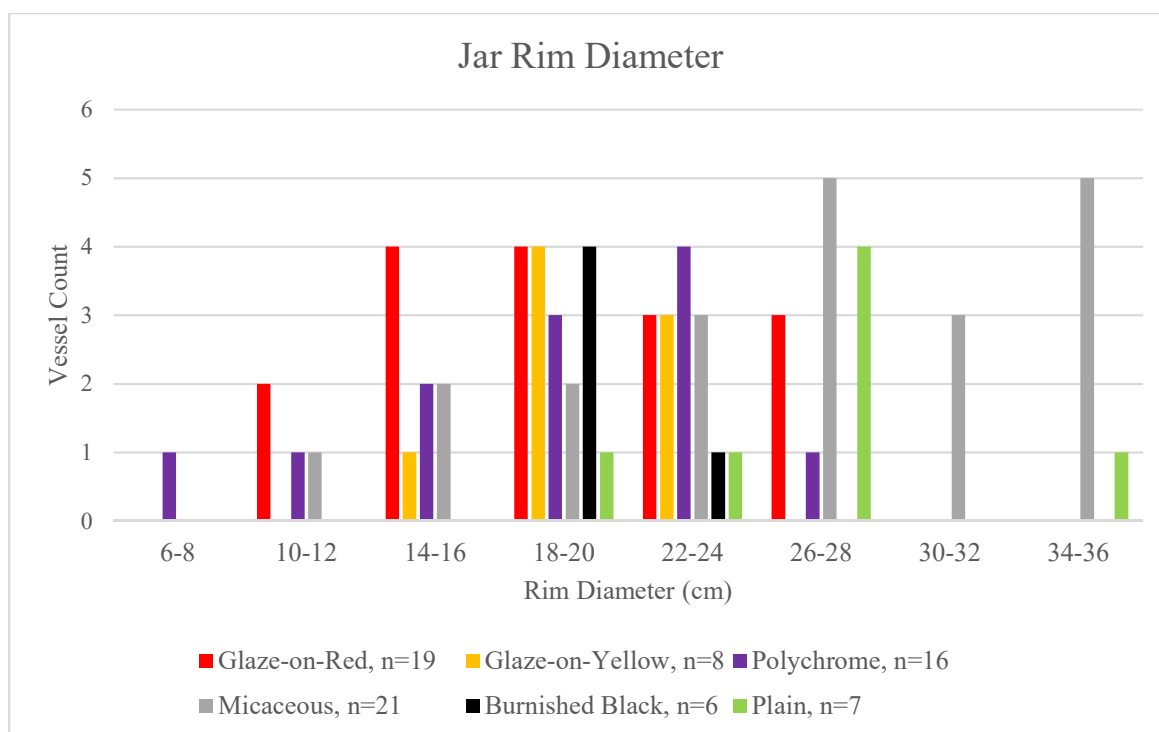


FIGURE 11. Bar graph of jar rim diameters by type, $n > 5$. (Figure by author).

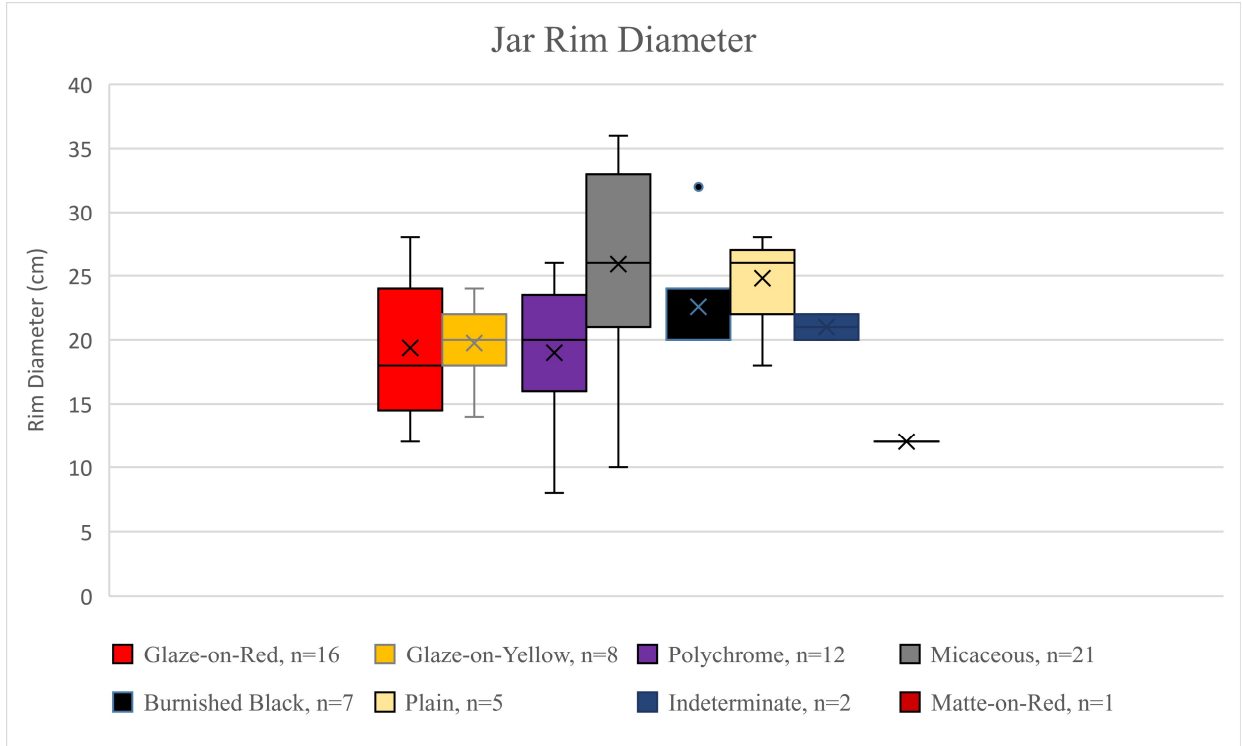


FIGURE 12. Box-and-whisker graph of jar rim diameters by type. (Figure by author).

Bowls

Soot and carbon stains are found on 18.42% of Glaze-on-Red and 12% of Glaze-on-Yellow bowls (Figure 13). The low relative proportion of sooting on each of these ware types indicates these vessels were occasionally used as cooking vessels though it was not their primary use. This low incidence of burning corroborated with ethnographic and archaeological evidence from Ancestral and modern Pueblo communities that bowls were primarily used for serving food as well as storing and mixing ingredients (Hardin and Mills 2000; Hill 1982; Mills 1999, 2007; Potter and Ortman 2005; Spielmann 1998).

Analyzing the rim diameter of bowls reveals important information in regard to how was food served at LA 20,000. As previously discussed, bowls under 25 cm in diameter were typically used for serving individuals and small families, whereas suprahousehold feasting bowls were typically above 25 cm in diameter (Mills 1999, 2007; Spielmann 1998). Glaze-on-Red bowls are the most numerous bowls represented in the assemblage and are smaller on average than other glazeware bowls (Figure 15). The box-and-whisker graph indicates 75% of the Glaze-on-Red bowls are under 25 cm and the upper quartile expresses a wide range of larger sized vessels up to 34 cm (Figure 15). The bar graph of rim diameters demonstrates the Glaze-on-Red bowls have a large peak in distribution at 14-16 cm and a smaller peak between 30-32 cm (Figure 14). Considered together, Glaze-on-Red bowls are primarily in the small bowl range, but there are eight bowls that are above 30 cm in diameter. It should be noted that large vessels typically break less frequently than small vessels, thus the smaller

number of large bowls could have been a product of their resiliency and not necessarily a representation of their overall importance (Hardin and Mills 2000).

Glaze-on-Yellow and Polychrome vessels are a relatively even mix of large and small bowls. The mean rim diameter size of Glaze-on-Yellow is 24.72 cm and Polychrome is 24.09 cm (Figure 15). Over 50% of Glaze-on-Yellow bowls are over 25 cm in diameter and 34.78% of Polychromes are over 25 cm in diameter (Figure 15). Both ware types have a bimodal distribution of rim diameters; as Glaze-on-Yellow has peaks at 18-20 cm and 26-28 cm while Polychromes has peaks at 22-24 cm (Figure 14). Thus, Glaze-on-Yellow are concentrated in two distributions of large and small rim diameters, whereas Polychrome bowls were concentrated in a size range on the border between large and small bowls. While this border was based on archaeological and ethnographic precedents, it is an etically derived boundary (Mills 1999, 2007; Spielmann 1998). These glazeware bowls are in a wide range of vessel sizes with a range of likely uses.

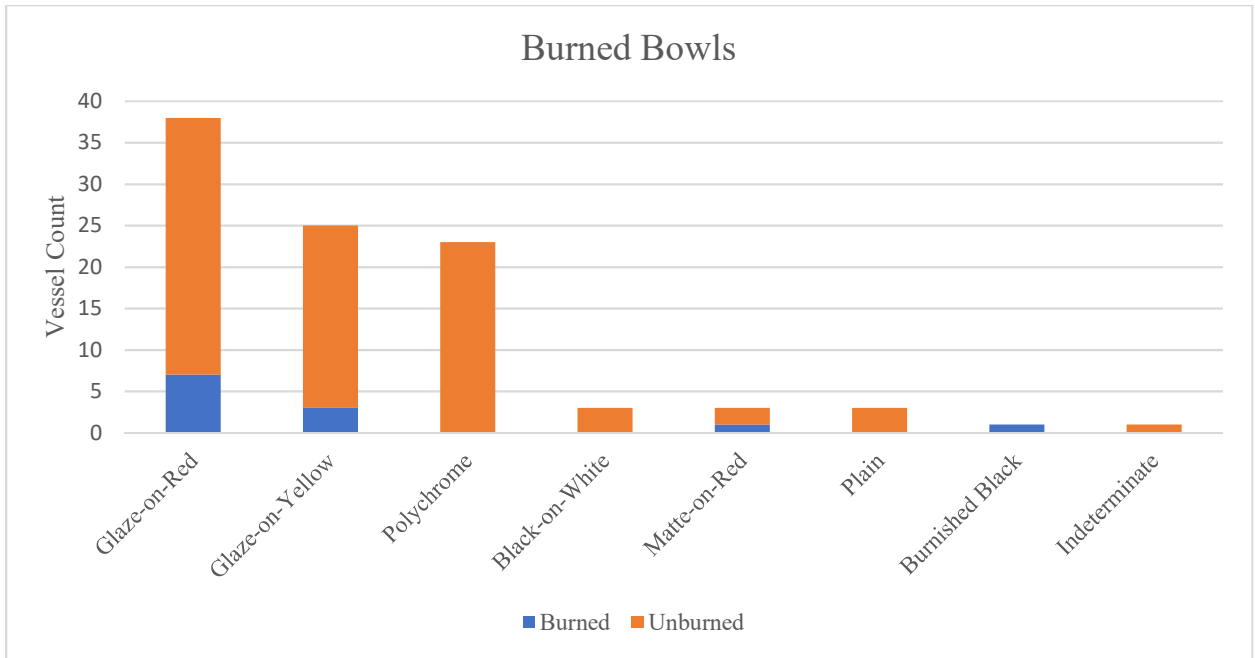


FIGURE 13. Burned bowls by type. (Figure by author).

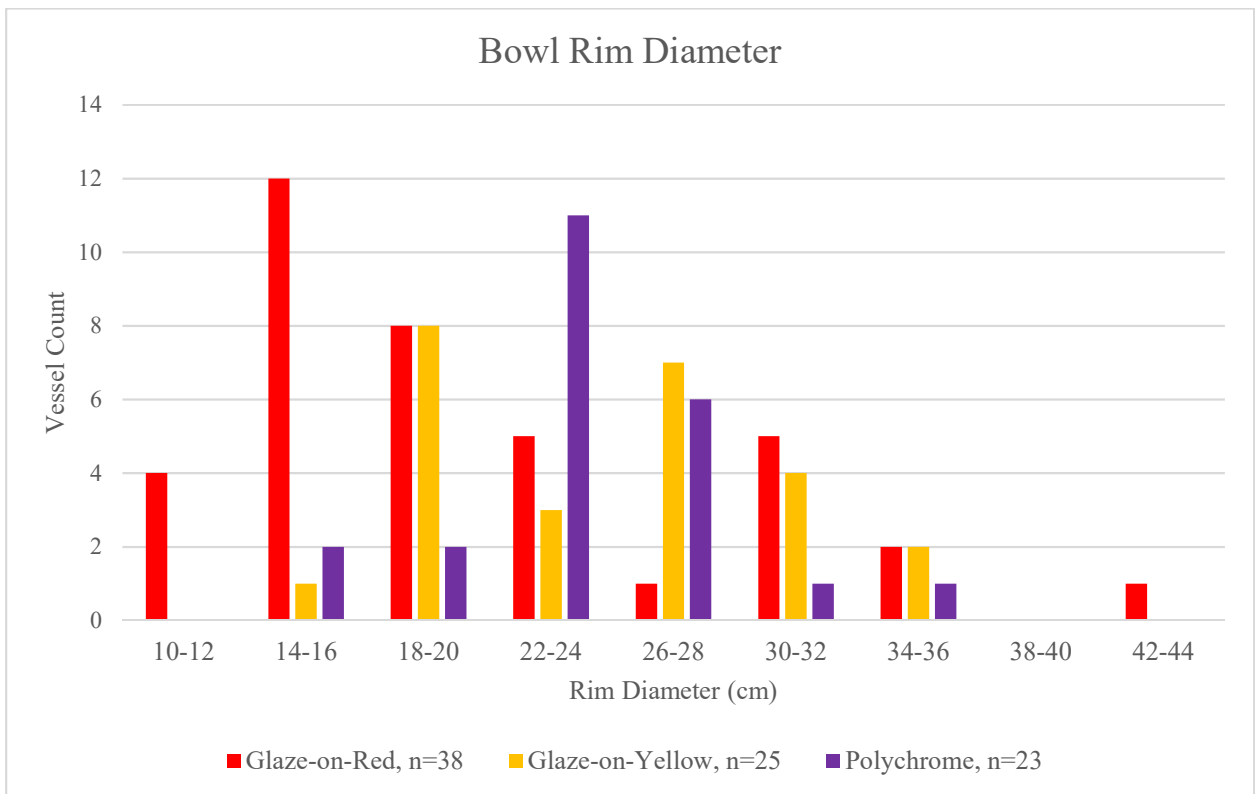


FIGURE 14. Bar graph of bowl rim diameters count by type, n>. (Figure by author).

