THE NEGOTIATING TABLE: A STUDY OF LATE TERMINAL FORMATIVE RITUAL FEASTING MIDDENS FROM THE LOWER RÍO VERDE VALLEY OF OAXACA, MEXICO

by

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Abstract

This study explores the negotiation of ideas regarding political authority and identity in the lower Río Verde Valley of Oaxaca, Mexico, during the late Terminal Formative period (100–250 CE), through comparative analysis of vessel sherds recovered from ritual feasting middens. The study sample includes 1,342 sherds from five Chacahua phase (100–250 CE) middens excavated in 2003 and 2012: four from the acropolis at Río Viejo and one from a monumental earthen platform at Yugüe. By considering the nature of ritual feasting practices at both sites through a poststructural lens, this thesis identifies a series of patterns suggesting that emerging notions of regional political authority at Río Viejo did not extend to outlying sites. Public feasting practices continuously reified the Late Formative (400–150 BCE) tradition of embedding notions of shared, communal identity and authority within individual sites across the lower Verde. The inhabitants of Río Viejo, particularly elites, may have imparted ideas of regional identity and authority centered around their city through feasts attended by people from outlying settlements. Instead of incorporating these new ideas into their own local practices, I argue that Yugüe and other communities occupying the hinterland around Río Viejo preserved their traditional, communal identities and associated feasting rituals throughout the late Terminal Formative period, indirectly contributing to the eventual collapse of Río Viejo as an urban center in the lower Verde.

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1.0 Introduction

This thesis addresses the nature of ritual feasting practices in the Terminal Formative lower Río Verde Valley of Oaxaca, Mexico through the study of ceramics recovered during the 2003 and 2012 field seasons (Barber 2005, 2012; Egan & Barber 2012; Gonzalez et al. 2012; Rivas 2012). In order to investigate ritual feasting, this thesis builds on previous research in the region (Barber 2005; Barber & Joyce 2007; Brzezinski 2011; Joyce & Barber 2015; Joyce et al. 2016; Joyce 1994, 2013; Levine 2002; Lucido 2015;) and applies a poststructural, feminist theoretical framework to the study of political authority and centralization. This approach is accomplished through a comparative analysis of the ceramic contents of five distinct midden contexts associated with monumental architecture at the contemporaneous sites of Río Viejo and Yugüe.

In Chapter One, I provide a summary of the Terminal Formative lower Río Verde Valley, emphasizing social practices within the two sites at the center of this study: Río Viejo and Yugüe. I then explore the anthropology of feasting, including the characteristics of feasting events and their functionality within broader social frameworks related to identity and power. Chapter Two delves into the methodology behind this study, including a brief descriptive summary of each midden context. I go on to describe the mode and scope of my ceramic analysis as well as the principal theories that frame my perspective of feasting practices in the ancient lower Verde. In Chapter Three, I describe the ceramic samples of each midden. I start with the basic proportions of paste types and vessel forms, followed by an in-depth examination of the physical attributes and frequencies of specific vessel shapes. I begin Chapter Four by presenting my interpretations of the nature of ritual feasting practices at Río Viejo and Yugüe based on their ceramic contents. In this section, I highlight notable similarities and differences between feasting

practices at Río Viejo, Yugüe, and Cerro de la Virgen. Finally, I discuss how feasting practices at Río Viejo affected ideas of regional political authority among their participants.

Previous research in the lower Verde demonstrates how notions of political authority and identity manifest in the archaeological record through monumental structures, ceramic vessels, figurines, and human and object internments associated with dynamic, recursive social practices (Barber et al. 2012; Barber 2005; Brzezinski 2011; Joyce et al. 2016; Joyce 2010, 2013; Levine 2002). These material and spatial components of shared, continuous social identities and the practices through which they were articulated offer archaeologists a tangible lens into the complex lives of ancient peoples (Joyce 2013:166). Ceramic analysis of feasting middens associated with monumental public architecture at Río Viejo and Yugüe should, therefore, expand and elaborate on our understanding of those sites as foci of complex entanglements between practices, people, and ideas in the Terminal Formative lower Verde (Joyce et al 2016). Ritual feasting represents one of the most prevalent forms of social practice in sites across the region, particularly Río Viejo (Barber 2005; Joyce et al. 2016; Lucido 2015). The excavation of contemporary, high-density feasting middens at this and other sites over the past 20 years has made ceramic analysis an effective means of comparing social relations and practices within and between sites.

A poststructural, feminist approach to ceramic analysis considers the recursive relationship between differently-positioned actors, encompassing a broader realm of social relations, cultural schema, and material conditions than a traditional, 'top-down' perspective (Joyce 2013:29), which overshadows the agency of commoners by attributing societal change to elites. Ritual feasts on the Río Viejo acropolis would have been experienced not only by local elite sponsors, but also by cooks, potters, and participants from the city and its hinterland.

Furthermore, the experiences of individuals within these distinct groups would have varied between men and women based on their respective roles in the preparatory and consumptive phases of the event (Klarich 2010). Feasts were not static displays of elite power, but a mode through which all participants articulated, negotiated, and renegotiated ideas surrounding political identity and authority. I employ poststructuralism and feminist theory in order to account for the complex entanglements of social identity and practice that lay at the heart of ritual feasts (Bray 2003a, 2003b; Klarich 2010; Monaghan 2009).

To better understand how feasting practices varied in size, scope, and purpose between lower Verde sites, I examine ceramic sherds from five distinct, contemporary midden contexts. Four are located on the acropolis at Río Viejo, while the fifth is located on a monumental public structure at the outlying site of Yugüe. Through comparisons of the relative frequencies and average rim diameters of vessels by paste and form, as well as a functionalist analysis of cooking and serving vessels associated with feasting within each context, I address the following questions:

1. In what ways did ritual feasting events on the Río Viejo acropolis differ in terms of scale and context from public feasting events at the outlying site of Yugüe?
2. How did ritual feasting practices on the Río Viejo acropolis affect notions of regional political authority in the Terminal Formative lower Verde?
3. How do vessel form and function inform on feasting activities such as food preparation and transportation, cooking, and serving?

I also compare the Río Viejo acropolis middens to a Chacahua-phase domestic midden at the site of Cerro de la Virgen (Barber 2005: 413). Because the interpretive value of the latter is inhibited

by its small size, however, any similarity between it and the acropolis middens is of secondary import.

When discussing political authority, I base my interpretation on Barber's (2005: 6) definition, which describes it as "reproduced structures of domination [extending beyond the domestic level] that are considered legitimate by those involved in the reproduction." Of course, the degree to which participants viewed feasting events as legitimate would have varied based on their different physical, social, and symbolic positions relative to the feast itself. I will argue that in the case of Río Viejo, the failure of local elites to sufficiently legitimize the feasts they sponsored played a major role in the site's collapse c. 250 CE.

Political authority manifested in the Terminal Formative lower Verde through public institutions and monumental structures and spaces, such as platforms and plazas, as well as communal rituals including feasts, caching events, and human internments (Joyce et al. 2016). Ideas surrounding political authority, particularly those pertaining to its nature and scope, varied between and within individual sites, where ideological tensions and contradictions were continuously generated and addressed through communal, ritualized social practices.

The Terminal Formative (150 BCE–250 CE) represents a pivotal phase in the development of sociopolitical complexity in the lower Verde (Barber 2005; Joyce & Barber 2015; Joyce et al. 2016). This period was marked by population increases at numerous sites, preserving a trend that evidently began during the Late Formative (400–150 BCE). It also saw the rise and fall of a tenuous and unstable polity at the site of Río Viejo, where local elites ultimately failed to extend new forms of centralized political authority to surrounding communities, where traditional structures of authority prevailed (Joyce & Barber 2015; Joyce et al. 2016). Although Río Viejo reemerged centuries later as the head of a centralized polity with

powerful rulers, archaeological research regarding sociopolitical practices from the Terminal Formative may reveal how the first iterations of these Classic period institutions were developed and why they foundered c. 250 CE.

1.1 Summary of the Terminal Formative lower Río Verde Valley

Contrary to the pervasive, modern perception of feasts as frivolous and impractical affairs, ethnographic and archaeological cases of ritual feasting around the world demonstrate how complex societies employed them as instruments for constructing and reinforcing social identities and relations (Bray 2003a, 2003b; Dietler & Hayden, ed. 2001; Jennings et al. 2005; Klarich, ed. 2010; LeCount 2001; Levine 2002; Mills 2007). In the lower Río Verde Valley of Oaxaca, Mexico, evidence of feasts associated with monumental communal spaces occurs at numerous sites spanning the Late and Terminal Formative periods, including Cerro de la Cruz, Cerro de la Virgen, Yugüe, and Río Viejo (Joyce 1994; Joyce 2010; Joyce and Barber 2015). Investigations into the contexts of these activities across contemporaneous sites advance our comprehension of the scale and scope of ritual feasting events in the region. Throughout the Terminal Formative lower Verde, ongoing excavations at multiple sites suggest relations between elites, commoners, and monumental public architecture were articulated through collective rituals including caching, mortuary ceremonies, and communal feasting (Barber 2013; Barber et al. 2013; Joyce and Barber 2015; Joyce 2010; Levine 2013). This thesis explores the nature of feasting in the lower Río Verde Valley through careful analysis of multiple feasting contexts from Río Viejo and Yugüe.