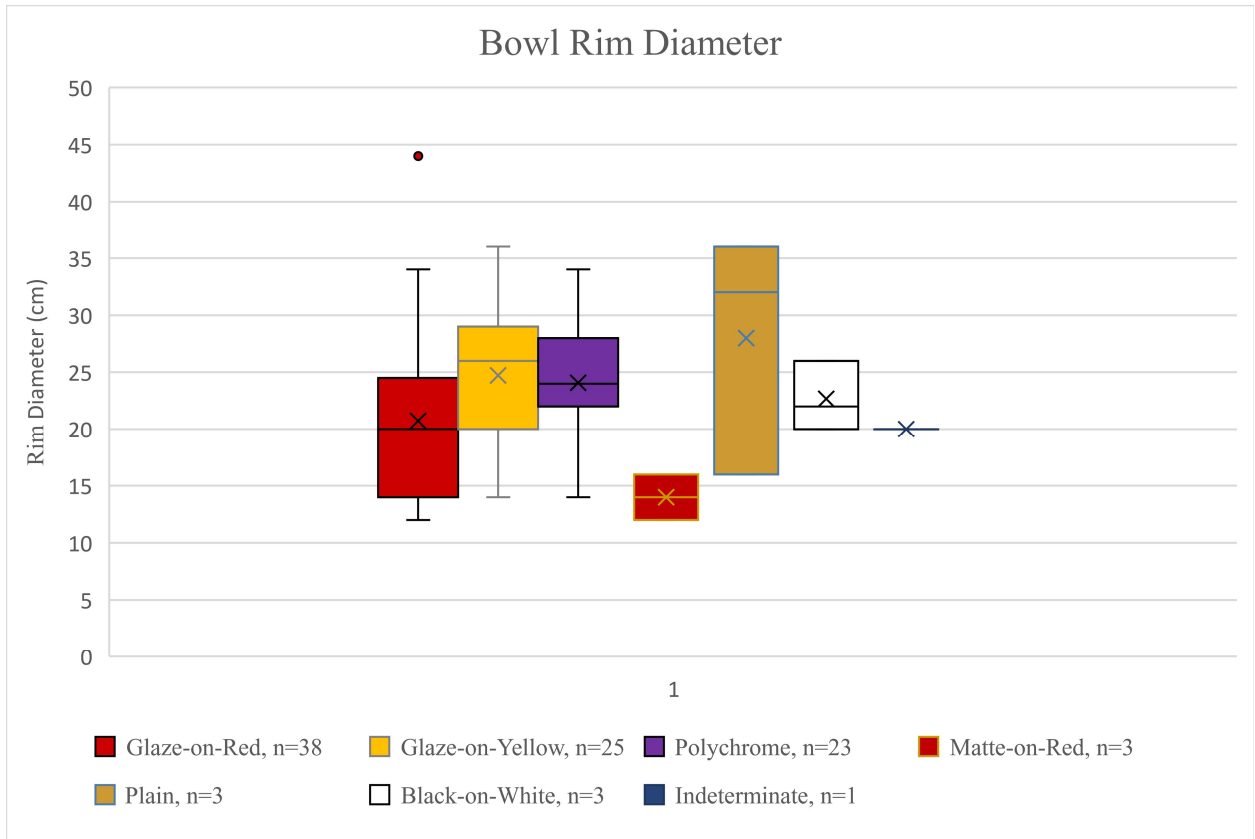


FIGURE 15. Box-and-whisker graph of bowl rim diameters by type. (Figure by author).

Soup Plates

Archaeologists typically consider soup plates to have only been serving vessels (D. Snow 1982; Liebmann 2015; Trigg 2004, 2005). However, soot stains are present on the bottom of Glaze-on-Red, Glaze-on-Yellow, Polychrome, and Burnished Black soup plates (Figure 16). The soot stains on soup plate exteriors indicates they were previously used as cooking vessels in limited contexts. The pattern from the burned jars and bowls indicates that decorated-bichrome vessels were occasionally used as cooking vessels. This also appears to be the case with the soup plate assemblage, however it is notable that two of the burned soup

plates were Polychrome vessels. One potential use of soup plates as cooking vessels could revolve around parching grains. When parching maize and wheat, cooks typically arrange grains on a bowl or pan over a bed of coals. The kernels are stirred constantly to avoid burning. Having a wide surface area pan or bowl provides space for the kernels to move and maintain contact with the pan (Hill 1982:42; Swentzell and Perea 2016). This practice is specifically described in the production of *piki* bread at the Santo Domingo Pueblo (Hill 1982:42). As soup plates are flat-bottomed and have a large surface area, they could have been a useful container to parch grains on.

The rim diameters of soup plates demonstrate a consistency in size when compared with jars and bowls (Figure 18). For each of these types, the median rim diameter is 22 or 23 cm while the mean is 22.6 cm for Glaze-on-Red, 23.43 cm for Glaze-on-Yellow, and 22.4 cm for Polychrome. Glaze-on-Red soup plates are by far the most common ware type of soup plate and 85% of the rim diameters are between 18 cm and 26 cm (Figure 17). Likewise, 78.6% of Glaze-on-Yellow and 100% of Polychrome soup plates fell within this range (Figure 17). The consistency of soup plate sizes across ware types indicates that soup plates had a consistent “template” across multiple ceramic production zones and were likely used for a narrow range of tasks. This contrasted with range of sizes for bowls and jars which had a wide range of uses. Soup plates are widely interpreted as individual portion serving plates for meals. Beyond the incidence of soot stains, the data from LA 20,000 indicates these vessels were primarily used as serving vessels (Burgio-Ericson 2018; D. Snow 1982, 2007; Liebmann 2015; Mills 2007; Trigg 2004, 2005).

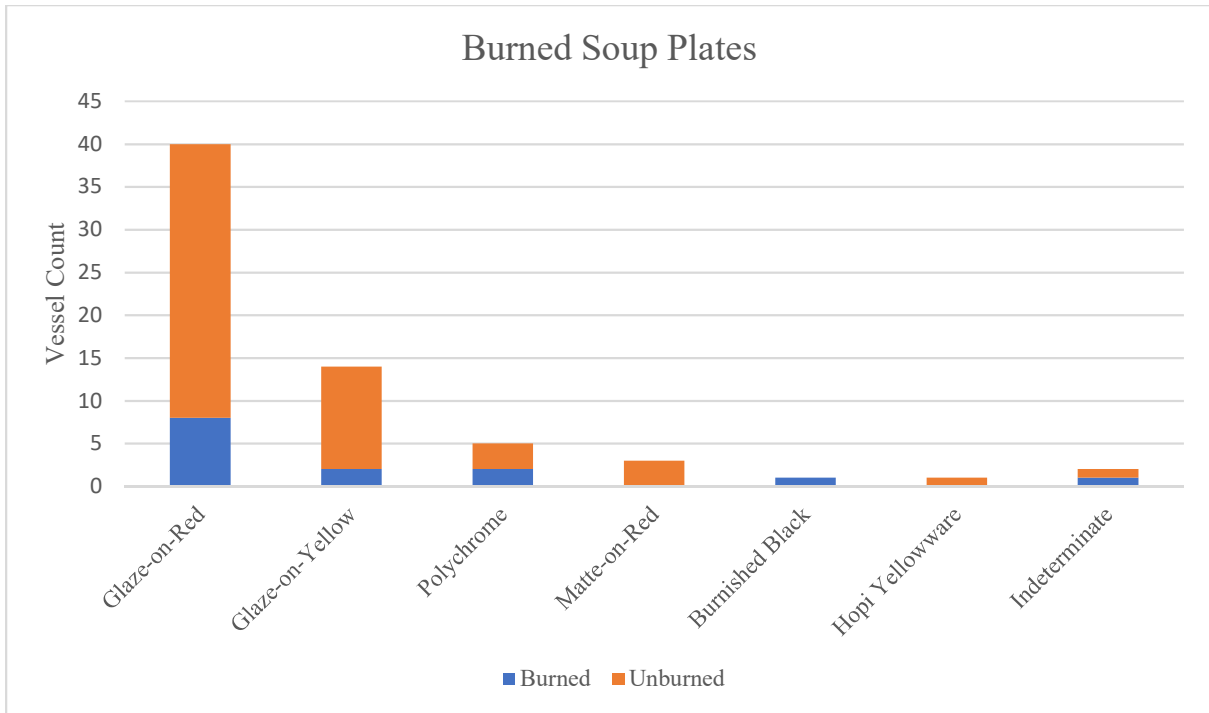


FIGURE 16. Burned soup plates by ware type. (Figure by author).

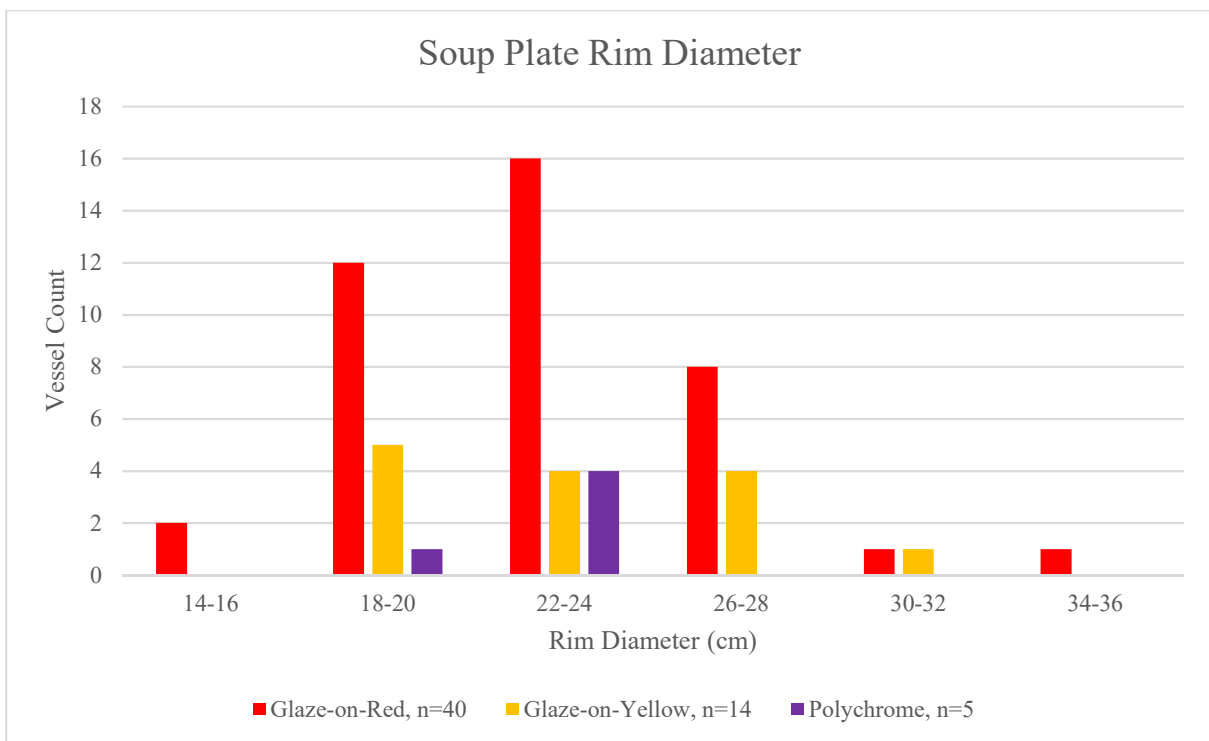


FIGURE 17. Bar graph of soup plate rim diameter by Type, n>5. (Figure by author).

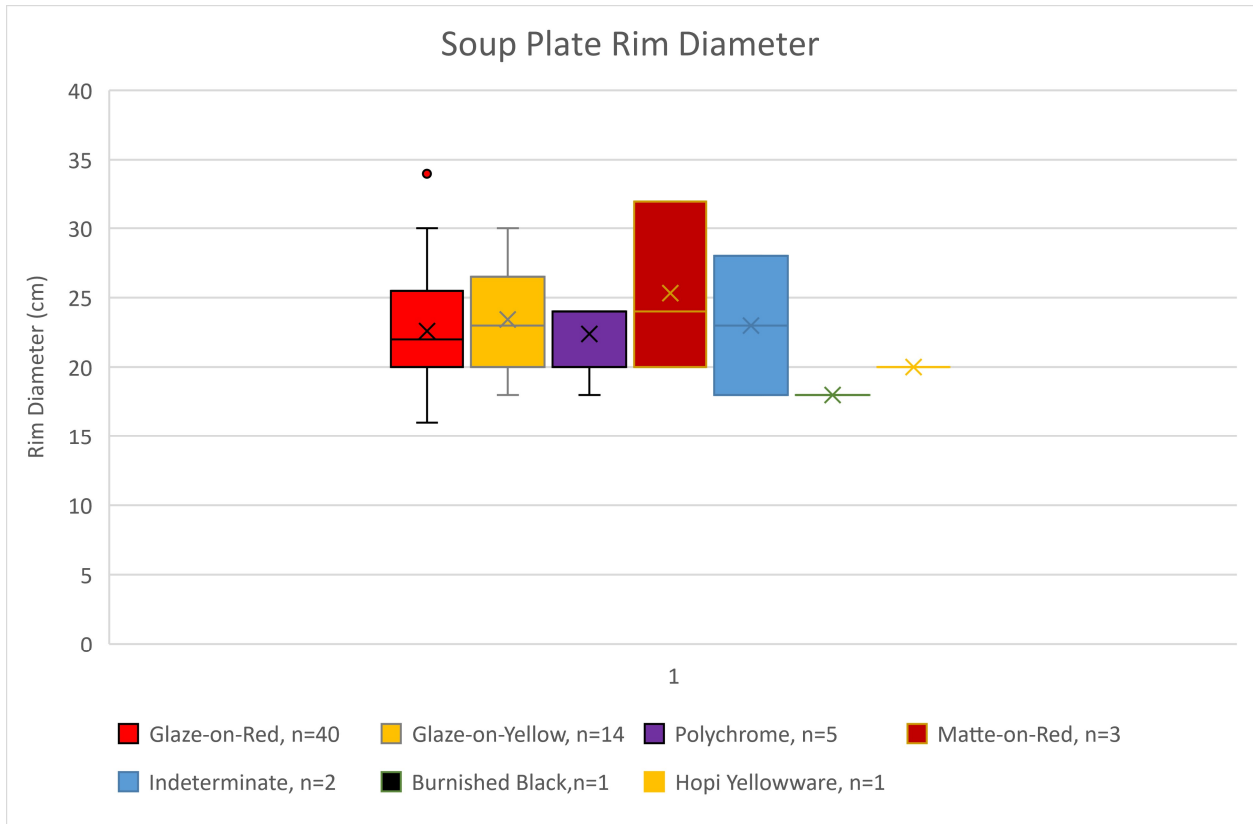


FIGURE 18. Box-and-whisker soup plate rim diameter by type. (Figure by author).

A few trends emerged when the distribution of small bowls is compared with soup plates across space (Table 8). When the entire site assemblage is considered, the proportion of small bowls ($n=63$) to soup plates ($n=65$) was roughly equal. However, the parity disappears when the distribution is divided between the house, barn, and yard space. The house has the most vessels of both forms by a significant amount, and the proportion of soup plate to small bowl is equal. In comparison, the yard space and barn both have 26 vessels, though the yard has a higher incidence of soup plates and the barn has more small bowls (Table 8). A *chi* square test of independence analysis reveals that while this distribution pattern fails to reject the null hypothesis of a random distribution with a .05 confidence interval, it does not fail this test by much, P value = .07244. Thus, it is modestly improbable

that the distribution of serving vessels across the *estancia* was not uniform, despite the equal proportion of bowls to soup plates when the whole *estancia* was considered (Table 8).

TABLE 8.

SMALL BOWL AND SOUP PLATE χ^2 TEST OF INDEPENDENCE

Observed	Small Bowl	Soup Plate	Total
House	39	37	76
Yard	8	18	26
Barn	16	10	26
Total	63	65	128

Expected	Small Bowl	Soup Plate	Total
House	37.406	38.594	76
Yard	12.797	13.203	26
Barn	12.797	13.203	26
Total	63	65	128

χ^2	Small Bowl	Soup Plate
House	0.068	0.066
Yard	1.798	1.743
Barn	0.802	0.777

χ^2	5.25343339
df	2
CV (.05)	5.991
p	0.072317

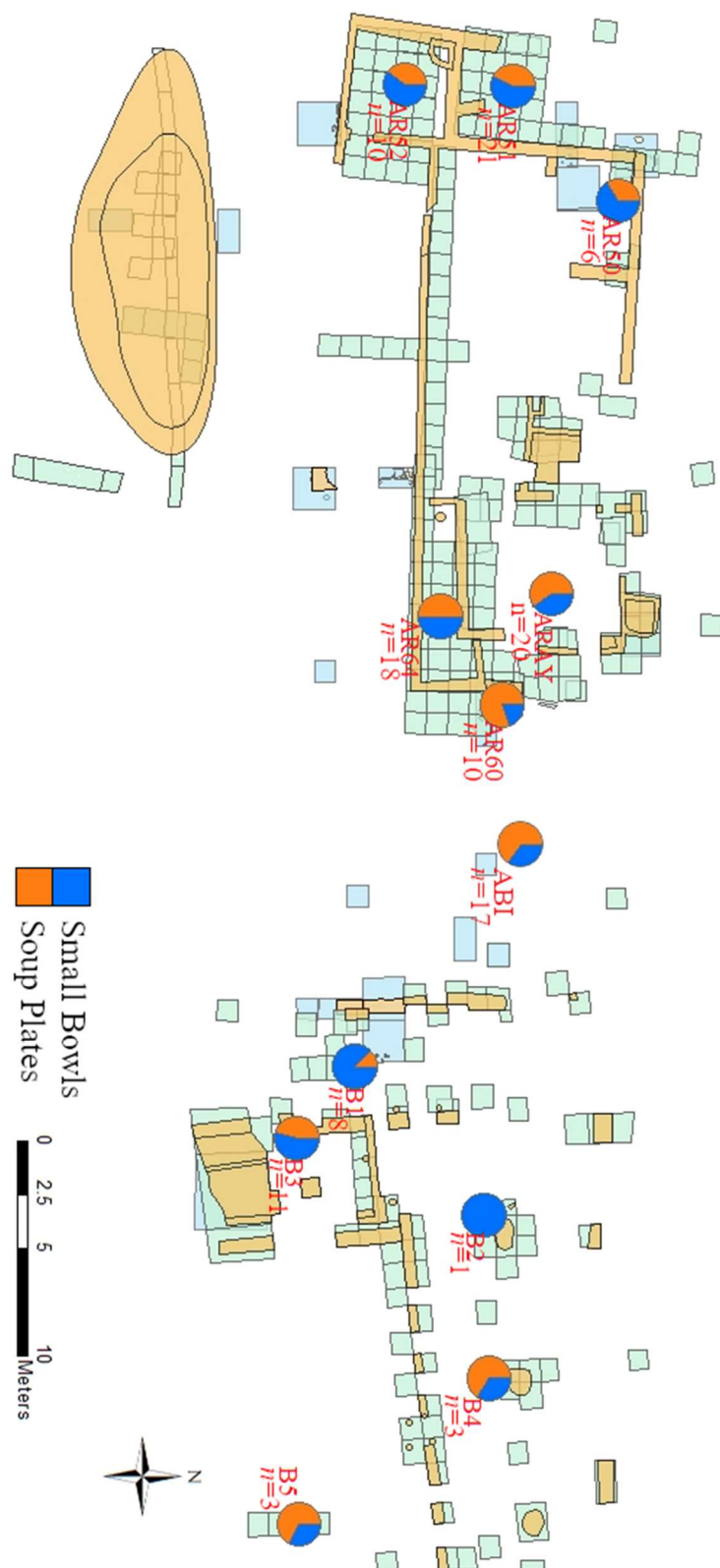


FIGURE 19. Distribution of Soup plate and small bowls by room. (Map by author).

Imported Ceramics

Imported *majolica*, porcelain, Indigenous Valley of Mexico burnished wares, and Spanish earthenwares make up less than 1% of the ceramic assemblage at LA 20,000 (D. Snow 2009). Snow's (n.d.) lab notes listed imported ceramic sherd counts, ware types, and vessel forms for these ceramics. Compiling this data revealed *majolica* and porcelain are in forms that facilitated serving individual portions of food - cups, bowls, plates, and soup plates (Table 9, Figure 20). Imported Indigenous Valley of Mexico burnished wares and Spanish earthenwares are in different forms of jars, which would have been used for transporting food, storing food, food production, and cooking food (Table 10).

The vessel forms of imported *majolica* and porcelain are primarily in vessel forms related to serving food in individual place settings. This is observed in the presence of 22 cup sherds, 17 bowl sherds, and 15 plate sherds; which indicated the inhabitants used imported ceramics to drink from individual cups, eat wet foods in individual bowls, and consume dry foods on personal plates (Figure 20). Large *majolica* serving platters, or *servidores*, are absent in the collection of LA 20,000, so individual plates were not portioned from larger imported serving dishes (Lister and Lister 1976; McEwan 1992:99).

TABLE 9.

IMPORTED SERVING VESSELS BY SHERD COUNT

Ware type	Bowl	Cup	Plate	Soup Plate	Holloware	Unid. Cylinder	Unid.	Grand Total
Puebla B/W	7	18	3		2			30
Unid. Majolica	4	2	7	1	3		3	20
Unid. Spanish Earthenware						20		20
Kraak Porcelain	4	1						5
San Luis G/C			4					4
Tonala Burnished	2							2
Routina Sgraffito			1					1
Hard Orange		1						1
Grand Total	17	22	15	1	5	20	3	83

Source: D. Snow (n.d.).

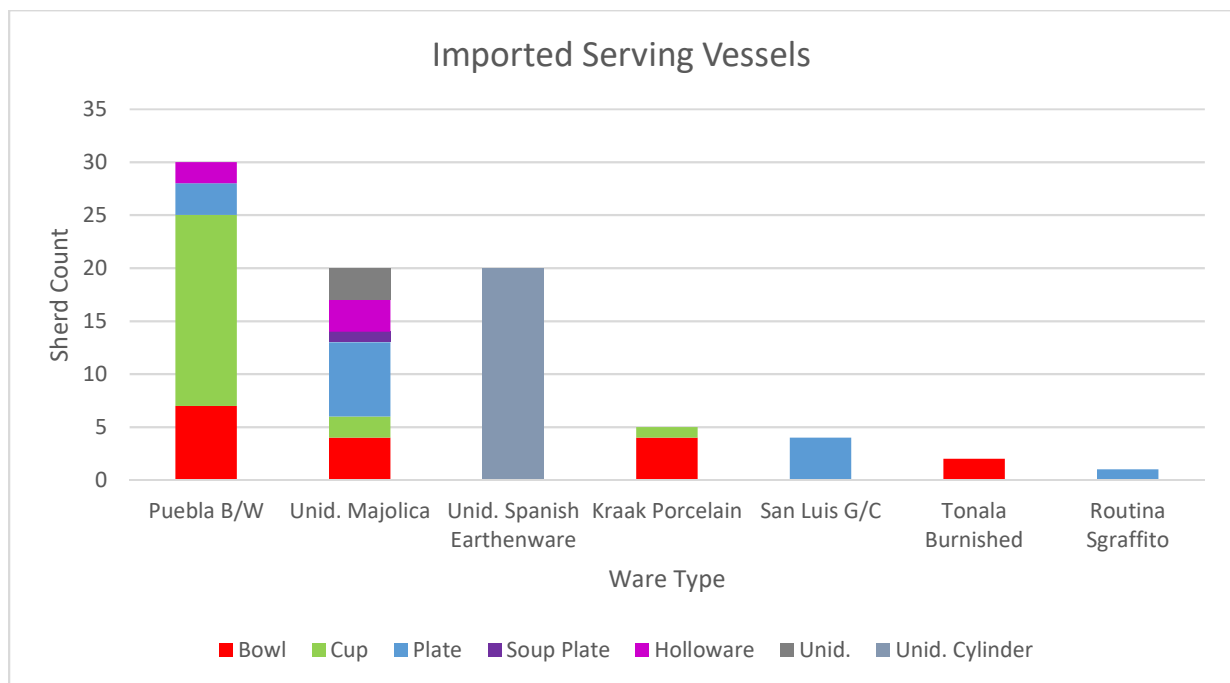


FIGURE 20. Imported serving vessels by sherd count. (Figure by author).

Three of the four types of Mexican burnished wares identified at LA 20,000 - green, Aztec B/R, and Hard Orange - were jars (Table 10). Snow's (n.d.) laboratory notes did not clarify if these were sooted or not, and with the available information it is not possible to determine if they were used for cooking. Without this information, only a broad characterization of the use of these vessels is possible, suggesting the vessels were likely used for storage, food production, and cooking. The remaining Mexican burnished ware type identified in the assemblage, Tonalá Burnished, is in bowl form and associated with food service (Table 9).

Evidence of imported food items was observed in the presence of 22 Iberian "Olive Jar" sherds at LA 20,000 (Table 10). Olive jars are found throughout the colonial world and were used as shipping containers to bring a variety of Old World products to the New World, including beans, chickpeas, lard, wine, olives, and olive oil (Jamestown Rediscovery 2018). Early colonial New Mexico participated in trade relationships with the outside world, albeit at a reduced scale when compared with other Spanish colonies (C. Snow 1993; Trigg 2003, 2005). It is unlikely the olive jars were mere utilitarian storage jars, as there was ready access to storage vessels of Indigenous manufacture nearby. Considering that LA 20,000 was a wealthy residence, it is possible that the presence of olive jars is a material manifestation of the importation of exotic goods. Without conducting a residue analysis on the olive jars, it was impossible to determine exactly what product the inhabitants were importing. However, the presence of olive jars was strong evidence they were purchasing imported food products that were socially important for the inhabitants.

TABLE 10.

IMPORTED IBERIAN OLIVE JARS AND BURNISHED MEXICAN CERAMICS BY
SHERD COUNT

Ware type	Jar	Olive Jar	Grand Total
Green	1		1
Olive Jar		22	22
Hard Orange	9		10
Aztec B/R	9		9
Total	19	22	124

Source: Snow (n.d.).

Comales, Manos, and Metates

Groundstone implements were used to process and cook maize at LA 20,000. This is observed archaeologically through the presence of basalt *manos*, basalt *metates*, and sandstone *comales* (Table 11). These materials are not available for analysis for this thesis, but the artifact inventory and fieldnotes described the distribution and character of these materials. Due to the fragmentary nature of the sandstone *comales* and lack of access, these items are considered simply as fragments and not whole *comales*.

The single *metate* was recovered from the surface above the house (Trigg pers. communication). Subsequent excavation of the midden recovered a *mano* fragment and 19 *comal* fragments (Table 11). Without access to the *mano* and *metate* for analysis, the most salient information is their mere presence on the *estancia*. This indicated maize and grains were ground into finer grained ingredients at LA 20,000 and flatbreads were cooked on the Puebloan form of sandstone *comal* (D. Snow 1992). The concentration of these materials

confirms that the midden is an important deposition area for food preparation and cooking materials.

TABLE 11.

SPATIAL DISTRIBUTION OF GROUNDSTONE IMPLEMENTS

Area	Room	Comal Fragment	Mano Fragment	Metate
Midden south of house	M1	19	1	1
Western end of house	AR50	1		
Western end of house	AR51	5		
Western end of house	AR52	3		
Eastern end of house	AR64	6		
Eastern end of house	ARRAY			
House/barn yard space	ABI	10	1	
Barn	BR1	2		
Barn	BR3	3		
Barn	BR4	1		
	Total	50	2	1

Source: Snow (n.d.).