1.1.1 Communal Rituals

Archaeological research in the lower Río Verde Valley has produced a wealth of new information on the development and negotiation of political authority in Late and Terminal

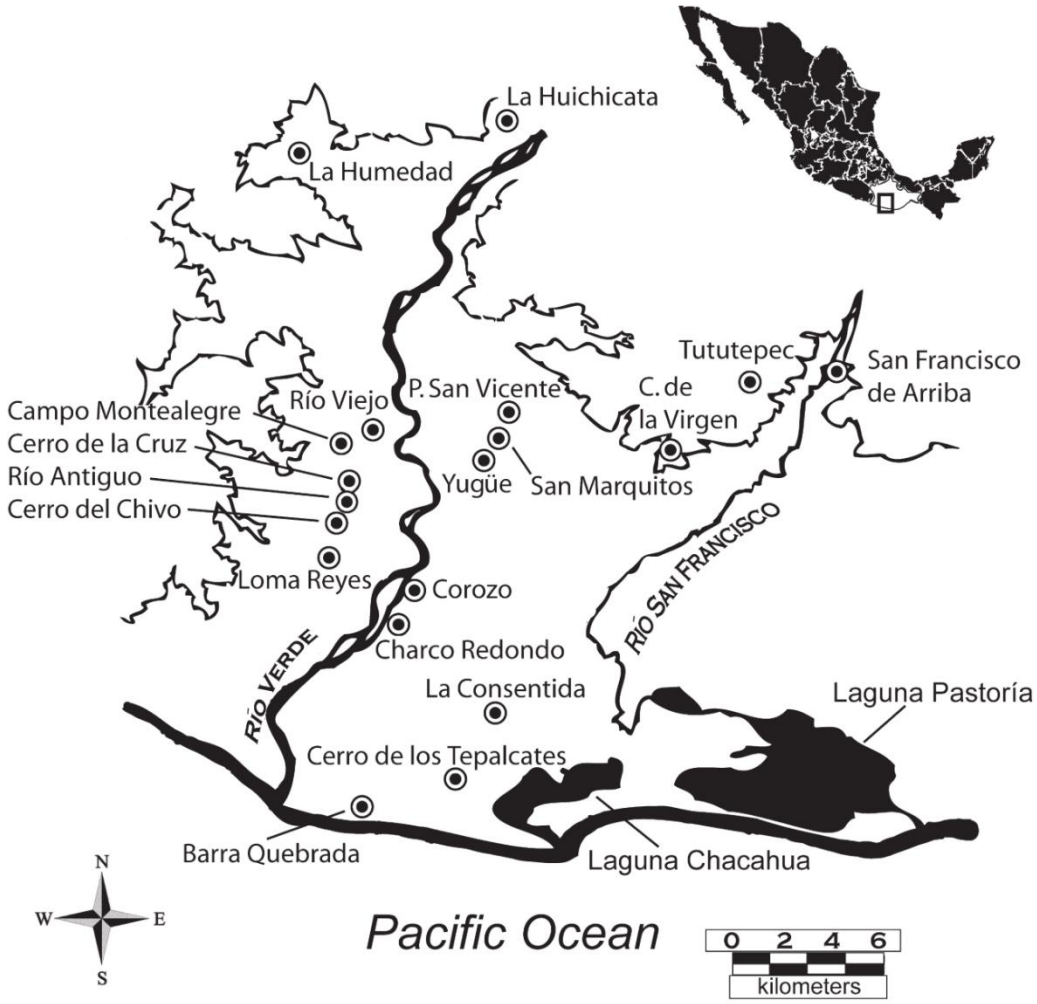

Figure 1.1. Map of the lower Río Verde Valley including sites mentioned in the text (after Joyce 2013 Figure 1.2).

Formative coastal Oaxaca over the last 30 years (Barber 2005, 2013; Barber & Joyce 2007; Joyce & Barber 2015; Joyce 1991, 1994, 2010, 2013, 2018; Joyce et al. 2016). Using an agency-informed, poststructural framework, archaeologists have determined that monumental construction and ritual feasting practices embedded local political authority within individual sites (Barber 2013; Barber & Joyce 2007; Joyce 2010). This relationship can be traced back to the Late Formative site of Cerro de la Cruz located southwest of Río Viejo, where a communal cemetery, large cooking features, and storerooms associated with an elevated public building reflect how local communities created socially meaningful places through the construction and

ritual use of public architecture (Joyce 1991, 1994). The evidence for these ritually-imbued public activities at Río Viejo during the Terminal Formative, such as ceremonial structures, supradomestic cooking features, and midden deposits on the acropolis, highlight efforts by local elites to form a broader regional network centralizing sociopolitical power (Joyce et al. 2013, 2016). In this study, statistical analyses of contemporary feasting contexts at Río Viejo and the outlying site of Yugüe may indicate how elites at the former struggled to spread practices of regional political authority across peripheral sites in the lower Verde. By comparing the relative proportions of specific types of cooking and serving vessels between feasting contexts, I determine the degree to which feasting practices on the acropolis differed from those at Yugüe. I argue that variations in the relative frequencies of particular vessel types, both between the two sites and among the four acropolis midden contexts, reflect the course of negotiations concerning emergent and contested ideas of political authority at Río Viejo.

The Terminal Formative period represented an era of increasing social inequality and continued local communal ceremonies associated with monumental public architecture in the lower Río Verde Valley (Barber et al. 2013; Joyce 2010; Joyce & Barber 2015). As in the Late Formative, local community identities were constituted through the construction and shared use of monumental buildings in association with mortuary, caching, and feasting rituals. This link between monumentality and ritual was common across multiple sites in the region, including Yugüe, Charco Redondo, San Francisco de Arriba, and Cerro de la Virgen (Figure 1.1) (Barber 2005; Brzezinski et al. 2017; Butler 2018; Joyce et al. 2016; Joyce 2013; Workinger 2013). At Yugüe, for example, excavations into the site's large multi-use platform (Substructure 1) revealed feasting middens, ritual caches, and a communal cemetery. Together, these features describe continued communal ceremonial activity either on or immediately adjacent to

Substructure 1 spanning most of the Terminal Formative. At least nine other, contemporary sites in the lower Río Verde Valley feature monumental architecture and presumably associated ritual activity on this scale (Joyce et al. 2016). The growing prevalence of public ceremonies and monumental construction projects in these communities reflects a general consolidation of political authority and the continuity of traditional community identities on the local level.

1.1.2 Relational Ontology

Archaeologists have developed a complex ontological model for describing the relationship between monumental public buildings, communal ceremonies, religion, and the social constitution of indigenous communities, including those within the Terminal Formative lower Verde (Harrison-Buck 2015; Joyce 2010, 2013; Joyce and Barber 2015; Joyce et al. 2016). Here I define *relational ontology* as an interdependent relationship between humans, non-human entities, and the animic cosmos that is produced and reproduced through acts "centered on a conscious awareness of one's positioning and activity in the world" (Harrison-Buck 2015: 115). In accordance with the wider Mesoamerican religious perception of other-than-human entities (e.g., buildings) as social actors in the realm of human affairs, local communities participated in ceremonies that brought together people and animate entities such as public buildings and the remains of ancestors in ways that constituted community. Monumental structures, through the shared experience of their construction and use, tied the community to the local landscape, generating social stability and a sense of shared identity (Barber & Joyce 2007; Joyce 2010). Ritual feasting, caching, and burial ceremonies associated with these structures further constituted and reconstituted notions of corporate action and identity, including a shared history, commensalism, and interpersonal obligations (Barber et al. 2013). Although these types of activities have been identified in numerous Terminal Formative sites in the lower Verde,

situational variations in construction methods, the nature and contents of caches, and the orientations of monumental buildings suggest practices constituting community identity did not extend beyond individual sites (Barber et al. 2013; Joyce and Barber 2015).

Local elites in the lower Verde relied on their specialized religious roles in communal ceremonies to become powerful actors within the entanglements that constituted community (Joyce and Barber 2015). This power allowed elites to express and reinforce their high status and obtain political authority within their settlement, but such power was largely constrained by the scope of their ceremonial obligations, which did not reach beyond the local level. The limited power of local elites combined with the communal nature of the ceremonies they oversaw ultimately preserved the Late Formative concept of communities as an important modality for social identity in the lower Río Verde Valley (Barber et al. 2013; Barber & Joyce 2007; Joyce & Barber 2015; Joyce 2013). Only at Río Viejo, by far the largest Terminal Formative site along the Río Verde, does evidence indicate elites sought to expand their political authority to the regional level, generating new tensions and contradictions between Río Viejo and surrounding communities (Joyce et al. 2016).