Beyond the concentration of *comales* in the midden, there is a distribution of *comales* across the site. *Comales* were recovered on both the eastern and western half of the house; however, the absence of *comales* in ARRAY on the eastern end is notable as this space has three burned jars which indicate it was used for cooking other types of food (Table 11). The concentration of *comales* and the presence of a two-handed basalt *mano* in the yard space between the house and barn indicates this space was used for grinding maize and cooking flatbreads. Finally, the six *comales* in the barn imply that there was cooking or trash disposal activities within the barn. The overall spatial distribution of *comales* implies flatbread

production was not confined to a specialized area of the site, but instead was flexibly organized throughout the entirety of the *estancia*.

Summary

The results of this analysis have indicated a range of practices were expressed at LA 20,000. From the jar analysis, it was clear that Micaceous jars were the primary type and form of cooking ceramics at the site (Figure 10). Bichrome glazeware jars as well as polychrome jars with glaze and matte-painted decorations were smaller and did not have a significant amount of burning, which is interpreted as being related to storage, food preparation, or serving (Figure 10). Small bowls are present in large numbers, primarily from bichrome glazewares as well as polychrome glaze and matte-painted ware types (Figure 14). The size of the small bowls fit with Pueblo and Spanish precedents of food serving vessels (McEwan 1992; Mills 1999, 2007; Spielmann 1998). These vessels are likely associated with food service practices at LA 20,000. Large bowls are present in limited quantities and primarily in bichrome and polychrome forms (Figure 15). Soup plates are present in large numbers which implies they were an important food serving ware. The rim diameter analysis provides evidence that the soup plates had a narrow range of acceptable sizes (Figure 18). Imported ceramics are primarily in forms related to setting individualized place settings at tables (Table 9). The presence of *manos* and *metates* at LA 20,000 signals that maize was ground on-site (Table 11). The widespread distribution of *comales* indicated that flatbread production was not confined to a specific area of the site, but that these foods were cooked in multiple areas during the lifetime of the *estancia*. From the results of the assemblage, it is clear a range of food production, cooking, and consumption activities were practiced across

the site. The next chapter discusses how this data can be combined with the previously established data sets from the macrobotanical, faunal, and palynological assemblages to understand how identity was reproduced through the practices of food production, cooking, and consumption.

CHAPTER 6

DISCUSSION

Food at LA 20,000 filled the basic biological demands for energy and subsistence while simultaneously providing a means to express acceptable taste, flavor, and proper dining etiquette (Hastorf and Weismantel 2007). In this chapter, the lines of evidence that have been built throughout this thesis are combined to create an overall understanding of the practice of cuisine at LA 20,000. What is known about the overall diet of the inhabitants is presented first. This data is connected to the ground stone tools that were a component of food production at LA 20,000. Utilitarian jars and *comales* were used to cook the ingredients into meals that fit conceptions of acceptable cuisine. These meals were served on a collection of small bowls and soup plates which reproduced Spanish dining practice. By combining and discussing these various points of data, a wholistic understanding of the practice of cuisine of the inhabitants is developed. Through these practices, elements of Pueblo and Spanish identity were reproduced and expressed through their cuisine.

Diet

The macrobotanical and palynological evidence from LA 20,000 indicates the inhabitants attempted to recreate a familiar Spanish cuisine with plants from the Old World,

but they also incorporated American domesticates and locally foraged ingredients (Table 4). American domesticates had previously been adopted into Hispanic cuisine through the colonial experience in Mexico (Trigg 2004, 2005). Maize was frequently acquired from local Pueblos through theft, barter, and *encomienda* (Liebmann 2012; Weber 1992). Locally foraged foods were also incorporated into the cuisine of the inhabitants of LA 20,000, which may have been a means of surviving the famine and drought that frequently afflicted the colony (Ivey 1994; Trigg 2004). The practice associated with foraging in the local environment for foods in times of nutritional hardship likely had roots in Pueblo and Indigenous foraging practices (Fish 2000; Minnis 1989; Trigg 2004, 2005). The presence of these foraged ingredients most likely represents the practice of Pueblo women living and working on the *estancia*. These practices may have been taught intergenerationally on the *estancia* to subsequent generations of Spanish colonists. Alternatively, these foraging practices may have been taught to Spanish colonists by Indigenous people and reproduced by the colonists (Fish 2000; Trigg 2004, 2005).

The faunal assemblage from LA 20,000 demonstrates the inhabitants were primarily consuming meat from domesticated livestock that was supplemented with wild game and fish (Opishinski 2019). The quantity of *Ovis/Capra* at LA 20,000 indicate the inhabitants were consuming the most highly valued meat according to Spanish preferences (Table 5) (Defourneaux 1970; Nadeau 2016; Scarry and Reitz 1992:34). However, meat was not cut into individual portions like bone-in-steaks and the age of the animals did not fit with high-status preferences for young meat (Nadeau 2016). In addition, the butchery of *Equids* indicates some individuals were eating meat that had a strong Spanish taboo. These consumption practices were likely heavily influenced by the requirements of maintaining a

functioning ranch and the stresses associated with drought and famine (Nadeau 2016; Opishinski 2019; Trigg 2004, 2005). These practices illustrate that the inhabitants focused on survival and the economics of the *estancia* in addition to maintaining a high-status Spanish diet (Nadeau 2016; Opishinski 2019).

Food Production

The evidence of food production at LA 20,000 indicate a diverse range of food production practices were used to turn raw ingredients into food. These practices are indicative of routines that had their roots in Pueblo villages, Mexican Indian households, and Spanish dwellings. Through the daily practice of cuisine on a 17th-century Spanish *estancia*, the inhabitants reaffirmed identity and created foods that were acceptable to norms of colonial society. As Crown (2000) established, food processing tasks in the prehistoric American Southwest were primarily undertaken by women. Spanish men considered cooking as low-status women's work. Indigenous women were most often the primary cooks on Spanish properties across the Empire through intermarriage, employment, enslavement, or coercion (Burgio-Ericson 2018; Deagan 1983, 1995, 2003; Rothschild 2003; Silliman 2004; Voss 2008). Thus, the practices of food production and cooking at LA 20,000 were the result of women's practice, most likely Indigenous, living and working on the *estancia*.

There are multiple lines of evidence that indicate the inhabitants of LA 20,000 incorporated maize into their cuisine. The archaeological evidence of this is observed through the presence of maize in the ethnobotanical assemblage, the concentrations of maize pollen in the residential space and yard between the house and barn, the distribution of 50 *comales* across LA 20,000, and the presence of the *manos* and *metate* (Table 11)(Gruber

2018; Trigg 2004, 2005). Women and young girls living at LA 20,000 likely spent many hours of their day working with maize to produce meals for the inhabitants. This time was spent shucking maize outside the house, grinding maize with a *mano* and *metate*, mixing dough made from the processed cornmeal, and cooking the dough into tortillas, *piki* bread, *tamales*, or other maize-based dishes (Crown 2000; D. Snow 1990; Gruber 2018; Trigg 2004, 2005). The presence of these materials indicated labor was invested in grinding maize into cornmeal at LA 20,000. This labor investment produced foods that were easily digestible, easy to transport, and required less fuel to cook than whole grain meals (Brumfiel 1991; Crown 2000). As LA 20,000 was a functioning ranch, the production of tortillas and foods that were easy to transport could have been a means of supplying food for herders as they ranged with their livestock. Grinding maize could have also been a way to produce foods with tastes and textures that aligned with acceptable food in Pueblo and colonial Spanish society (Hill 1982; Gutiérrez 1991; Trigg 2005).

Cooking

The material evidence from tortilla and flatbread production at LA 20,000 reflects a suite of materials that resemble Pueblo practice (Table 2). Cooks use smoothed sandstone *comales* that are supported over a rectangular fire pit on top of fire-dogs or andirons to produce flatbreads. While a rectangular hearth has not been identified at LA 20,000, rectangular fire pits with *in situ* andirons and sandstone *comales* were found on two other 17th-century Spanish sites (D. Snow 1971, 1973, 1992). This is not an exact reproduction of the Mesoamerican technological suite for cooking tortillas, which traditionally used a three-stone hearth and ceramic *comal* (Brumfiel 1992:238). Ceramic *comales* were found on 18th

century colonial Spanish sites, which indicates ceramic *comales* and the Indigenous Mesoamerican inspired cooking practice was present at later colonial Spanish sites; however, this was not a component of the practice of cuisine at LA 20,000 (Levine 1990:177; Warren 1979:235).

The multitudes of sooted micaceous cooking jars that were identified at LA 20,000 provide evidence that boiled or steamed foods were frequently cooked on the *estancia* (Figure 10). The micaceous paste made the pots resistant to thermal shock and the ubiquitous soot stains indicated the pots spent time over a fire (Carillo 1997; Crown 2000). Butchery marks in the faunal assemblage did not show evidence that meat was cut into individual portions or served as bone-in steaks; instead the spacing of cut marks indicate meat was prepared through drying or boiling and spiral breakage patterns imply marrow extraction (Opishinski 2019). Considering the widespread distribution of micaceous cooking pots alongside domestic meat that was prepared by boiling, it is likely that cooks often produced soups and stews as a component of the cuisine of the inhabitants.

Traditional Spanish cooking practice incorporated both cooking pots and cooking bowls (Table 6) (McEwan 1992). However, bowls were infrequently used as cooking vessels at LA 20,000 (Figure 13). Only 20% of the Glaze-on-Red bowls had evidence of burning, and this is the typological bowl group that had the highest incidence of burning (Figure 13). In contrast, over 70% of the micaceous jars were sooted (Figure 10, Figure 13). Thus, cooks at LA 20,000 were cooking wet food primarily in jars produced by local Native Americans and were not using the mix of jars and bowls associated with Iberian cooking practice (Burgio-Ericson 2018; McEwan 1992; Sunseri 2009).

In Spanish society *olla podrida* and other stews were consumed by rich and poor

alike; however, the absence of individualized cuts and marrow extraction indicated this meat was not prepared in a specifically high-status method (Pavao-Zuckerman and Loren 2012:221). *Olla podrida* was a flexible stew that essentially incorporated whatever the cook had available (Nadeau 2016:64). Stews are also an important and common meal in Pueblo cuisine (Hill 1982; Swentzell and Perea 2016). Anthropologists have observed “people are more likely to adopt new foods if the food fits the existing cuisine, can be processed using existing tools, and substitutes easily for other foods in exiting recipes” (Crown 2000: 229). Thus, cooking flexible stews like *olla podrida* could have served as a useful culinary bridge for incorporating locally foraged ingredients and Pueblo famine foods into the cuisine of the inhabitants (Table 4). By making stews with domestic animals in micaceous jars, the cooks created meals that fit within the overall framework of acceptable cuisine for people that identify as Spanish and/or Pueblo.

As previously discussed, bowls increased in size during the historic period to accommodate extra space needed to mix and raise leavened wheat dough (Cohen et al. 1992; D. Snow 1982:269). Whole wheat kernels were found within primary midden at LA 20,000 and wheat pollen was identified on the eastern half of the house, the yard space between the house and barn, and the southeastern room in the barn (Gruber 2012; Trigg 2004, 2005). The pollen in the eastern corner of the house and interstitial area was likely related to food production and consumption (Gruber 2012:65). The combined evidence of the palynological remains, ethnobotanical assemblage, and *horno* already indicate bread was likely produced at LA 20,000. LA 20,000 has a distribution of 17 bowls in sizes that are within the range of vessels classified as “dough bowls” at the Santo Domingo Pueblo (Chapman 1953:9). These large bowls were primarily bichrome vessels, $n=14$, though there are also polychrome large

bowls, $n=2$, and a utilitarian large bowl, $n=1$ (APPENDIX A). It is likely some of these vessels were used to mix and proof wheat dough at LA 20,000 (Table 6).

Through the many steps that were involved in the practice of bread production, the cooks of LA 20,000 recreated a signature food for Spanish cuisine in the rural landscape of New Mexican (Laudan and Pilcher 1999; Nadeau 2016; Trigg 2004, 2005). Bread production would have involved an investment in labor, time, resources, specialized heating equipment, and tools to produce. The results from this analysis demonstrate the inhabitants also invested in procuring large bowls from local Pueblo villages to create this signature food (Trigg 2003, 2005). Prior to the Pueblo Revolt, non-missionized Pueblo villages resisted Spanish efforts to introduce wheat into their diet. Producing bread and consuming bread at a rural *estancia* was a symbolically important means of maintaining social difference between the rural Spanish colonists and their Pueblo neighbors through cuisine (Laudan and Pilcher 1999; Nadeau 2016; Trigg 2004, 2005). Further, as wheat bread was an expensive commodity in the New World, consuming wheat bread in New Mexico would have also been a means of expressing wealth and high-social status. This differentiated high-status Spaniards from the commoners that could not afford wheat bread (Laudan and Pilcher 1999; Trigg 2004, 2005). Baking this cultural staple thus reinforced the position of the cook as a key mediator of high-status Spanish identity in the northern frontier of Spanish dominion (Hastorf 2017).

Food Service

From the distribution of soup plates and bowls, it appears the inhabitants were consuming food in individual portions served in an even mix of personal soup plates and bowls that were primarily made by Pueblo potters (Figure 15, Figure 18). Imported *majolica*

and porcelain vessels supplemented these place settings with imported plates, bowls, and cups (Table 9). The combination of small bowls and soup plates enabled diners to consume foods in a high-status manner from individual place settings instead of communal vessels (Hastorf 2017; Loren 2001; Pavao-Zuckerman and Loren 2012; Spielmann 1998). Further, these vessel forms with flat or footring bases are well suited to diners eating at a table instead of the traditional Pueblo practice of eating while sitting on the floor. Since the inhabitants used flat-bottomed serving wares and followed other elements of Spanish dining practices, it is possible that the inhabitants ate while seated at a table (Burgio-Ericson 2018). Through the choices of culinary serving forms and practices of consumption, the inhabitants of LA 20,000 reproduced proper high-status Spanish dining etiquette in New Mexico.