1.1.3 Río Viejo

Although the original settlement dates back to the Middle Formative, Río Viejo emerged as an urban center during the Terminal Formative period, establishing close, albeit tenuous and unstable ties with outlying communities in the lower Río Verde Valley. The site rapidly expanded from 29 ha in the Late Formative Minizundo phase (400–150 BCE) to 200 ha by the late Terminal Formative Chacahua phase (100–250 CE) (Joyce et al. 2016: 65). Contextual information suggests local elites attempted to amass political authority through communal labor

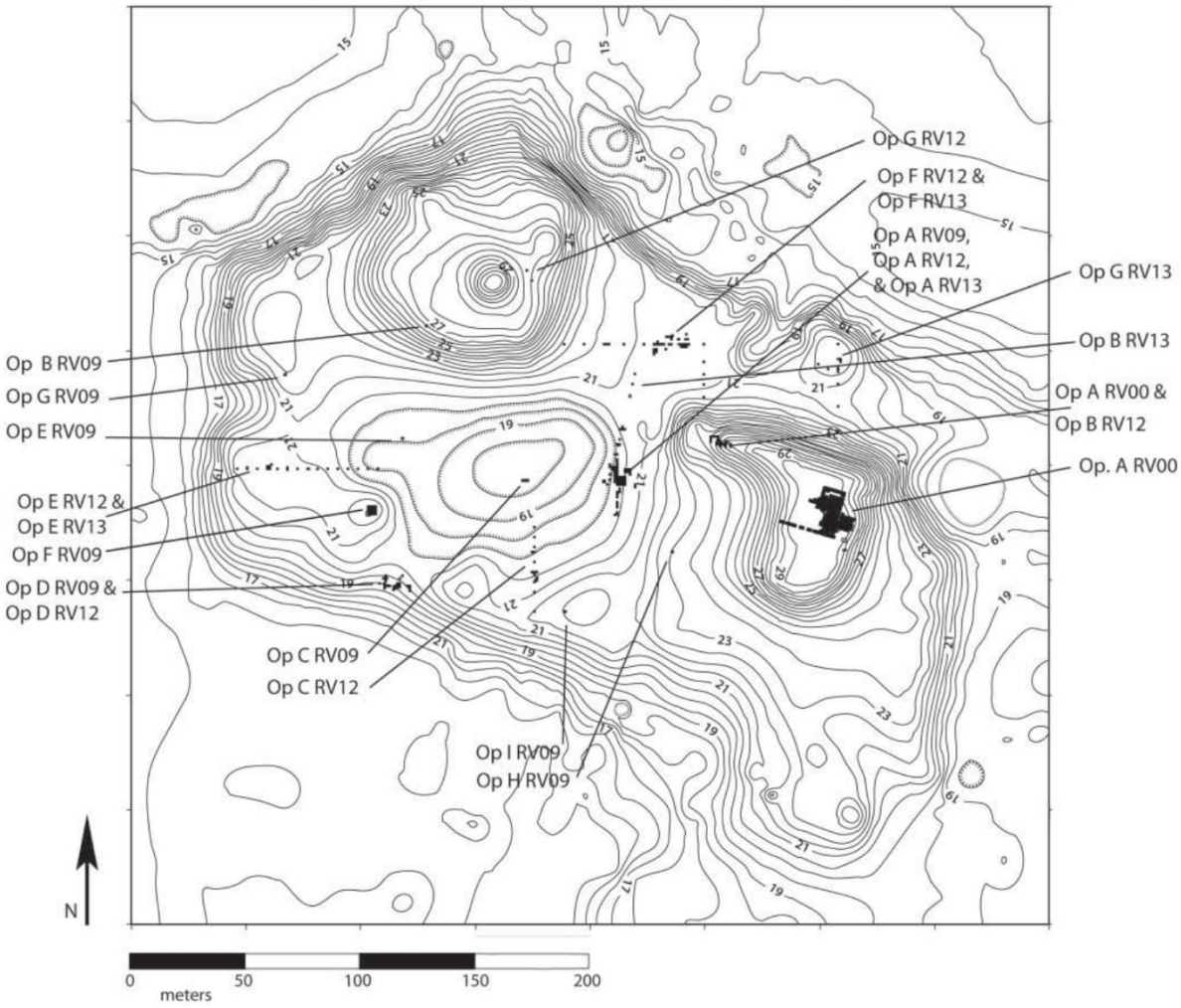

Figure 1.2. Topographic map of the Río Viejo acropolis with PRV excavations labeled (after Joyce & Barber 2015).

projects and rituals centered on the Río Viejo acropolis (Joyce 2010, 2013; Joyce and Barber 2015; Joyce et al. 2016). At the end of the Terminal Formative, the site experienced rapid social collapse; people departed the city and the acropolis fell into disuse. The failure of this political system likely resulted—at least in part—from the tension between traditional, localized authorities at outlying sites and the more hierarchical, regional authorities struggling to develop at Río Viejo (Joyce 2010: 196; Joyce & Barber 2015).

Río Viejo's massive acropolis was the site of impressive ritual feasts during the late Terminal Formative period (Joyce et al. 2016). The acropolis was a monumental civil-ceremonial center where local elites sponsored politico-religious rituals designed in part to socially and symbolically engage groups from surrounding communities (Figure 1.2). Construction of the acropolis began near the end of the early Terminal Formative and required a massive labor mobilization that may have extended to outlying communities (Joyce et al. 2013). A diverse array of earthen building techniques suggest that the construction of the acropolis relied on rotating work groups, possibly from multiple sites, and took place over many years, affiliating the laborers with the symbolism, institutions, and rulers of Río Viejo. The completed structure encompassed a 350 m x 200 m area and supported two large substructures and several smaller buildings (Joyce et al. 2013). During its brief occupation, lasting until the structure's abandonment at the end of the Terminal Formative, the acropolis hosted elaborate public feasting ceremonies designed to (a) bring people together under the authority of local elites and (b) integrate and legitimize a new, regional form of political authority centered at Río Viejo (Joyce & Barber 2015; Joyce et al. 2016). At the end of the Formative Period, the acropolis may have experienced formal dismantlement marking its closure as a public ritual space (Joyce 2010: 195; Joyce et al. 2016). Although violence cannot be dismissed as a possibility for causing this damage, evidence from subsequent deposits suggests the acropolis experienced a prolonged ritual termination that involved burning its superstructures and depositing broken pottery across the surface and in pits (Joyce et al. 2016).

The second site considered in this study is Yugüe, a settlement situated on the opposite bank of the Río Verde floodplain, roughly 4 km southeast of Río Viejo. Yugüe arose during the Minizundo phase of the Late Formative and persisted until the end of the Terminal Formative.