The spatial distribution of soup plates and small bowls is not uniform across the site (Table 8). The concentration of serving vessels in the house provides material evidence that the house as a locus of quotidian consumption for the inhabitants of LA 20,000. For families, daily meals are an important opportunity to unite households and demarcate family membership (Appadurai 1981; Falk 1991). Household meals were shared in the home and children were taught the etiquette of food consumption, including table manners, food handling methods, social skills, bodily comportment (Hastorf 2017:255). Through this enculturation, preferences for foods were established and expressions of identity through routine became an unconscious aspect of the individual (Hastorf 2017; Twiss 2007). Considering the overall diet of the inhabitants, the preferences that developed in the household included a taste for wheat bread, flatbreads, maize dishes, domesticated crops, foraged plants, and stews with high-status domestic meats (Table 4, Table 5). This was not a strictly Iberian cuisine, but one that incorporated Pueblo preparation techniques and flavors

from local ingredients (Table 11). However, the practice of the meal was in a form befitting a high-status Spanish household (Loren 2001; Pavao-Zuckerman and Loren 2012).

The barn also has food serving vessels, though this assemblage has an unequal distribution of small bowls to soup plates (Table 8). This pattern of serving vessels in the barn more closely aligns with low-status Spanish or prehispanic Pueblo meal serving practices, which primarily use small bowls to eat wet foods (Mills 1999, 2007; Spielmann 1998). As Pueblo and Plains laborers were often coerced into working on private Spanish properties, one explanation would be that meals in the barn were primarily consumed by Indigenous laborers that worked at LA 20,000. This concentration of bowls could have also been related to utilitarian use in caring for livestock. Alternatively, this pattern may have related to more informal and low-status dining practices where consumers were not eating food arranged at a table but were instead eating on the floor with hand-held bowls (Loren 2001; Pavao-Zuckerman and Loren 2012). The maintenance of pre-Hispanic dining practice may have been a means of maintaining and reaffirming familiar dining practices within a meal setting structured by Spanish labor demands and exploitation. These patterns may also relate to an attempt to define the laborers that ate in the barn as socially different from the consumers that ate in the house through symbolically different consumption practices. By maintaining social difference between social groups, the exploitation of labor based on social difference became a normalized part of daily practice.

Since display can be an important component of consumption, it was initially expected that bowls and soup plates would primarily be in the most intricately decorated ware types. In the assemblage, slightly less decorated bichrome vessels -- Glaze-on-Red, Glaze-on-Yellow, Black-on-White, and Matte-on-Red -- are the most common decorative

styles in serving forms, representing 46 of the small bowls and 57 of the soup plates. Only 15 small bowls and 5 soup plates were the most highly decorated type, Polychrome. In addition, there is only one undecorated Plain small bowl in the assemblage, thus the inhabitants were not using the least decorated bowl types for quotidian meals. What explains this preference for bichrome serving vessels? The economics of ceramic production and trade between Pueblo and Spanish households likely had an important role in creating this disparity (Trigg 2003). The effects of this disparity potentially impacted the use of these vessels in consumption. As Douglas (1997) eloquently described, not every meal is equal. Everyday meals are not afforded the same pomp and circumstance as holiday meals. Thus, the primacy of bichrome personal serving vessels could reflect quotidian meals where display was not as important a factor (Mills 2007). The inhabitants were able to eat in a familiar Spanish manner, but they did not necessarily use their most highly decorated ceramics for these meals. For holiday meals or special occasions, the inhabitants could use their Polychrome small bowls, soup plates, and imported ceramics (Douglas 1997).

The forms of imported *majolica* and porcelain complemented the assemblage of Indigenous manufactured serving vessels. Cups, bowls, and plates were the primary vessel forms for imported decorated ceramics which would have been used for setting individual place settings (Figure 20, Table 9). Considering imported ceramics in 17th-century New Mexico were difficult to acquire, the low total sherd count for imported ceramics, and the fact that frequently handled serving dishes broke more often than seldom used dishes, it was most likely that these vessels were not used in quotidian meals (Hardin and Mills 2000). Instead, these vessels could have been strategically deployed as display pieces (Figure 5) or in formal meals where the consumers wished to eat in “proper Spanish form” and display

material reminders of their Spanish identity (Douglas 1997; Loren 2001; Pavao-Zuckerman and Loren 2012).

Only 6 Pueblo made drinking containers were identified and 20 *majolica* cup sherds were found. The quantity of drink serving vessels and sherds was considerably lower than the other food service vessels would indicate. Gourds were commonly used in Pueblo communities to serve water and drinks, and wooden cups and mugs were common drink serving vessels in European-descendent communities (Hastorf 2017). While the *majolica* and porcelain cups indicated drinks were served in individual ceramic cups, it was likely that these were used in conjunction with organic vessels that did not survive in the archaeological record.

Identity

Overall, the material culture of the practice of food production at LA 20,000 bears a strong resemblance to Pueblo practices of food production; however, the influence of Spanish cuisine and food production is also present in the materials associated with bread production (Table 12). It is not a single material item that implies this conclusion, but the whole suite of material culture associated with the bodily practice of food production and cooking that builds this connection (Hastorf 2017; Sunseri 2009). Intermarriage, domestic labor, wage labor, and forced labor requirements lead to Indigenous women working in colonial households across the Spanish Empire (Deagan 1983; Loren 2001; McEwan 1991; Rodríguez-Alegría 2005, 2012; Rothschild 2003; Pavao-Zuckerman and Loren 2012; Voss 2008a). The patterned assemblage of material culture at LA 20,000 that resembles Pueblo culinary practice is another manifestation of these colonial interactions (Table 12). This is not

to rule out the possibility of a founding Spanish matriarch or other person with knowledge of Spanish cuisine that influenced the food practice of the inhabitants; nor is this an attempt to paint the cuisine of the inhabitants as an exact reproduction of an unchanging Pueblo cuisine. Among other things, it is an acknowledgement of the important place that Native American women made in the creation of food, family, and daily life in colonial contexts that are often ascribed labels according to the identity of the colonial power.

TABLE 12.

COMPARISON OF EXPECTED AND OBSERVED FOODWAYS MATERIALS.

Cuisine	Behavior	Expected Archaeological Signature	Observed in Archaeological Record	Not Observed in Archaeological Record
Spanish	Food Preparation	Dough bowls, ceramic mortars, mixing bowls	Dough bowls and mixing bowls	Ceramic mortars
	Cooking	<i>Horno</i> , cooking jars, cooking bowls, ceramic braziers, ceramic <i>comales</i> , multi-chambered fire boxes	<i>Horno</i> , cooking jars, cooking bowls (few)	Ceramic braziers, ceramic <i>comales</i> , multi-chambered fire box
	Food Preparation	<i>Manos</i> , <i>metates</i> , mealing bins, mixing bowls, jars	<i>Manos</i> , <i>metates</i> , mixing bowls, jars	Mealing bins
Pueblo	Cooking	Micaceous jars, sandstone <i>comales</i> , square hearth, cooking pit	Micaceous jars (many), sandstone <i>comales</i>	Square hearth, cooking pit

Sources: Carillo (1997); Crown (2000); D. Snow (1972, 1992); Elkins (2007); Hegmon et al. (2000); Hill (1982); Potter and Ortman (2005); Rodríguez-Alegría (2005); Spielmann (1998); Sunseri (2009); Trigg (2004, 2005).

The bodily practices of cuisine are most often learned at a young age from family members, and these practices reinforce community membership through shared practice (Crown 2000; Hastorf 2017:225; Rodríguez-Alegría 2012; Twiss 2007). By working with familiar ingredients, ground stone tools, heating elements, and ceramics forms the cooks of LA 20,000 were able to reproduce the routine and familiar actions of cooking that were learned in their youth (Table 12) (Crown 2000). In Pueblo villages, grinding maize and cooking are tied to conceptions of identity, femininity, community, religious practice, and refinement (Burgio-Ericson 2018: 467; Gutiérrez 1991). When Indigenous women worked in Spanish homes through various means, the previously held meaning of daily practice would not have disappeared when they entered the Spanish home. Instead, the meaning of routines and previous practices were recontextualized in relation to colonial identity, religion, and culinary practice. These practices likely incorporated new tastes, recipes, and flavors as the cooks reproduced foods that fit acceptable taste of people from various backgrounds. As new generations of multi-ethnic offspring were born and raised on the *estancia*, the practice of cuisine would have been a part of the knowledge that was passed down from mother to daughter, grandmother to granddaughter (Crown 2000; Hastorf 2017). How young girls interpreted these practices as part of a Spanish or *mestizo* identity is difficult to interpret from the archaeological record, however, it appears that the material signature of food production and cooking continued the practices that were based on Pueblo roots.

Maintaining a cuisine that aligned with Spanish conceptions of acceptable taste was a component of reproducing Spanish identity and culture in New Mexico. Food was one element of the suite of Spanish culture that incorporated dress, religion, language, marriage practices, trade, and architectural form (Loren 2000:58). By reproducing this suite of colonial

practices, colonists established performative and consumption-based differences between Spaniards and Indigenous subjects (Loren 2000). As the colonists were not able to strictly follow the blood-component of the *regimine de castas* due to necessities of intermarriage, maintaining difference between *Español* and *Indio* had to be enacted through the reproduction of symbolic Spanish practices on the frontier (Bustamante 1991; Katzew 2004; Loren 2000; Trigg and Gold 2005). While the practice of food production and cooking at LA 20,000 resembles Pueblo cooking practices, the serving and consumption practices aligned with high-status Spanish dining (Katzew 2004; Loren 2001; Pavao-Zuckerman and Loren 2012). Meals were served at the main house at individual place settings with personal soup plates and bowls (Figure 15, Figure 18). Symbolically important foods were served in these meals, including wheat bread and mutton or beef stew (Table 4, Table 5) (Nadeau 2016). These performative practices were expressed in the social arena of food consumption, wherein signs and symbols of status and identity were understood by the participants (Hastorf 2017). Through the performance of serving and consuming foods associated with Spanish culture, the inhabitants maintained the perceptions of holding a high-status Spanish identity, which socially differentiated them from the neighboring Pueblo villages (Loren 2001:61). This was a component of colonial culture that reinforced the system of exploitation based on naturalized perceptions of difference between colonial administrator and Indigenous subject (Liebmann 2012; Rothschild 2003; Voss 2008c).

TABLE 13.

COMPARISON OF EXPECTED AND OBSERVED FOOD SERVICE MATERIALS

Cuisine	Behavior	Expected Archaeological Signature	Observed in Archaeological Record	Not Observed in Archaeological Record
Spanish	Food Service	Individual serving bowls, soup plates, cups, platters, utensils, glassware, <i>majolica</i> , <i>porcelain</i>	Individual serving bowls, soup plates, cups, <i>majolica</i> , <i>porcelain</i>	Platters, personal utensils, glassware (only one sherd recovered)
Pueblo	Food Service	Ceramic ladles, small bowls for quotidian meals, large bowls for quotidian meals and feasting	Individual serving bowls, large bowls	Ceramic ladles

Sources: Carillo (1997); Crown (2000); Elkins (2007); Hegmon et al. (2000); Hill (1982); Potter and Ortman (2005); Rodríguez-Alegría (2005); D. Snow (1972, 1992); Spielmann (1998); Sunseri (2009); Trigg (2004, 2005).

Conclusion

Future research and scholarship on food production at LA 20,000 would be useful to solidify the trends that were identified in this ceramic analysis. Specifically, researchers could use mass-spectrometry to conduct a protein or lipid residue analysis of the cooking pots, bowls, and *comales* to scientifically identify which ingredients were prepared with each vessel (Hastorf 2017). This research is unfortunately beyond the scope of this analysis; however, this is the logical next step for providing additional detail on the cuisine of the inhabitants of LA 20,000.

As previously discussed, this has been the first in-depth study of ceramics on a secular 17th-century Spanish *estancia*. Through the practices of cuisine, the inhabitants of LA 20,000 enacted motions and actions that had been taught intergenerationally to produce food that fit conceptions of acceptable fare. In this analysis of these routines and activities, a broad range of practice was expressed that reflected the multi-ethnic underpinnings of colonial society. Pueblo practices of food production and cooking which have deep historical roots in the arid landscape were reproduced and recontextualized in the framework of a Spanish *estancia*. New ingredients, recipes, and practices with Spanish and Mesoamerican roots were incorporated into this new cuisine on the frontier. By cooking important foods from a variety of backgrounds, the cooks reinforced their position as arbiters of acceptable cuisine and played a key role in maintaining the cultural identity of the inhabitants. These meals were served in a manner befitting a high-status Spaniard, which symbolically differentiated the owners of the *estancia* from the neighboring Pueblo villages.

APPENDICES

APPENDIX A. BOWL COUNT BY RIM DIAMETER (CM).

Typological Group	Typology	10-12	14-16	18-20	22-24	26-28	30-32	34-36	38-40	42-44	Grand Total
Black-on-White	B/W			1	1	1					3
Burnished Black	Tewa Black					1					1
	Agua Fria G/R							1			1
	Espinosa G/R		1								1
	G/R	4	6	4	3	1				1	19
	Kotyiti G/R		4	4	2		5	1			16
Glaze-on-Red	Red slipped		1								1
Glaze-on-Yellow	Kotyiti G/Y		1	8	3	6	4	2			24
	Pecos G/Y					1					1
Indeterminate	Indeterminate			1							1
Matte-on-Red	Tewa Red	1	2								3
Plain	Plain		1					1			2
	Glaze P				1						1
	Kotyiti Glaze P				3	3	1				7
	Pecos Glaze V P			1	5	1		1			8
	Puaray Glaze P				1						1
Polychrome	Tewa P		2	1	1	2					6
Total		5	19	2	2	16	1	6	1	1	98

APPENDIX B. JAR COUNT BY RIM DIAMETER (CM).

Typological Group	Typology	6-8	10-12	14-16	18-20	22-24	26-28	30-32	34-36	Ind.	Grand Total
Black-on-White	B/W									1	1
	Gray Slipped				1						1
Burnished Black	Kapo Gray				3	1					4
	Tewa Black									1	1
	Agua Fria G/R						1			1	2
	G/R		2	2	1	1	1			2	9
Glaze-on-Red	Kotyiti G/R			2	4	1	1				8
Glaze-on-Yellow	Kotyiti G/Y			1	4	3					8
Indeterminate	Indeterminate				1	1				1	3
Matte-on-Red	Tewa Red		1							1	2
Micaceous	Micaceous		1	2	2	3	5	3	5		21
Plain	Plain				1	1	4		1		7
	G/P			1	1	1				1	4
	Kotyiti G/P		1	1	2	2	1			3	10
	Pecos Glaze V P					1					1
Polychrome	Tewa P	1									1
Total		1	5	9	20	15	13	3	6	11	83

APPENDIX C. SOUP PLATE COUNT BY RIM DIAMETER (CM).