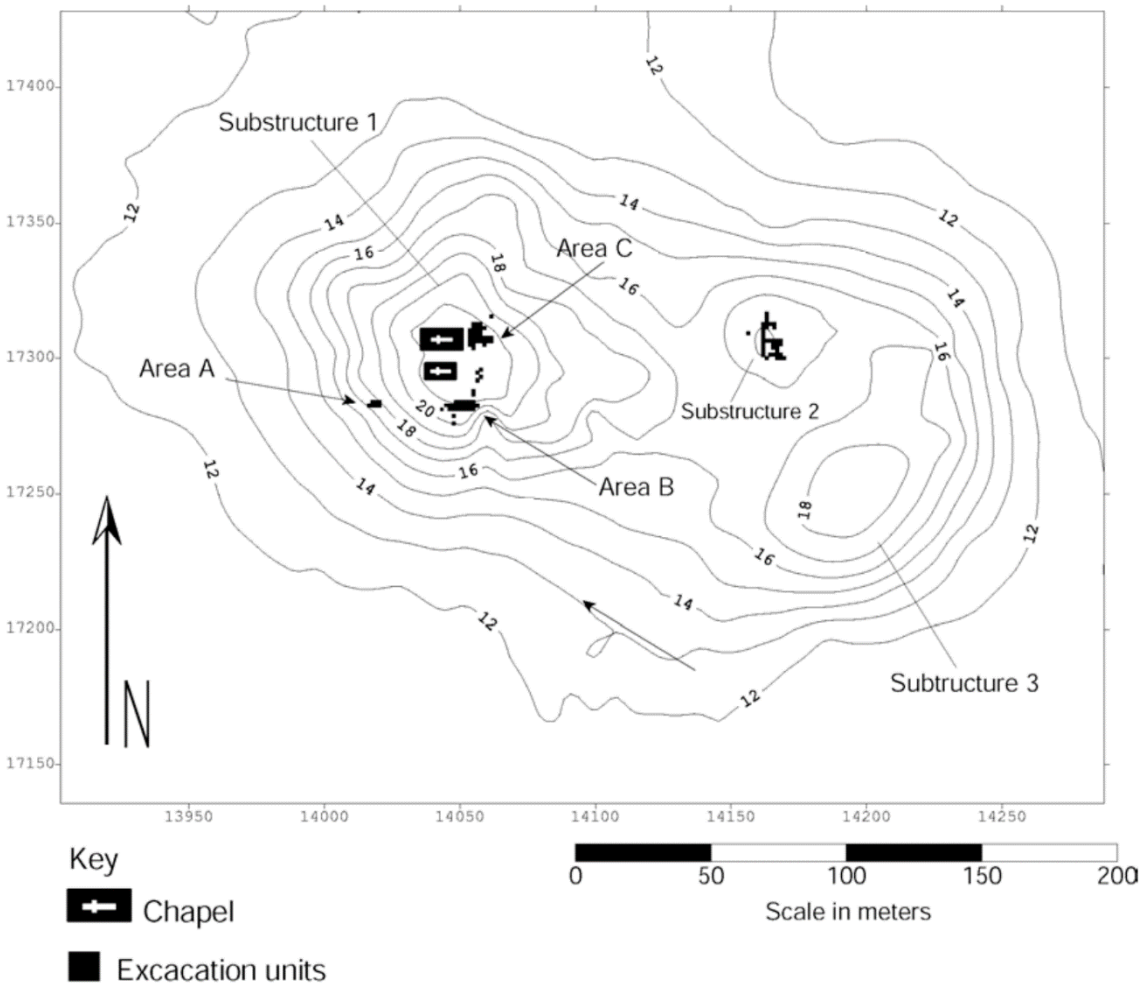

Figure 1.3. Topographic map of Yugue with substructures labeled (after Barber 2005 Figure 5.2)

By that point, the site had become dominated by a large multi-use platform supporting several substructures. It also showed evidence of feasting rituals, including a Chacahua phase sheet midden designated Feature 42 (F42), which Barber (2005) analyzed as part of her dissertation project. Excavations at Yugüe suggest ongoing negotiations of political authority occurred there contemporaneously with those at Río Viejo. High densities of cooking wares and the presence of elaborate offerings and human burials associated with Substructure 1, a monumental earthen platform, demonstrate how both commoners and elites actively participated in feasting, offerings,

and mortuary rituals during the Terminal Formative. The presence of a public cemetery on Substructure 1 reaffirms this sense of inclusivity; it features at least 41 individuals of all age ranges and both sexes. Although four individuals—including one man, two women, and a child—were interred with ornate offerings, their burial in a public space indicates these items were collective resources accessible to supradomestic groups (Barber et al. 2013; Barber 2005). The public cemetery, in conjunction with associated caching and feasting contexts, both defined and commemorated the shared history and identity of Yugüe's residents, fostering notions of communal political authority.

Attempts by elites at Río Viejo to impose more regional notions of political authority upon outlying communities like Yugüe generated new ideological tensions and contradictions between these groups. The shared sense of communal identity that had previously connected these sites may have gradually dissolved following the construction of the Río Viejo acropolis, where traditional practices invoking ideas of communal identity and authority were instead used to instantiate new ideas on the regional level (Joyce & Barber 2015; Joyce et al. 2016). Ritual feasts represent the (currently) predominant practice by which both traditional and incipient forms of political identity and authority would have been negotiated on the Río Viejo acropolis.

1.2 Anthropology of Feasting

Since the anthropology of feasting represents a foundational element of my analysis of feasting practices at Río Viejo and Yugüe, a brief overview of the principle definitions, analytical approaches, and theoretical issues associated with the field will aid in understanding the archaeological circumstances of these sites. Dietler (2001: 66), through his analysis of feasting among African agrarian societies, defines the feast as a form of public ritual activity centered around the communal consumption of food and drink through which the symbolic

representation and active manipulation of social relations occur. Feasting provides a setting for the simultaneous articulation and negotiation of ideas related to politics, religion, community, status, and gender among distinct individuals and groups on a variety of social scales (Klarich 2010: 221; Mills 2007: 210). Analyzing ritual feasts requires they be clearly distinguished from routine meals, especially since archaeological contexts of both activities can appear similar in terms of present features and archaeological signatures; Dietler (2001: 3) presents the 'marked' feast alongside the 'unmarked' meal to explain the inextricably analogous nature of both activities. These fundamental characteristics are designed to capture the myriad flavors of ritual feasting observed in ancient and modern cultures the world over, which can vary drastically in scale and scope (Dietler & Hayden 2001: 3).

Over the past two decades, scholars have identified ritual feasting as an effective mode for articulating and transforming social power in archaeological contexts worldwide (Bray 2003a, 2003b; Dietler & Hayden 2001; Jennings et al. 2005; Klarich 2010; LeCount 2001). From compact household clusters to broader regional communities, feasts serve to establish, reproduce, and challenge ideas of social affiliation, often simultaneously. At Río Viejo, feasting practices may have represented attempts to foster and maintain notions of regional political authority among participants that directly conflicted with those at neighboring sites. These latter communities, including Yugüe, may have instead used feasts as a means of reaffirming traditional ideas of communal authority and identity. In both cases, the feast represents a stage through which notions of community and social status are negotiated and renegotiated (Dietler & Hayden 2001: 69-75; Klarich 2010: 223).

The elaborate, resource-intensive nature of feasts can also instill a sense of obligation among participants toward their host. Social obligations surrounding feasts manifest before,

during, and after the event itself, often by the host's design. For example, guests often bear the responsibility for gathering and preparing some of the necessary resources ahead of time, including food, labor, and specialized components ranging from cooking and serving vessels to supradomestic food production spaces. Additional obligations can be fulfilled during and after the feast itself, such as bestowing prestige and authority onto the host in accordance with the opulence of the event (Klarich 2010). Social tensions can arise, however, in cases where participants are either unable or unwilling to contribute the time, labor, or other resources expected of them. This issue may have arisen in the lower Verde during the late Terminal Formative when elites at Río Viejo began hosting regional-level feasts on the site's new acropolis that incorporated people from outlying communities. Inhabitants of these communities, who were already investing considerably in feasting events on the local level, may have struggled to mobilize the resources required for regional feasts at Río Viejo at the same time. The conflicting obligations tied to regional and local feasts on the sites surrounding Río Viejo could have generated social tensions that weakened the latter's tenuous grip on the former.

In addition to acknowledging their inherent social dynamism, scholars have recently shifted their focus from the consumption to the preparation of ritual feasts, allowing them to identify and analyze the unique set of relationships that manifest before anyone begins to eat (Klarich, ed. 2010:228-230). It is important to consider that the feast only results from the cooperative efforts of a diverse array of knowledgeable actors, including elites and commoners, men and women, locals and foreigners, who all experience feasts differently according to their unique perspectives (Barber 2005:5; Jennings et al. 2005). The different roles and practices associated with sponsors, preparers, and participants reflect the variable types and degrees of access to social capital (Klarich 2010: 227) available to them through feasting. Because women

Phase	Period	Date
Yucudzaa	Late Postclassic	1100–1522 CE
Yugüe	Early Postclassic	800–1100 CE
Yuta Tiyoo	Late Classic	500–800 CE
Coyuche	Early Classic	250–500 CE
Chacahua	Late Terminal Formative	100–250 CE
Miniyua	Early Terminal Formative	150 BCE–100 CE
Minizundo	Late Formative	400–150 BCE
Charco	Late Middle Formative	700–400 BCE
?	Late Early–Middle Formative	1350–700 BCE
Tlacuache	Initial Early Formative	1600–1350 BCE

Figure 1.4. Lower Rio Verde regional ceramic chronology with uncalibrated radiocarbon dates (from Hepp 2015; see also Joyce 1991, 2010)

were responsible for cooking and serving food before the feast in many cultures, a preparation-oriented analytical approach provides a more comprehensive account of their roles throughout the feasting process (Klarich 2010; Mills 2007). The significance of the preparatory phase is further reflected in the salient archaeological elements of feasts, including the relative frequencies of certain vessel forms and pastes and the presence of larger cooking features, which are all determined during that stage. The procurement and arrangement of exotic foods, elaborate wares, and symbolically-charged instruments related to ritual feasting practices all constitute significant, precursory material components of the social negotiations occurring throughout the event (Dietler & Hayden 2001; Klarich 2010: 223).