Typological Group	Typology	14-16	18-20	22-24	26-28	30-32	34-36	Total
Burnished Black	Tewa Black		1					1
	G/R	1	8	8	4		1	22
Glaze-on-Red	Kotyiti G/R	1	4	8	4	1		18
Glaze-on-Yellow	Kotyiti G/Y		5	4	4	1		14
Hopi Yellowware	Hopi Yellowware		1					1
Indeterminate	Indeterminate		1		1			2
Matte-on-Red	Tewa Red		1	1		1		3
	Kotyiti G/P			1				1
Polychrome	Tewa P		1	3				4
Total		2	22	25	13	3	1	66

APPENDIX D. CUP COUNT BY RIM DIAMETER (CM).

Analytical Group	Ware Type	4-6	10-12	Total
Black-on-White	B/W	1		1
Glaze-on-Red	Kotyiti Glaze Red		4	4
Matte-on-Red	Tewa Red	1		1
Total		2	4	6

APPENDIX E. INDETERMINATE VESSEL FORM COUNT BY RIM DIAMETER (CM).

Typological Group	Typology	12	20	22	28	Indet.	Total
Glaze-on-Red	G/R	1	2	1		11	15
	Kotyiti G/R			1			1
	Salinas Red					1	1
Glaze-on-Yellow	Kotyiti G/Y	1				5	6
Indeterminate	Indeterminate				1	2	3
Matte-on-Red	Tewa Red					1	1
Plain	Plain					4	4
Polychrome	Kotyiti Glaze						
	Polychrome					2	2
	Pecos Glaze V					1	1
	Tewa Polychrome					2	2
	Glaze green					1	1
Total		2	2	2	1	28	35

BIBLIOGRAPHY

Adams, K.

- 1994 Regional Synthesis of *Zea mays* in the Prehistoric American Southwest. In *Corn and Culture in the Prehistoric New World*, S. Johannessen and C. Hastorf, editors, pp. 273-302. Westview Press, Boulder, CO.

Albala, Ken

- 2003 *Food in Early Modern Europe*. Greenwood Press, Westport, CT.

Appadurai, Arjun

- 1981 Gastro-politics in Hindu South Asia. *American Ethnologist* 8(3):494-511.

Barrett, Elinore

- 2002 The Geography of Rio Grande Pueblos in the Seventeenth Century. *Ethnohistory* 41(1):123-169.
2012 *The Spanish Colonial Settlement Landscapes of New Mexico, 1598-1680*. University of New Mexico Press, Albuquerque.

Batchen, Lou Sage.

- 2000 Part II: Lou Sage Batchen. In *Women's Tales from the New Mexico WPA*. Tey Diana Rebolledo and María Teresa Márquez, editors, pp. 106-372. Arte Público Press, Houston, TX.

Blinman, Eric

- 1989 Potluck in the Protokiva: Ceramics and Ceremonialism in Pueblo I Villages. In *The Architecture of Social Integration in Prehistoric Pueblos*, Michelle Hegmon and William D. Lipe, editors, pp. 113-124. Crow Canyon Archaeological Center, Cortez, CO.

Bourdieu, Pierre

- 1970 The Berber House or the World Reversed. *Social Science Information* 9:151-170.
1977 *Outline of a Theory of Practice*. Cambridge University Press, Cambridge, UK.

Broughton, William H.

- 1993 The History of Seventeenth-Century New Mexico: Is it Time for New Interpretations? *New Mexico Historical Review* 68: 3-12.

Brumfiel E. M

- 1991 Weaving and Cooking: Women's Production in Aztec Mexico. In *Engendering Archaeology: Women and Prehistory*, Joan M. Gero and Margaret W. Conkey, editors, pp. 224-251. Wiley-Blackwell, West Sussex, UK.

Burgio-Ericson, Klinton

- 2018 Living in the Purísima Concepción: Architectural Form, Cultural Negotiation, and Everyday Practice in a Seventeenth-Century New Mexican Mission Among the Zuni Indians. Doctoral Dissertation, Department of Art (Art History), University of North Carolina, Chapel Hill, NC.

Bustamante, Adrian

- 1991 "The Matter was Never Resolved": The *Casta* System in Colonial New Mexico, 1693-1823. *New Mexico Historical Review* 66(2):143-163.

Capone, Patricia W., Robert W. Preucel

- 2002 Ceramic Semiotics: Women, Pottery, and Social Meaning at Kotyiti Pueblo. In *Archaeologies of the Pueblo Revolt: Identity, Meaning, and Renewal in the Pueblo World*, Robert Preucel, editor, pp 99-113. University of New Mexico Press, Albuquerque.

Carrillo, Charles M.

- 1997 *Hispanic New Mexican Pottery: Evidence of Craft Specialization 1790-1890*. LPD Press, Albuquerque, NM.

Chapman, Kenneth M.

- 1953 *The Pottery of the Santo Domingo Pueblo*. Memoirs of the Laboratory of Anthropology, Santa Fe, NM.
1970 *The Pottery of the San Ildefonso Pueblo*. University of New Mexico Press, Albuquerque.

Cohen, Josh, Matt Eastling, and Amy Turnbull

- 1993 The Utilization of Pottery by Two Different Ethnic Groups: The Native Americans Pueblos and Hispanic Peoples. Manuscript, El Rancho de las Golondrinas, Santa Fe, NM.

Conner, Jeannette Thurber

- 1925 *Colonial Records of Spanish Florida I*. Florida State Historical Society, Deland.

Cordell, Linda S.

- 1997 *Archaeology of the Southwest*. Left Coast Press, Walnut Creek, CA.

Counihan, Carole M.

- 1997 (1984) Bread as World: Food Habits and Social Relations in Modernizing Sardinia. In *Food and Culture*, Counihan, Carole and Penny Van Esterik, editors, pp. 283-295. Routledge, London, UK.

Crown, Patricia

- 2000 Women's Role in Changing Cuisine. In *Women and Men in the Prehispanic Southwest: Labor, Power, and Prestige*, Patricia, Crown, editor, pp. 221-266. School of American Research Press, Santa Fe, NM.

Deagan, Kathleen A.

- 1973 Mestizaje in Colonial St. Augustine. *Ethnohistory* 20(1):55-65.
- 1983 *Spanish St. Augustine: the Archaeology of a Colonial Creole Community*. Academic Press, New York, NY.
- 1988 The Archaeology of the Spanish Contact Period in the Caribbean. *Journal of World Prehistory* 2:187-233.
- 1995 *Puerto Real: The Archaeology of a Sixteenth-Century Spanish Town in Hispaniola*. University Press of Florida, Gainesville.
- 1997 Cross-Disciplinary Themes in the Recovery of the Colonial Middle Period. In *Diversity and Social Identity in Colonial Spanish America: Native American, African, and Hispanic Communities during the Middle Period*. Donna L. Ruhl, Kathleen Hoffman, editors, Thematic Issue, *Historical Archaeology* 31(1):4-8.
- 2003 Colonial Origins and Colonial Transformations in Spanish America. *Historical Archaeology* 37(4):3-13.

Deagan, Kathleen A., and J. M. Cruxent

- 1993 From Contact to *Criollos*: The Archaeology of Spanish Colonization in Hispaniola. *Proceedings of the British Academy* 81:67-104.

Defourneaux, Marcelin

- 1970 *Daily Life in Spain in the Golden Age*. Stanford University Press, Palo Alto, CA.

Dietler, Michael

- 2007 Culinary Encounters: Food, Identity and Colonialism. In *The Archaeology of Food and Identity*, Kathleen Twiss, editor, pp. 218-242. Southern Illinois University Press, Carbondale.
- 2010 *Archaeologies of Colonialism: Consumption, Entanglement, and Violence in Ancient Mediterranean France*. University of California Press, Berkeley.

Douglas, Mary

- 1997(1972) Deciphering a meal. In *Food and Culture*, Carole Counihan and Penny Van Esterik, editors, pp. 36-54. Routledge, New York, NY.

Dyer, Jessica B.

- 2010 Colono Wares in the Western Spanish Borderlands: A Ceramic Technological Study. Unpublished PhD Dissertation, Department of Anthropology, University of New Mexico, Albuquerque.

Elkins, M. A.

- 2007 *Serving Up Ethnic Identity in Chacoan Frontier Communities: The Technology and Distribution of Mogollon and Puebloan Ceramic Wares in the Southern Cibola Region*. Master's thesis, Department of Anthropology, Washington State University, Pullman.

- Espinosa, Gilberto
 1933 *History of New Mexico by Gaspar Pérez de Villagr  Alcalad , 1610*. Quivira Society, Los Angeles, CA.
- Ewen, Charles
 1991 *From Spaniard to Creole: The Archaeology of Cultural Formation at Puerto Real, Haiti*. University of Alabama Press, Tuscaloosa.
 2000 From Colonist to Creole: Archaeological Patterns of Spanish Colonization in the New World. *Historical Archaeology* 34:36-45.
- Falk, Pasi
 1991 *Homo culinarius: Towards an Historical Anthropology of Taste*. *Social Science Information* 4:757-790.
- Fiddes, Nick
 1991 *Meat, A Natural Symbol*. Routledge, London, UK.
- Ford, Richard I.
 1987 The New Pueblo Economy. *When Cultures Meet: Remembering San Gabriel Del Yunge Oweenge*, Herman Agoyo, comp., pp. 73-91. Sunstone Press, Santa Fe, NM.
- Frank, Larry, and F.H. Harlow
 1974 *Historic Pottery of the Pueblo Indians 1600-1880*. New York Graphic Society, Boston.
- Fritz, Gayle J.
 2007 Pigweeds for the Ancestors: Cultural Identities and Archaeobotanical Identification Methods. In *The Archaeology of Food and Identity*, Katheryn C. Twiss, editor, pp. 288-307. Center for Archaeological Investigations Occasional Paper No. 34. Southern Illinois University, Carbondale.
- Gifford-Gonzalez, D., and Sunseri, K. U.
 2007 Foodways on the Frontier: Animal Use and Identity in Early Colonial New Mexico. In *The Archaeology of Food and Identity*, Katheryn Twiss, editor, pp. 260-287. Center for Archaeological Investigations Occasional Paper No. 34. Southern Illinois University, Carbondale.
- Goody, J.
 1982 *Cooking, Cuisine and Class: A Study in Comparative Sociology*. Cambridge University Press, New York, NY.
- Graves, William M. and Katherine A. Spielmann
 2000 Leadership, Long-Distance Exchange, and Feasting in the Protohistoric Rio Grande. In *Alternative Leadership Strategies in the Prehispanic Southwest*, Barbara J. Mills, editor, pp. 45-59. University of Arizona Press, Tucson.

Gregory, H. F., George Avery, Aubra L. Lee, and Jay C. Blaine

- 2004 Presidio Los Adaes: Spanish, French, and Caddoan Interaction on the Northern Frontier. In *Presidios of the North American Spanish Borderlands*, Judith A. Bense, editor, Thematic Issue, *Historical Archaeology* 38(3):65-77.

Gruber, Anya

- 2018 Palynological Investigations of Agropastoralism and Ecological Change at LA 20,000, New Mexico. Master's Thesis, Department of Anthropology, University of Massachusetts, Boston.

Gumerman, George

- 1997 Food and Complex Societies. *Journal of Archaeological Method and Theory* 4(2): 105-139.

Gutiérrez, Ramón A.

- 1991 *When Jesus Came, the Corn Mothers Went Away: Marriage, Sexuality, and Power in New Mexico, 1500-1846*. Stanford University Press, Stanford, CA.

Habicht-Mauche, J., S.L. Eckert, and D.L. Huntley, editors

- 2006 *The Social Life of Pots: Glaze Wares and Cultural Dynamics in the Southwest, AD 1250- 1680*. The University of Arizona Press, Tucson.

Habicht-Mauche, Judith A.

- 1993 *The Pottery from Arroyo Hondo Pueblo, New Mexico: Tribalization and trade in the Northern Rio Grande*. School of American Research Press, Santa Fe, NM.

Hackett, Charles

- 1937 *Historical Documents Relating to New Mexico, Nueva Vizcaya, and Approaches Thereto, to 1773*. The Lord Baltimore Press, Baltimore, MD.

Hall, Edward

- 1989 *Social Change in the Southwest, 1350-1880*. University of Kansas Press, Lawrence.

Hammond, George P., and Agapito Rey, editors.

- 1953 *Don Juan de Oñate, Colonizer of New Mexico, 1595-1628*. 2 vols. University of New Mexico Press, Albuquerque.

Harbottle, Lynn

- 1997 Taste and Embodiment: The Food Preferences of Iranians in Britain. In *Food Preferences and Taste: Continuity and Change*, Helen Macbeth, editor, pp. 175-185. Berghahn Books, Providence, RI.

Hardin, Margaret A., and Barbara J. Mills

- 2000 The Social and Historical Context of Short-Term Stylistic Replacement: A Zuni Case Study. *Journal of Archaeological Method and Theory* 7(3): 139-163.