In the lower Verde, evidence of feasting practices has surfaced in the form of elaborate serving and cooking wares and large cooking features from as early as the Early Formative period (Barber 2005; Hepp 2015; Joyce 1991, 1994, 2010; Levine 2013). At the Late Formative site of Cerro de la Cruz, large cooking features are preserved in association with a communal cemetery (Joyce 1991, 1994). Additionally, the high frequency of early Terminal Formative

Miniyua phase (150 BCE–100 CE) serving wares at sites throughout the region shows that widespread feasting activity took place just before the construction of the Río Viejo acropolis (Levine 2013). Apparent communal feasting contexts from the late Terminal Formative include a public plaza associated with feasting and caching ceremonies at Cerro de la Virgen and cooking features and public middens at Yugüe (Barber & Joyce 2015; Barber 2013; Brzezinski 2015). The tradition of communal feasting was therefore well-established throughout the lower Verde when construction of the acropolis at Río Viejo concluded c. 150–200 CE (Joyce et al. 2013, 2016; Joyce 2010).

The Río Viejo acropolis continued to attract large groups from across the lower Verde for the duration of its late Terminal Formative occupation through ritual feasting practices (Joyce et al. 2016: 75). Evidence for these events include a large earth oven at the base of Structure 2 and a high number of nondomestic middens deposited in pits on the acropolis (Brzezinski et al. 2012; Egan & Barber 2012; Joyce et al. 2016; Joyce & Barber 2015; Lucido et al. 2013; Lucido 2015). One of the principle foci of this thesis is identifying disparities in the scale and components of communal feasting practices at Río Viejo and smaller, neighboring settlements during the operational lifespan of the acropolis.

In this chapter, I have described the spatial and temporal context of this study, including overviews of the two principal sites and the prevailing social ideas of the period. I have also discussed relational ontologies and how they manifest through feasting practices. Finally, I explored the anthropology of feasting and its social implications, particularly as they pertained to the late Terminal Formative lower Verde. In the following chapter, I delve into the methodology behind my ceramic analysis.

2.0 Methodology

This thesis was developed as part of ongoing archaeological research directed by Arthur Joyce and Sarah Barber called the Proyecto Río Verde (PRV), encompassing a series of extensive interdisciplinary studies at sites throughout the lower Río Verde Valley. The most recent of these took place in 2012 and 2013 at Río Viejo to assess the construction and organizational history of the acropolis and identify how monumental architecture and public spaces were used within the site. Excavations undertaken as part of this research revealed middens containing fragmented serving vessels and cooking wares, suggesting ritual feasting practices occurred on the acropolis during the Terminal Formative (Barber et al. 2012; Egan & Barber 2012; Joyce et al. 2013; Levine 2013). The ceramic data from Yugüe used in this study was originally analyzed by Sarah Barber (Barber 2005); the data from Río Viejo was first analyzed by Carlo Lucido (Lucido 2015). All data pertinent to this thesis derives from the PRV03 and PRV12 (Barber 2005; Brzezinski et al. 2012; Egan & Barber 2012; Lucido 2015; Joyce personal communication 2018).

This study represents a continuation of research into ritual feasting practices on the Río Viejo acropolis that began during the PRV12 and served as the focus of a later study conducted by Carlo Lucido in 2015. Significant measurement errors within Lucido's thesis, however, necessitate a new examination of ritual feasting on the Río Viejo acropolis.[1] To ensure inaccurate data did not distort the results of this study, 157 sherds from the acropolis midden assemblage

[1] Initial rim size measurements for the acropolis midden assemblage were taken by Lucido during the PRV12. These were recorded as rim diameters and referred to as such throughout his thesis. Lucido had in fact measured the rim *radii* of his sherds, however, leading to erroneous results regarding the nature of ritual feasting on the Río Viejo acropolis. Comparing the original rim diameter measurements on the acropolis to contemporary and otherwise identical vessels from the Yg-F42 sample showed that the acropolis vessels were consistently half the size of their Yugüe counterparts. To rectify the issue, the rim 'diameters' of all rim sherds within the acropolis midden assemblage were doubled.

were excluded, in addition to 44 non-rim sherds from the Yg-F42 assemblage. In all, 1,342 sherds from Lucido's original 1,543 form the sample population.

2.1 Feasting Middens

The four Río Viejo middens were uncovered on the south side of the acropolis between its two superstructures. Excavations that investigated the middens consisted of a series of transects of 1x1 m units oriented north-south and east-west across the acropolis (Egan & Barber 2012; Gonzalez et al. 2012). Most units were uncovered in 5 or 10 cm lots within natural/cultural strata depending on context. Three were exposed in one-by-one-meter units; the fourth from a two-by-one-meter unit constituting part of a larger excavation block.

Feature 7 was excavated within Operation C Unit 0AA (Figure 2.1). The internally stratified midden was comprised of three distinct depositional layers intruding into the earthen construction fill and also featured an irregular base. The stratigraphically highest and lowest layers both contained high concentrations of ceramic and shell material, while the middle layer was largely devoid of contents. The whole deposit was approximately 50 centimeters thick. The presence of late Classic fill overlying the midden indicates that the feature remained exposed following the abandonment of the acropolis c. 250 CE. It was not found to be associated with any structures on the acropolis (Gonzalez et al. 2012).

Feature 18 was a midden excavated within Operation C Unit 0N that contained a large quantity of late Chacahua phase ceramics, as well as animal bones, shells, and some organic sediment (Figure 2.2). The deposit was roughly 150 centimeters thick and internally stratified. The ceramic contents of the midden and its stratigraphic association with adjacent Chacahua phase features denotes it as a late Terminal Formative midden. It also appeared to have no association with any structures (Gonzalez et al. 2012).

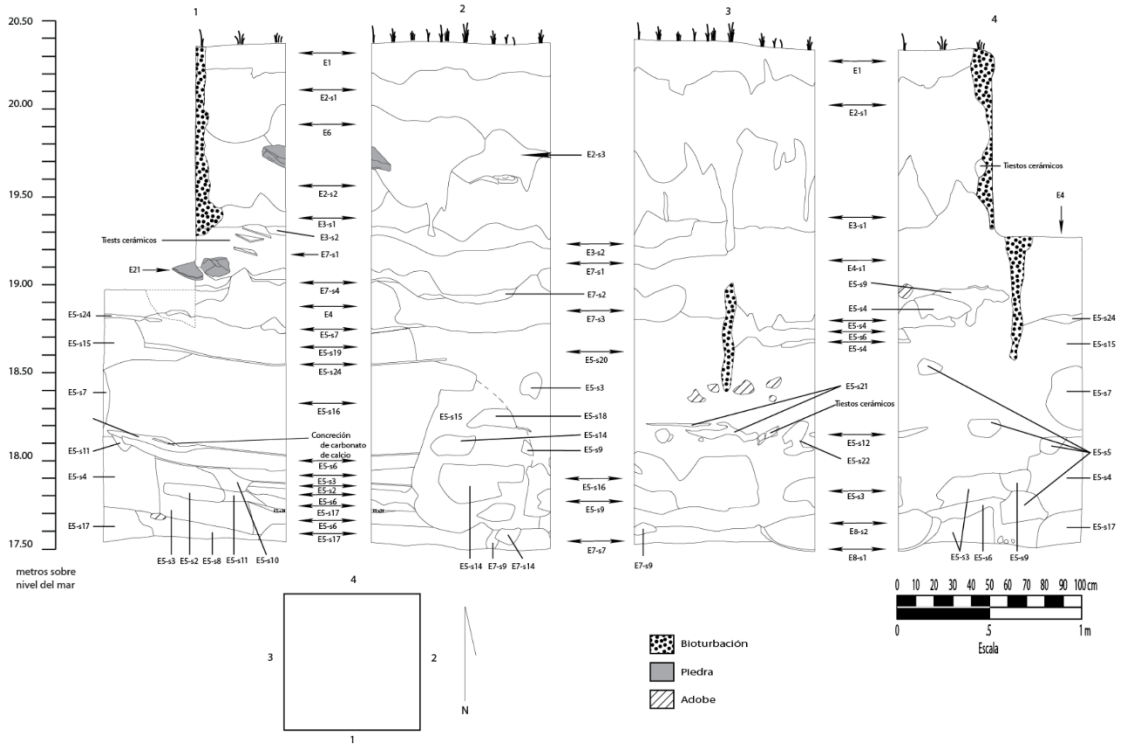

Figure 2.1. Profile of Operation C Unit 0AA excavations with features and internal layers labeled. Each column denotes a distinct one-meter unit (after Gonzalez et al. 2012).

Feature 24, excavated within Operation D Unit 28A, was comprised of a single, continuous refuse deposit extending 100 centimeters deep, with refitting sherds separated by distances exceeding 30 centimeters (Figure 2.3). It contained very organic sediment and a considerable volume of shell fragments in addition to its ceramic contents. Although the date of this midden relative to Features 7 and 18 is unclear, it likely represents a late or terminal (relative to abandonment c. 250 CE) deposit on the south side of the acropolis (Egan & Barber 2012: 371-372).