- Harlow, Francis H.
1973 *Matte-Paint Pottery of the Tewa, Keres and Zuni Pueblos*. Museum of New Mexico Press, Santa Fe, NM.
- Hastorf, Christine A. and Mary Weismantel
2007 Food: Where Opposites Meet. In *The Archaeology of Food and Identity*, Kathryn Twiss, editor, pp. 308-331. Southern Illinois University Press, Carbondale.
- Hastorf, Christine A.
2017 *The Social Archaeology of Food: Thinking About Eating from Prehistory to the Present*. Cambridge University Press, Cambridge, UK.
- Hayden, Brian
1996 Feasting in Prehistoric and Traditional Societies. In *Food and the Status Quest: An Interdisciplinary Perspective*. P. Wiessner and W Schiefenhövel, editors, pp. 127-146. Berghahn Books, Providence, RI.
- Hill, W. W.
1982 *An Ethnography of Santa Clara Pueblo New Mexico*. University of New Mexico Press, Albuquerque.
- Jamestown Rediscovery
2018 Spanish Olive Jar. Ceramics Research Group. Jamestown Rediscovery: Historic Jamestowne. <<https://historicjamestowne.org/collections/ceramics-research-group/Spanish-olive-jar/>>. Accessed November 27 2018.
- Hodge, Frederick W.
1937 *History of Hawikuh, New Mexico: One of the So-Called Cities of Cibola*. Ward Ritchie Press, Los Angeles, CA.
- Ivey, James E.
1994 "The Greatest Misfortune of All": Famine in the Province of New Mexico, 1667-1672. *Historic Archaeology* 36(1):76-100.
- Jenks, Kelly L.
2013 Building Community: Exploring Civic Identity in Hispanic New Mexico. *Journal of Social Archaeology* 13(3): 371-393.
- Katzew, I.
2004 *Casta Painting: Images of Race in Eighteenth-century Mexico*. Yale University Press, New Haven, CT.

Kessell, John L.

- 1987 *Kiva, Cross, & Crown: The Pecos Indians and New Mexico, 1540-1840*. Western National Parks Association, Tucson, AZ.
- 1997 Restoring Seventeenth-Century New Mexico, Then and Now. In *Diversity and Social Identity in Colonial Spanish America: Native American, African, and Hispanic Communities during the Middle Period*. Donna L. Ruhl, Kathleen Hoffman, editors. Thematic Issue. *Historical Archaeology* 31(1):46-54.
- 2002 *Spain in the Southwest: A Narrative History of Colonial New Mexico, Arizona, Texas, and California*. University of Oklahoma Press, Norman.

Kidder, Alfred V.

- 1916 Archaeological Exploration at Pecos, New Mexico. *Proceedings of the National Academy of Science* 2:119-123.
- 1924 *An Introduction to the Study of Southwestern Archaeology with a Preliminary Account of the Excavations at Pecos*. Yale University Press, New Haven, CT.
- 1958 *Pecos, New Mexico: Archaeological Notes*. Phillips Academy Papers of the Robert S. Peabody Foundation for Archaeology, No. 5. New Haven, CT.

Kidder, Alfred V., and Charles Amsden

- 1931 *The Pottery of Pecos, Vol. 1*. Papers of the Phillips Academy Southwest Expedition No. 5. New Haven, CT.

Kidder, Alfred V., and Anna O. Shepard

- 1936 *The Pottery of Pecos, Vol. 2*. Papers of the Phillips Academy Southwest Expedition No. 5. New Haven, CT.

Kidder, Madeline A., and Alfred V. Kidder

- 1917 Notes on the Pottery of Pecos. *American Anthropologist* 19:325-360.

Knaut, Andrew L.

- 1995 *The Pueblo Revolt of 1680: Conquest and Resistance in Seventeenth-Century New Mexico*. University of Oklahoma Press, Norman.

Kulischek, Jeremy

- 2005 *The Archaeology of Pueblo Population Change on the Jemez Plateau, A.D. 1200-1700: The Effects of Spanish Contact and Conquest*. PhD Dissertation, Department of Anthropology, Southern Methodist University, Dallas, TX.
- 2010 'Like butterflies on a mounting board': Pueblo mobility and demography before 1825. In *Across a Great Divide: Continuity and Change in Native North American Societies, A.D. 1400-1900*, Laura S. Scheiber and Mark Mitchell, editors, pp. 258-276. *Amerind Studies in Archaeology* 4. University of Arizona Press, Tucson.

Laudan, Rachel, and Jeffrey Pilcher

- 1999 Chiles, Chocolate, and Race in New Spain: Glancing Backward to Spain or Looking Forward to Mexico. *Eighteenth-Century Life* 24:59-70.

Lawrence, Roderick J.

- 1990 Public Collective and Private Space: A Study of Urban Housing in Switzerland. In *New Directions in Archaeology. Domestic Architecture and the Use of Space: An Interdisciplinary Cross-Cultural Study*. Susan Kent, editor, pp. 73-91. Cambridge University Press, Cambridge, UK.

Leroi-Gourhan, A.

- 1943 *L'Homme et la Matière*. 2nd Edition. Albin Michel, Paris, FR.

Levine, Frances E.

- 1990 Tewa or Hispanic Manufacture? Pottery from Eighteenth and Nineteenth-Century Spanish Sites near Abiquiú. In *Clues to the Past: Papers in honor of William M. Sundt*, M. Durán, S. and D. T. Kirkpatrick, editors, pp. 173-184. vol.16. Archaeological Society of New Mexico, Albuquerque, NM.
- 1992 Hispanic Household Structure in Colonial New Mexico. In *Current Research on the Late Prehistory and Early History of New Mexico*, Bradley Vierra, editor, pp. 195-206. New Mexico Archaeological Council Special Publication no. 1, Albuquerque, NM.

Liebmann, Matthew

- 2002 Signs of Power and resistance: The (Re)Creation of Christian Imagery and Identities in the Pueblo Revolt Era. In *Archaeologies of the Pueblo Revolt: Identity, Meaning, and Renewal in the Pueblo World.*, Preucel, Robert, editor, pp. 133-144. University of New Mexico Press, Albuquerque.
- 2008 Introduction: The intersections of Archaeology and Postcolonial Theory. In *Archaeology and the Postcolonial Critique*, Matthew Liebmann and Uzma Rizivi, editors, pp. 1-20. Altamira Press, Walnut Creek, CA.
- 2011 "The best of times, the worst of times: Pueblo resistance and accommodation during the Spanish *Reconquista* of New Mexico." In *Enduring Conquests: Rethinking the Archaeology of Resistance to Spanish Colonialism in the Americas*, edited by Matthew Liebmann and Melissa S. Murphy, pp. 199-221. School for Advanced Research Press, Santa Fe, NM.
- 2012 *Revolt: An Archaeological History of the Pueblo Resistance and Revitalization in 17th Century New Mexico*. The University of Arizona Press, Tucson, AZ.
- 2015 The Mickey Mouse Katchina and Other "Double Objects": Hybridity in the Material Culture of Colonial Encounters. *Journal of Social Archaeology* 15(3):319-341.

Lightfoot, Kent G., Antoinette Martinez, and Ann M. Schiff

- 1998 Daily Practice and Material Culture in Pluralistic Social Settings: An Archaeological Study of Culture Change and Persistence from Fort Ross, California. *American Antiquity* 63(2):199-222.

Lightfoot, Kent G.

- 2005 *Indians, Missionaries, and Merchants: The Legacy of Colonial Encounters on the California Frontiers*. University of California Press, Berkeley.

Logan, Amanda L.

- 2012 A History of Food without History: Food, Trade, and Environment in West-Central Ghana in the Second Millennium AD. PhD Dissertation, Department of Anthropology, University of Michigan.

Loren, Diana DiPaolo

- 2001 Manipulating Bodies and Emerging Traditions at the Los Adaes Presidio. In *The Archaeology of Traditions: Agency and History Before and After Columbus*, Timothy Pauketat, editor, pp. 58-76. University Press of Florida, Gainesville.
- 2007 Corporeal Concerns: Eighteenth-century casta paintings and colonial bodies in Spanish Texas. *Historical Archaeology* 41(1):23-36.

Mauss, Marcel

- 1980 [1925] *The Gift: Forms and Function of Exchange in Archaic Societies*. Routledge, London, UK.

McCarthy, Mary

- 1988 Archaeological Field Notes, LA 20,000 Excavations, April 1- May 30, 1988. El Rancho de las Golondrinas, Santa Fe, NM..

McEwan, Bonnie G.

- 1986 Domestic Adaptation at Puerto Real, Haiti. *Historical Archaeology* 20:44-49.
- 1991 The Archaeology of Women in the Spanish New World. In *Gender in Historical Archaeology*, Donna J. Seifert, editor. Thematic Issue, *Historical Archaeology* 25(4):33-41.
- 1992 The Role of Ceramics in Spain and Spanish America during the 16th Century. *Historical Archaeology* 26(1):92-108.
- 1995 Spanish Precedents and Domestic Life at Puerto Real: The Archaeology of Two Spanish Homesites. In *Puerto Real: The Archaeology of a Sixteenth-Century Spanish Town in Hispaniola*, Kathleen Deagan, editor, pp. 197-229. University Press of Florida, Gainesville.

Mera, H. P.

- 1933 *A Proposed Revision of the Rio Grande Glaze Paint Sequence*. Santa Fe Laboratory of Anthropology Technical Series Bulletin, No. 5.: 1-12.
- 1940 *Population Changes in the Rio Grande Glaze-Paint Area*. Laboratory of Anthropology Technical Series, Bulletin No. 9, Santa Fe, NM.

Mills, Barbara J.

- 1999 Ceramics and the Social Context of Food Consumption in the Northern Southwest. In *Pottery and People: a Dynamic Interaction*, J. M. Skibo and G. M. Feinman, editors, pp. 99-114. University of Utah Press, Salt Lake City.

- 2002 Acts of Resistance: Zuni Ceramics, Social Identity, and the Pueblo Revolt. In *Archaeologies of the Pueblo Revolt: Identity, Meaning, and Renewal in the Pueblo World.*, Preucel, Robert, editor, pp. 85-98. University of New Mexico Press, Albuquerque.
- 2007 Performing the Feast: Visual Display and Suprahousehold Commensuralism in the Puebloan Southwest. *American Antiquity* 72(2):210-239.
- Minnis, Paul E.
- 1989 Prehistoric Diet in the Northern Southwest: Macroplant remains from Four Corners feces. *American Antiquity* 54:543-563.
- 1991 Famine Foods of the Northern American Desert Borderlands In Historical Perspective. *Journal of Ethnobiology* 11:231-257.
- 1992 Early Plant Cultivation in the Desert Borderlands of the American West. In *The Origins of Agriculture: An International Perspective*, C.W. Cowan and P.J. Watson, editors, pp.121-141, Smithsonian Institution Press, Washington, DC.
- Mintz, Sidney W. and Christine M. Du Bois
- 2002 The Anthropology of Food and Eating. *Annual Review of Anthropology* 31: 99-119.
- Mobley-Tanaka, Jeannette L.
- 2002 Crossed Cultures, Crossed Meanings: The Manipulation of Ritual Imagery in Early Historic Pueblo Resistance. In *Archaeologies of the Pueblo Revolt: Identity, Meaning, and Renewal in the Pueblo World*, Robert Preucel, editor, pp. 77-98, University of New Mexico Press, Albuquerque.
- Morton, Paula E.
- 2014 *Tortillas: A Cultural History*. The University of New Mexico Press, Albuquerque.
- Mullins, Paul R., and Robert Paynter
- 2000 Representing Colonizers: An Archaeology of Creolization, Ethnogenesis, and Indigenous Material Culture among the Haida. *Historical Archaeology* 34(3)::73-84.
- Nadeau, Carolyn
- 2016 *Food Matters: Alonso Quijano's Diet and the Discourse of Food in Early Modern Spain*. University of Toronto Press, Toronto.
- Nash, June
- 1980 Aztec Women: the Transition from Status to Class in Empire and Colony. In *Women and Colonization: Anthropological Perspectives*, Mona Etienne and Eleanor Leacock, editors, pp. 135-148. Praeger Scientific, New York, NY.
- Nelson, Nels C.
- 1914 *Pueblo Ruins of the Galisteo Basin, New Mexico*. Anthropological Papers of the American Museum of Natural History. Vol. 15, Part 1. New York, NY.
- 1916 Chronology of the Tano Ruins, New Mexico. *American Anthropologist* 18:159-180.

New Mexico Office of Archaeological Studies

- 2016 The Classification System. Pottery Typology Project, The Center for New Mexico Archaeology, Santa Fe, New Mexico <<http://ceramics.nmarchaeology.org/index/the-classification-system>>. Accessed January 5 2016.

Opishinski, Ana C.

- 2019 Eat This in Remembrance: The Zooarchaeology of Secular and Religious Sites in Seventeenth-Century New Mexico. Master's Thesis, Department of Anthropology, University of Massachusetts, Boston.

Ortman, Scott G.

- 2002 Artifacts. In *The Archaeology of Woods Canyon Pueblo: A Canyon-Rim Village in Southwestern Colorado* [HTML Title], Melissa J. Churchill, editor, electronic document, http://www.crowcanyon.org/ResearchReports/woodscanyon/text/wcpw_contentsvolume.asp, accessed October 3, 2018.

Ortner, S. B.

- 1984 Theory in Anthropology Since the Sixties. *Comparative Studies in Society and History* 26:126-166.

Ortiz, Alfonso

- 1969 *The Tewa World. Space, Time, Being, and Becoming in a Pueblo Society*. University of Chicago Press, Chicago, IL.

Pavao-Zuckerman, Barnet, and Diana DiPaolo Loren

- 2012 Presentation is Everything: Foodways, Tablewares, and Colonial Identity at Presidio Los Adaes. *International Journal of Historical Archaeology* 16(1):199-226.

Pezzarossi, Guido, Ryan Kennedy, and Heather Law

- 2012 "Hoe Cake and Pickerel" Cooking Traditions, Community, and Agency at a Nineteenth-Century Nipmuc Farmstead. In *The Menial Art of Cooking: Archaeological Studies of Cooking and Food Preparation*, Sarah. R. Graff, and Enrique Rodríguez-Alegría, editors, pp. 201-231. University Press of Colorado, Boulder.

Pierce, Christopher

- 2005 The Development of Corrugated Pottery in Southwestern Colorado. *Kiva* 71(1):79-100.

Potter, James M. and Scott G. Ortman

- 2004 Community and cuisine in the prehispanic American Southwest. In *Identity, Feasting, and the Archaeology of the Greater Southwest*, B. J. Mills, editor, pp. 173-191. University Press of Colorado, Boulder.

Pratt, Boyd, and David Snow

- 1977 The North Central Regional Overview: Strategies for the Comprehensive Survey of the Architectural and Historical Archaeological Resources of North Central New Mexico, Vol. 1: Historic Overview of North Central New Mexico. New Mexico State Historic Preservation Division, Santa Fe.

Preucel, Robert W. (editor)

- 2002 *Archaeologies of the Pueblo Revolt: Identity, Meaning, and Renewal in the Pueblo World*. University of New Mexico Press, Albuquerque.

Ramenofsky, Ann F.

- 1996 The Problem of Introduced Infectious Diseases in New Mexico: A.D. 1540-1680. *Journal of Anthropological Research* 52(2):161-184.
2009 Measuring Time, Population, and Residential Mobility from the Surface at San Marcos Pueblo, North Central New Mexico. *American Antiquity* 74(3):1-26.

Reitz, Elizabeth

- 1992 The Spanish Colonial Experience and Domestic Animals. *Historical Archaeology* 26(1):84-91.

Rodríguez-Alegría, E.

- 2005 Eating like an Indian: Negotiating Social Relations in the Spanish colonies. *Current Anthropology* 46:551-573.
2012 The Menial Art of Cooking. In *The Menial Art of Cooking*, Sarah Graff and E. Rodríguez-Alegría, editors, pp. 1-18. University Press of Colorado, Boulder.

Rodríguez-Alegría, E. and Sarah Graff

- 2012 The Menial Art of Cooking. In *The Menial Art of Cooking*, Sarah Graff and E. Rodríguez-Alegría, editors, pp. 1-18. University Press of Colorado, Boulder.

Rothschild, Nan

- 2003 *Colonial Encounters in a Native American Landscape: The Spanish and Dutch in North America*. Smithsonian Books, Washington, D.C.

Rojas, Augustín de

- 1603 *El Vieje Entretenido*. Vol 1. Jacques Joset, editor. Espasa-Calpe, Madrid.

Sando, Joe S.

- 1991 *Pueblo Nations: Eight Centuries of Pueblo Indian History*. Clear Light Publishing, Santa Fe, NM.

Scarry, C. Margaret, and Elizabeth J. Reitz

- 1990 Herbs, Fish, Scum, and Vermin: Subsistence Strategies in Sixteenth-Century Spanish Florida. In *Columbian Consequences. Vol. 2: Archaeological and Historical Perspectives on the Spanish Borderlands East*, David Hurst Thomas, editor, pp. 343-354. Smithsonian Institution Press, Washington D.C.

Scholes, France

- 1935 Civil Government and Society in New Mexico in the Seventeenth Century. *New Mexico Historical Review* 10(2):71-111.
1936 Church and State in New Mexico 1610-1650. *New Mexico Historical Review* 11:9-76.

Scholliers, Peter

- 2001 Meals, Food Narratives, and Sentiments of Belonging in Past and Present. In *Food, Drink and Identity, Cooking Eating and Drinking in Europe since the Middle Ages*, Peter Scholliers, editor, pp. 3-22. Berg, Oxford, UK.

Smith, Greg C.

- 1997 Hispanic, Andean, and African Influences in the Moquegua Valley of Southern Peru. *Historical Archaeology* 31(1):74-83.

Silliman, Stephen W.

- 2001 Theoretical Perspectives on Labor and Colonialism: Reconsidering the California Missions. *Journal of Anthropological Archaeology* 20:379-407.
2004 *Lost Laborers in Colonial California*. University of Arizona Press, Tucson.
2005 Culture Contact or Colonialism? Challenges in the Archaeology of Native North America. *American Antiquity* 70(1):55-74.
2006 Struggling with Labor, Working with Identities. In *Historical Archaeology*, Martin Hall and Stephen W. Silliman, editors, pp. 147-166. Blackwell Publishing, Malden, MA.
2009 Change and Continuity, Practice and Memory: Native American Persistence in Colonial New England. *American Antiquity* 74(2):211-230.
2010 Indigenous Traces in Colonial Spaces: Archaeologies of Ambiguity, Origin, and Practice. *Journal of Social Archaeology* 10(1):28-58.

Snow, Cordelia Thomas

- 1979 The Evolution of a Frontier: An Historical Interpretation of Archaeological Sites. In *Archaeological Investigations in Cochiti Reservoir, New Mexico*. Vol 4: *Adaptive Change in the Northern Rio Grande Valley*, Jan Biella and Richard Chapman, editors, pp. 217-234. Office of Contract Archaeology, Albuquerque, NM.
- 1993 A Headdress of Pearls: Luxury Goods Imported over the Camino Real during the Seventeenth Century. In *El Camino Real de Tierra Adentro, vol. 1*, Gabrielle Palmer, comp., pp. 69-76. Bureau of Land Management, New Mexico State Office, Santa Fe, NM.

Snow, David H.

- 1973 *Cochiti Dam Salvage Project: Archaeological Excavation of the Las Majadas site, LA 591, Cochiti Dam, New Mexico*. Laboratory of Anthropology Notes No. 75. Santa Fe, NM.
- 1982 The Rio Grande Glaze, Matte-Paint, and Plainware Tradition. In *Southwestern Ceramics: A Comparative Review*, Albert H. Schroeder, editor, pp. 235-278. *Arizona Archaeologist 15*. Arizona Archaeological Society, Phoenix, AZ.
- 1983 A Note on Encomienda Economics in Seventeenth-Century New Mexico. In *Hispanic Arts and Ethnohistory in the Southwest*, Marta Weigle, editor, pp. 347-357. Ancient City Press, Albuquerque, NM.
- 1987 Archaeological Field Notes, LA 20,000 Excavations, April 1- May 30, 1987. El Rancho de las Golondrinas, Santa Fe, NM.
- 1990 *Tener Comal Y Metate: Protohistoric Rio Grande Maize and Diet*. In *Perspectives on Southwestern Prehistory*, Paul Minnis and Charles Redman, editors, pp. 289-300. Westview, Boulder, CO.
- 1992 A Review of Spanish Colonial Archaeology in Northern New Mexico. In *Current Research on the Late Prehistory and Early History of New Mexico*, Bradley Vierra, editor. Pp. 185-195. New Mexico Archaeological Council Special Publication no. 1, Albuquerque, NM.
- 2009 Ceramics from LA 20,000: A 17th century *Estancia* Near Santa Fe. *Pottery Southwest* 28(2): 12-18.
- n.d LA 20,000 Ceramic Laboratory Notes. El Rancho de las Golondrinas, Santa Fe, NM..

Snow, David H. and Joanne Bowen

- N.d. No Scum, No Vermin: Seventeenth-Century Faunal Remains from the Santa Fe, New Mexico, Downtown Historic District. Manuscript in Possession of the Author.

South, Stanley, R.K. Skowronek, and R. E. Johnson, editors

- 1988 *Spanish Artifacts from Santa Elena*. Anthropological Studies no. 7. University of South Carolina, South Carolina Institute of Archaeology and Anthropology, Columbia.

South, Stanley

- 1988 Santa Elena: Threshold of Conquest. In *The Recovery of Meaning: Historical Archaeology in the Eastern United States*, Leone, Mark P., and P. B. J. Potter, editors, pp. 27-72. Smithsonian Institution Press, Washington D.C.

Spicer, Edward

- 1961 Types of Contact and Processes of Change. In *Perspectives in American Indian Culture Change*, Edward H. Spicer, editor, pp. 517-544. University of Chicago Press, Chicago, IL.
- 1962 *Cycles of Conquest: The Impact of Spain, Mexico, and the United States on the Indians of the Southwest, 1533-1960*. The University of Arizona Press, Tucson, AZ.

Spielmann, Katherine A., Jeannette L. Mobley-Tanaka, and James M. Potter

- 2006 Style and Resistance in Seventeenth Century Salinas Province. *American Antiquity* 71 (4):621-647.

Spielmann, Katherine A., Tiffany Clark, Diane Hawkey, Katharine Rainey, Suzanne K. Fish

- 2009 "...being weary, they had rebelled": Pueblo Subsistence and Labor under Spanish Colonialism. *Journal of Anthropological Archaeology* 28(1):102-125.

Spielmann, Katherine A.

- 1998 Ritual Influences on the Development of Rio Grande Glaze A Ceramics. In *Migration and Reorganization: The Pueblo IV Period in the American Southwest*, Katherine A. Spielmann, editor, pp. 253-261. Arizona State University Anthropological Research Papers No. 51.
- 2004 Communal Feasting, Ceramics, and Exchange. In *Identity, Feasting, and the Archaeology of the Greater Southwest*, B. J. Mills, editor, pp: 210-232. University Press of Colorado, Boulder.

Sunseri, Jun Ueno

- 2009 *Nowhere to Run, Everywhere to Hide: Multi-Scalar Identity Practices at Casitas Viejas*. Doctoral dissertation, Department of Anthropology, University of California, Santa Cruz. University Microfilms International, Ann Arbor, MI.
- 2017 Grazing to Gravy: Faunal Remains and Indications of Genízaro Foodways on the Spanish Colonial Frontier of New Mexico. *International Journal of Historical Archaeology* 21(1):577-597.

Sutton, Mark Q., and Karl J. Reinhard

- 1995 Cluster Analysis of the Coprolites from Antelope House: Implications for Anasazi Diet and Cuisine. *Journal of Archaeological Science* 22:741-750.

Swentzell, Roxanne and Patricia M. Perea

- 2016 *The Pueblo Food Experience Cookbook: Whole Food of Our Ancestors*. Museum of New Mexico Press, Albuquerque.

Szuter, Christine R.

- 2000 Gender and Animals: Hunting Technology, Ritual, and Subsistence. In *Women and Men in the Prehispanic Southwest: Labor, Power, and Prestige*, Patricia, Crown, editor, pp.197-220. School of American Research Press, Santa Fe, NM.

Thomas, William J., Nathan W. Bower, John W. Kanter, Marianne L. Stoller, and David H. Snow

- 2011 An X-ray Fluorescence-Pattern Recognition Analysis of Pottery from an Early Historic Hispanic Settlement Near Santa Fe, New Mexico. In *Perspectives From Historical Archaeology: The Archaeology of Spanish Missions and Colonies in the New World*, Steve A. Tomka and Timothy K. Perttula, editors. The Society for Historical Archaeology.

Thorp, Annette Hesch

- 2000 Part I: Annette Hesch Thorp. In *Women's Tales from the New Mexico WPA*. Tey Diana Rebolledo and María Teresa Márquez, editors, pp. 1-102. Arte Público Press, Houston, TX.

Torquemada, Juan de., Barcia Carballido, and Andres de Gonzalez

- 1943 *Monarquia indiana*. Chavez Hayhoe, Mexico, D. F: S.

Troccoli, R.

- 1992 Colonizing and Women's Production: The Timucua of Florida. In *Exploring Gender through Archaeology: Selected Papers from the 1991 Boone Conferences*, Classen, C., Mary Beaudry, editors, pp 95-102. Monographs in World Archaeology 11. Prehistory Press, Madison, WI.

Trigg, Heather

- 2003 The Ties That Bind: Economic and Social Interactions in Early-Colonial New Mexico, A.D. 1598-1680. *Historical Archaeology*, 37(2): 65-84.
- 2004 Food Choice and Social Identity in Early Colonial New Mexico. *Journal of the Southwest*, 46(2):223-252.
- 2005 *From Household to Empire. Society and Economy in Early Colonial New Mexico*. The University of Arizona Press, Tucson, AZ.
- 2014 Cultural and Environmental Investigations of a 17th Century Spanish New Mexican Household. National Science Foundation Proposal. Unpublished. Fiske Archaeological Research Center, University of Massachusetts, Boston, Boston, MA.

Trigg, Heather and Debra Gold

- 2005 Mestizaje and Migration: Modeling Population Dynamics in Seventeenth-Century New Mexico's Spanish Society. *Engaged Anthropology: Research Essays on North American Archaeology, Ethnobotany, and Museology*, M. Hegmon and B. Eiselt, editors, pp:73-88. University of Michigan Museum of Anthropology Paper 94.

Turkon, Paula

- 2007 Food Preparation and Status in Mesoamerica. In *The Archaeology of Food and Identity*, Katheryn C. Twiss, editor, pp. 152-170. Center for Archaeological Investigations Occasional Paper No. 34. Southern Illinois University, Carbondale.

Twiss, Katheryn

- 2007 *The Archaeology of Food and Identity*. Center for Archaeological Investigations Occasional Paper No. 34. Southern Illinois University, Carbondale.

Van Buren, Mary

- 1999 Tarapay: An elite Spanish Residence near Colonial Potosi in Comparative Perspective. *Historical Archaeology* 33(2):101-115.
2010 The Archaeological Study of Spanish Colonialism in the Americas. *Journal of Archaeological Research*. 18:151-201.

Voss, Barbara L.

- 2005 From Casta to Californio: Social Identity and the Archaeology of Culture Contact. *American Anthropologist* 107(3):461-474.
2008a Domesticating Imperialism: Sexual Politics and the Archaeology of Empire. *American Anthropologist* 110(2):191-203.
2008b Gender, Race, and Labor in the Archaeology of the Spanish Colonial Americas. *Current Anthropology*, 49(5):861-893.
2008c *The Archaeology of Ethnogenesis: Race and Sexuality in Colonial San Francisco*. University of California Press, Berkeley, California.

Voss, Barbara, and Rebecca Allen

- 2010 Guide to Ceramic MNV Calculation Qualitative and Quantitative Analysis. *Technical Briefs in Historical Archaeology* (5):1-9

Warren, A.H.

- 1979 Historic Pottery of the Cochiti Reservation Area. In *Archaeological Investigations in Cochiti Reservoir, New Mexico Vol. 4: Adaptive Change in the Northern Rio Grande Valley*. Jan Biella and R.C. Chapman, editors, pp. 234-245. Office of Contract Archaeology, University of New Mexico, Albuquerque.

Weber, David J.

- 1992 *The Spanish Frontier in North America*. Yale University Press, London, UK.

White, Leslie A.

- 1969 The World of the Keresan Pueblo Indians. In *Primitive Views of the World*, Stanley Diamond, editor, pp. 83-94. Columbia University Press, New York, NY.

Wilk, Richard R., and Robert Mc Netting

- 1984 Households: Changing Forms and Functions. In *Households: Comparative and historical Studies of the Domestic Group*, Robert McC. Netting, Richard R. Wilk, and Eric J. Arnould, editors, pp. 1-28. University of California Press, Berkeley.