Feature 39, the fourth midden context on the acropolis, differs from the others based on its association with the leftover debris of a wattle-and-daub superstructure resting on a low platform; the midden slopes down from the western edge of this platform. The feature is about

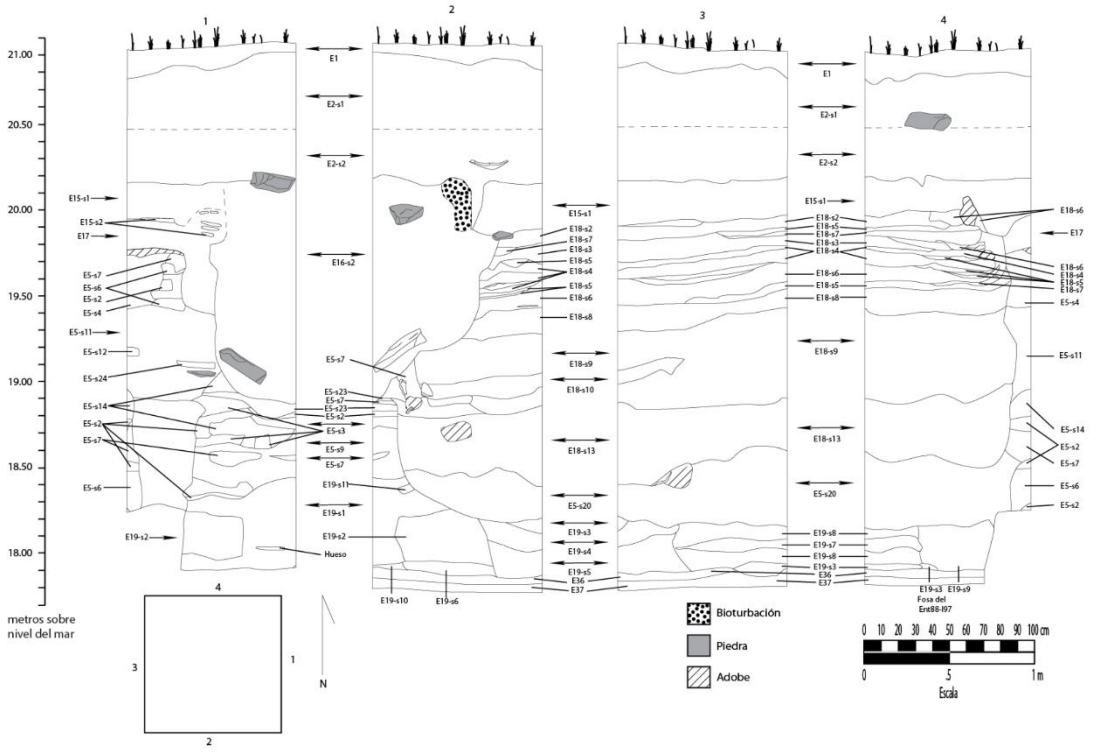

Figure 2.2. Profile of Operation C Unit 0N excavations with features and internal layers labeled (after Gonzalez et al. 2012).

90 centimeters thick, although excavations have yet to reach its base. In addition to its ceramic contents, excavations uncovered organic sediment, ash, animal bones, and a metate fragment (Figure 2.4). The midden is also capped by late Terminal Formative fill material and the waste of burned structures, suggesting its deposition near the end of the Formative period occupation of the acropolis (Rivas 2012).

Feature 42, the fifth midden analyzed in this thesis, was a single sheet midden associated with a cemetery and assorted ceremonial structures in the public precinct at Yugüe. It covered an area of 12 sq. meters and extended 30 centimeters deep. Its contents place it within the late Terminal Formative period, although more precise dating within the Chacahua phase is impossible due to erosion that exposed the feature on the current surface of the site (Barber 2005, 2013). Based on its relatively shallow depth and the arrangement of ceramic sherds, the feature

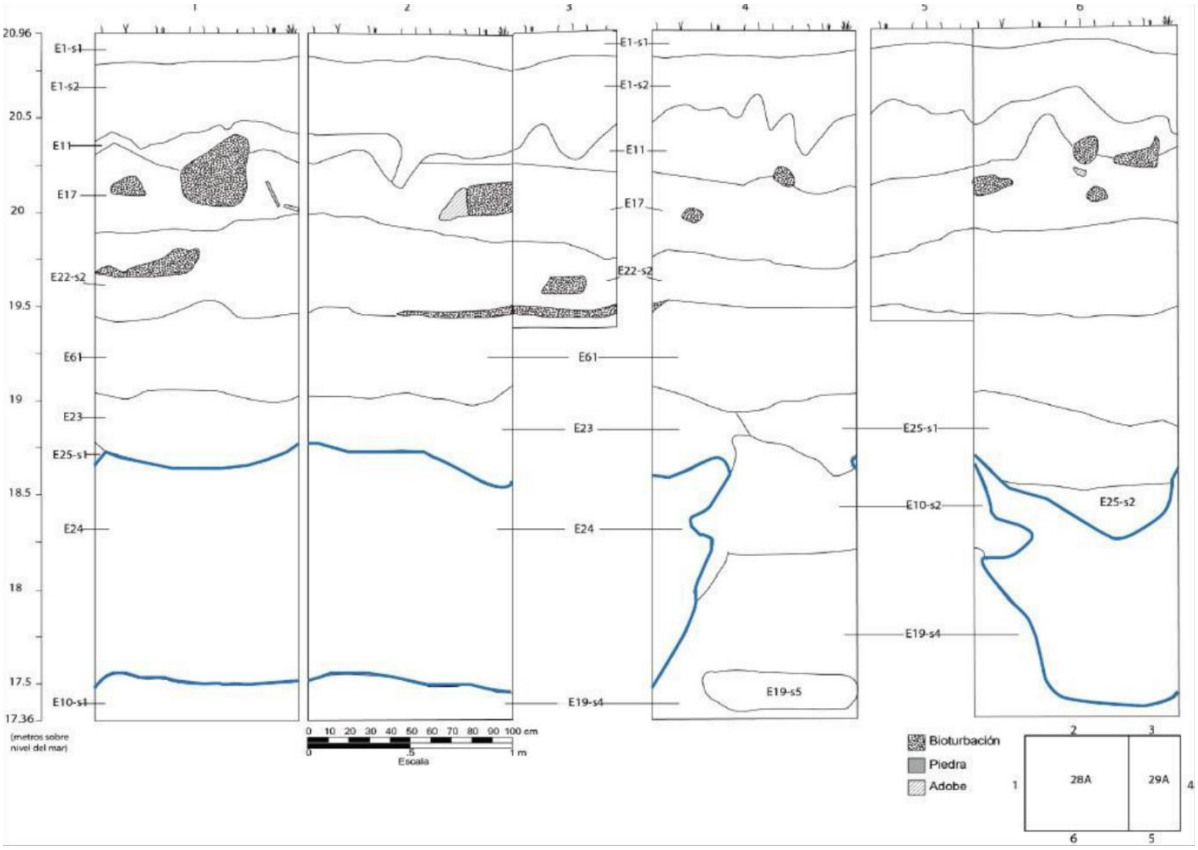

Figure 2.3. Profile of Operation D Unit 28A excavations with features and internal layers labeled. F24 is outlined in blue (after Lucido 2015).

probably represents only a few distinct feasting events (Barber 2005, 2013; Barber & Joyce 2007).

Feature 38 was a Chacahua phase domestic midden excavated within the site of Cerro de la Virgen as part of the PRV03. Ceramic data for this midden was recorded by Barber (2005) and is used in this study to compare the feasting middens to a domestic one, since it provides a useful contrast to the acropolis and Yugüe assemblages. The small sample size from F38 (n = 80) obscures the precise nature of its use, but its association with a house structure and the presence of sherds from comales, cooking and storage jars, and serving vessels indicates household feasting practices. Until another Chacahua phase domestic midden is

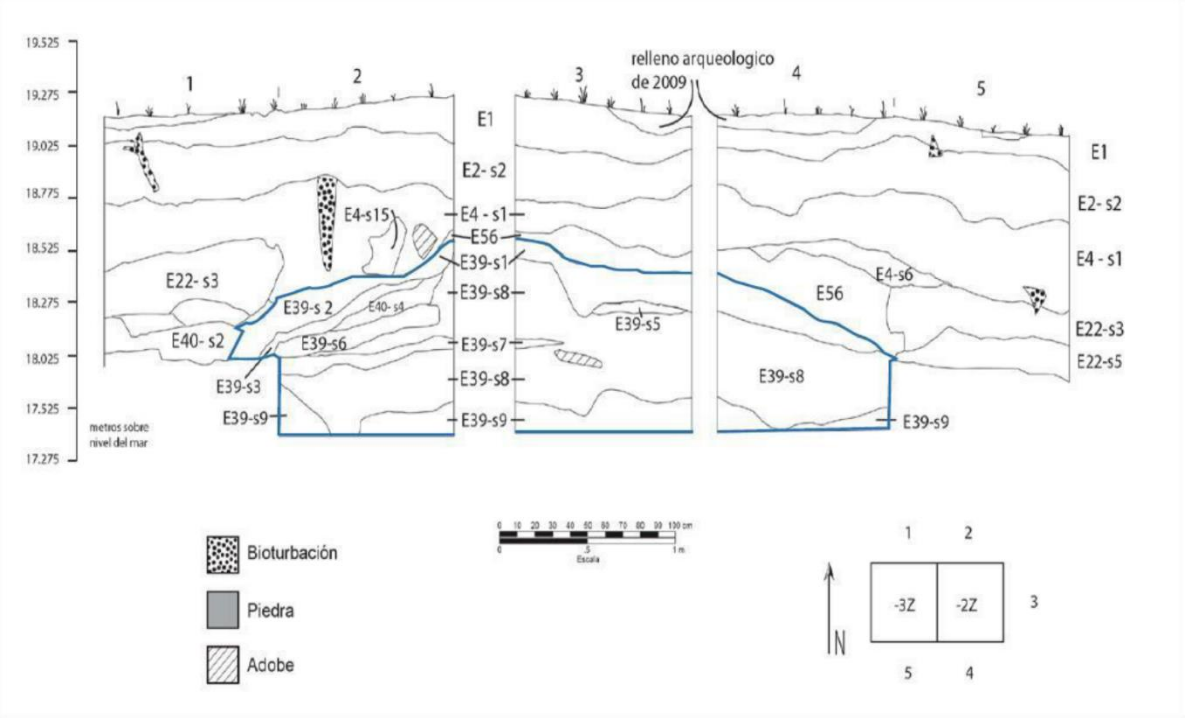

Figure 2.4. Profile of Operation E Unit -2Z excavation with features and internal layers labeled. F39 is outlined in blue (after Lucido 2015).

reported in the lower Verde, any comparisons between public and household feasting assemblages relies strongly on the contents of F38.[2]

This section has illustrated how Terminal Formative middens deposited in pits in monumental buildings were present at Río Viejo and Yugüe. In addition to large quantities of ceramic sherds, all five contexts preserved obsidian prismatic blades, ash, estuarine and marine shell fragments, animal bones, and other organic material. As Lucido (2015) notes, the organic materials—based on (1) their association with dense concentrations of cooking wares, (2) evidence indicating their intentional deposition, and (3) their association with monumental structures—likely represent traces of foodstuffs consumed in public feasting contexts.

[2] Levine (2002: Appendix B) records the ceramic contents of several domestic middens belonging to the Minizundo and Miniyua phases, which likely resembled Chacahua phase domestic middens based on their reliance on utilitarian coarse brownware vessels. I focus on CV-F38 because this particular midden has been analyzed in greater depth and more clearly reflects domestic consumptive practices during the late Terminal Formative (Barber 2005).

2.2 Ceramic Analysis

The data set analyzed in this study contains 1,342 ceramic sherds derived from the five distinct midden contexts. Lucido (2015: 23) sourced 998 sherds used in this study across four contexts from the Río Viejo acropolis; the remaining 344 sherds come from a single sheet midden excavated by Barber (2005) at Yugüe (Barber et al. 2012). All sherds date to the late Terminal Formative Chacahua phase.

Rim diameters for the Río Viejo sample were measured using a diameter template, which shows the radius of a vessel in centimeters based on the curvature of a rim sherd. Rim sherds can generally yield more information than base or body sherds regarding the size and form of a vessel, including some or all of the following: rim diameter, rim circumference, and wall orientation (Rice 1987: 223). Identifying these attributes is often sufficient to assign a specific form to a vessel (i.e. conical bowl, plate, short-necked jar). Vessel dimensions are especially pertinent to a study of feasting practices since size and form reflect vessel capacity. Larger, unrestricted vessels contain different forms (i.e. solid, liquid), types, and quantities of foodstuffs than restricted or smaller ones, for instance (Rice 1987). Insights regarding the contents of feasting vessels allow archaeologists to infer functionality.

The process for analyzing individual sherds was uniform across all source contexts. In addition to standard measures[3] of rim diameter, sherds were photographed and (when possible) refit. In all cases where a vessel was reconstructed (either partially or completely), the component sherds were counted as a single sherd for purposes of labeling, measuring, and attribute analysis. Lucido (2015) describes how vessel properties such as form and design motifs

[3] Standard procedure calls for weighing individual sherds to form a more comprehensive assessment of vessel counts within a context, since multiple sherds in a sample may derive from a single vessel. Weights from the four acropolis midden samples in this study were not collected due to time constraints (Lucido 2015: 32).

were assigned "using a numerical coding system adapted from previous studies in the region" (29) (see Barber 2005; Brzezinski 2011; Joyce 1991; Levine 2002). Attributes and attribute analysis in both Lucido (2015) and this thesis adhere to the definitions provided by Levine (2002: 52; italics from source), which are as follows:

> "An *attribute* is defined as a single material aspect or characteristic of a vessel that can be evaluated using quantitative or qualitative measures…An *attribute state* is one of a variety of forms in which a given attribute is expressed."

Ceramic attributes considered in this thesis include vessel form, paste type, rim diameter, and specific form.[4] By identifying attribute patterns across the Río Viejo middens, I determine how the nature of feasting practices on the acropolis may have varied during the Terminal Formative period. Variations in feasting practices would suggest local elites struggled to use feasting to negotiate ideas of regional political authority among the residents of surrounding communities.

The ware-variety system for ceramic classification and modal analysis used throughout this study follows from that employed in previous research in the lower Verde (Barber 2005; Brzezinski 2011; Levine 2002; Joyce 1991). Archaeologists in Mesoamerica have predominantly used wares characterized by sets of various attributes in ceramic studies for decades (Barber et al. 2012; Barber 2005; Joyce 1991; Rice 1987: 287). In the following section, I define some of the fundamental attributes pertinent to my ceramic analysis, relying primarily on Rice (1987) for attribute lists and descriptions.

[4] A complete list of attributes can be found in Appendix A.

2.3 Theory

I apply poststructural theory to my analysis of feasting activity in the lower Verde. According to this view, social change results from the practices of people as constrained and enabled by broader social, environmental, and cultural settings (Joyce et al. 2001; Joyce 2004, 2010, personal communication April 6, 2019). In recent decades, scholars have begun to consider more seriously the roles of commoners in negotiations of power, moving beyond the antiquated view of commoners as reactionary, powerless observers to their own history (Joyce et al. 2001; Joyce 2004, 2008). Instead, poststructuralist and feminist theorists perceive how nonelites actively affect dominant ideologies within their communities through continuous engagement and resistance toward ideas of power and authority. In complex social systems, these negotiations manifest not just between elites and commoners, but between men and women, urban and rural dwellers, natives and immigrants, and other distinct groups within the community (Joyce et al. 2001; Joyce 2010; Monaghan 1995). Dominant ideologies often result from compromises between these groups that are reflected in communal practices. Conversely, existing ideologies can be transformed or eroded through subtle, indirect forms of resistance during communal rituals and other activities. In the lower Verde, ritual feasting events represented stages for differently-placed actors to engage with different ideas of power and authority.

Ritual feasts in the Formative period lower Verde were embedded in the complex entanglements of religious meanings and politico-religious institutions that constituted social life. The Río Viejo acropolis during the Terminal Formative represented a focal node within these entanglements, drawing in people from outlying sites to participate in dramatic public rituals imbibed by symbolism and overseen by local elites. Participants in feasts perceived and

negotiated aspects of community and identity differently based on their positions relative to resources and cultural meanings; elites, for example, may have enjoyed greater access to resources involved in ritual practices on account of their perceived proximity to the divine. Men and women probably performed different roles throughout the preparatory and consumptive phases of the feast as well. Each actor's unique position relative to the act of feasting informed their social power, defined by Joyce (2004: 193) as the transformative capacity for reproducing or changing social systems and structures (Joyce et al. 2001). Social changes on the community and regional levels, including shifts in local forms of political authority, manifested as a result of these negotiations.

The collapse of Río Viejo at the end of the Formative likely resulted from tensions between ideas of centralized political authority espoused by local elites and more traditional ideas of communal authority upheld throughout the broader lower Verde. A central tenant of poststructuralism, however, is acknowledging how internal ideological disputes, divergent interests, different world views, and the conditions responsible for these differences can generate tension and potentially conflict within communities (Joyce 2010). Indeed, notions of authority and identity were not homogeneous across entire site populations, creating tensions and contradictions during both intracommunal and intercommunal negotiations of authority and identity. Because social traditions may be reflected in ceramic traditions, I examine patterns and differences between the Río Viejo acropolis middens, as well as between the acropolis and Yugüe middens (Brzezinski 2011). Consistency among the acropolis middens would suggest uniform practices and beliefs, whereas differences may indicate the variable influence of other ceramic traditions originating from other, surrounding sites.

3.0 Data Analysis

In this chapter, I present my qualitative and quantitative analyses of the Chacahua-phase ceramic sample collected from Río Viejo and Yugüe. I begin by describing the basic characteristics of food-related vessels in coastal Oaxaca during the Late and Terminal Formative. Next, I identify patterns and notable exceptions among the contents of each midden context and frame them within the overarching ceramic chronology of the lower Verde. Finally, I apply statistical measures of variation and association to determine the extent to which feasting contexts at Río Viejo differed from those at Yugüe.

The nature of feasting contexts can be largely inferred from the types, proportions, and design motifs of ceramic vessels. Significant attribute variations between the Río Viejo and Yugüe contexts might suggest each site maintained a different set of traditions surrounding food preparation and consumption. A lack of coarse brownwares in one context, for example, would suggest food preparation took place away from the consumption site. In the case of the Río Viejo acropolis, where several distinct feasting middens have been identified, comparative attribute analysis can be used to determine the degree of homogeneity among feasts. At the same time, idiosyncrasies in the ritual uses of public buildings across the lower Verde are well-established. This is certainly true for the contents and arrangement of caches, but perhaps for the contents of feasting wares as well, since both caching and feasting were longstanding, pervasive ritual practices through which notions of identity and communal authority were constituted and negotiated (Barber 2005; Joyce et al. 2016: 77).

3.1 Vessel Forms

The principal vessel forms associated with food-related activities during the Chacahua phase were bowls, jars, and comales. The functionality of a vessel can be partially inferred from

its paste type, specific shape (i.e. conical vs incurving wall bowl), rim diameter, surface treatments, and design motifs. In general, coarse brownwares served utilitarian roles as cooking, storage, and food preparation vessels. Their thicker walls made them more conducive to cooking food and their large size permitted high volumes of food to be prepared at once. Greywares, which tended to be smaller and thinner, were predominantly serving vessels. They served either individuals or groups of people in accordance with their size.

Common surface treatments included burnishing and wiping, which occurred on the vessel exterior, interior, or both depending on its specific shape. Jars and incurving wall bowls had treated exteriors due to their restrictive designs; other bowl forms were typically treated along the interior or on both sides.

3.1.1 Bowls

The Chacahua phase bowl assemblage consisted of greyware serving bowls and coarse brownware cooking and storage vessels. Smaller greyware bowls (rim diameter < 20 cm) ranged from drinking cups to individual serving vessels, whereas larger bowls were primarily serving

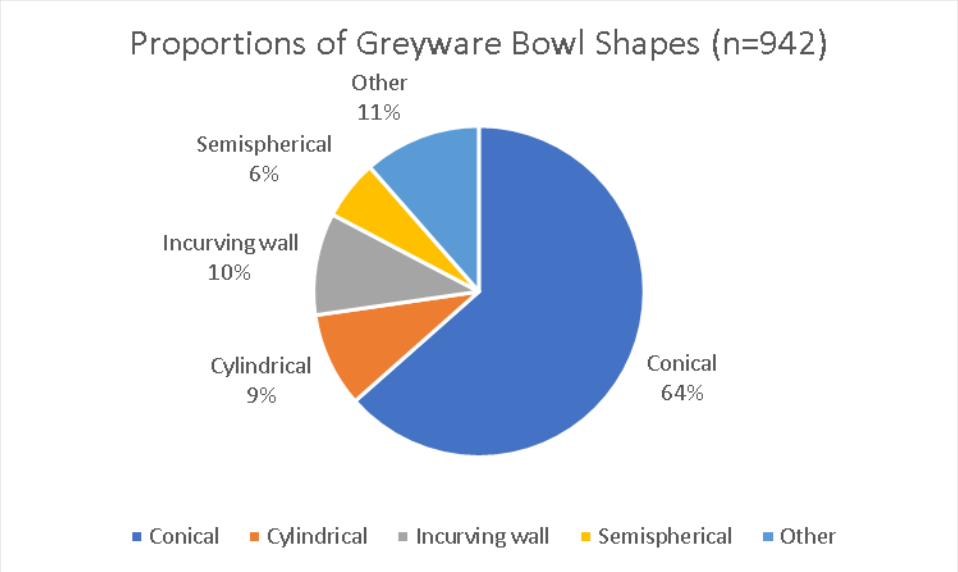

Figure 3.1. Proportions of greyware bowl shapes from the total sample

vessels for multiple people (Figure 4.1). Coarse brownware bowls were typically used for cooking, storing, and preparing food, although they sometimes appeared as utilitarian serving vessels in domestic contexts (Barber 2005). Bowls came in a variety of different shapes; the four most prevalent were conical, cylindrical, incurving wall, and semispherical. Both coarse brown and greyware bowls were predominantly conical in shape.

Conical bowls dominated the Chacahua phase greyware assemblage (Barber 2005; Brzezinski 2011; Joyce 1991, 1994). Ceramicists manufactured these serving vessels with walls thick enough to endure repeated use and support large volumes of foods or liquids, but thin enough to avoid excessively large weights and allow for easy transportability (Rice 1987). They were typically designed with outcurving or outleaning walls that made their contents easily accessible to one or multiple people, depending on vessel size. The average wall thickness of greyware conical bowls within the sample was 10.49 mm. Greyware conical bowls were large, with an average rim diameter of 31.9 cm across the sample, allowing several people to access large quantities of food simultaneously.

Incurving wall bowls, the second most common type of greyware bowl, were used as individual serving vessels. To this end, they were smaller than other serving bowls; the average rim diameter was 15.2 cm. They were also more restrictive on account of their incurving convergent walls. These vessels had thinner walls suited to holding smaller amounts of food and being easy to hold and carry. Average wall thickness among greyware incurving wall bowls was 6.77 mm.

Cylindrical bowls were the third most common bowl type within the sample. Like conical bowls, most cylindrical bowls were designed for serving food. The average rim diameter within the greyware sample was 26.1 cm; their large size means they usually served multiple people.

They were characterized by vertical walls and everted or direct rim forms. The average wall thickness of greyware cylindrical bowls was 8.87 mm.

Semispherical bowls, the fourth most common greyware bowl type, resembled incurving wall bowls in terms of their size (average rim diameter of 15.7 cm) and shape (predominantly incurving divergent walls). The walls were similarly thin as well; only 6.64 mm thick on average. Their typically direct, everted, or outleaning rims made them more accessible than incurving wall bowls, however. Based on these attributes, people used greyware semispherical bowls as individual serving vessels.

3.1.2 Jars

Chacahua phase jars included both greywares and coarse brownwares. Greywares, which tended to be smaller, could be used for serving individual liquid portions. The larger and heavier coarse brownware jars, like bowls, were used to cook and store food. Coarse brownware jars were typically short-necked with walls averaging 10.8 mm thick. Most possessed direct rims and restrictive, incurving convergent walls.

3.1.3 Comales

Comales are griddles used to cook tortillas. Because they are wide and flat, comales within the sample generally had wide rim diameters (> 30 cm). As specialized cooking vessels, nearly all comales were coarse brownwares.

3.2 Midden Analysis

My analysis of the ceramic assemblages within each midden context involved inserting the data collected by Barber (2005) and Lucido (2012, 2015) into a Microsoft Excel spreadsheet, where measurement errors were either corrected or removed. The revised data were then imported into JMP, a data analysis program, through which statistical analyses were carried out.

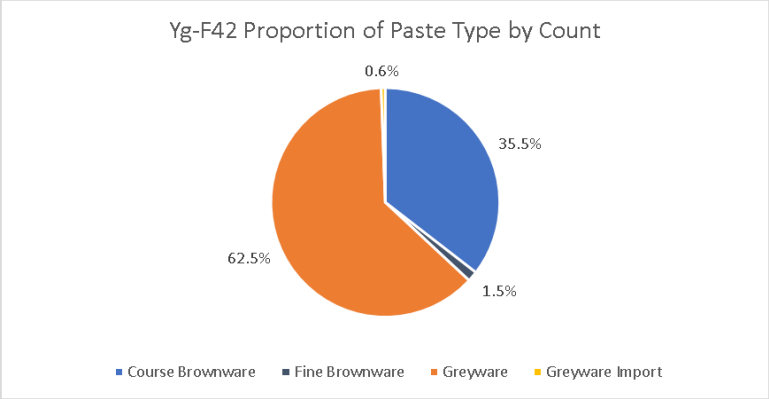

Figure 3.2. Yg-F42 Proportion of Paste Type by Count

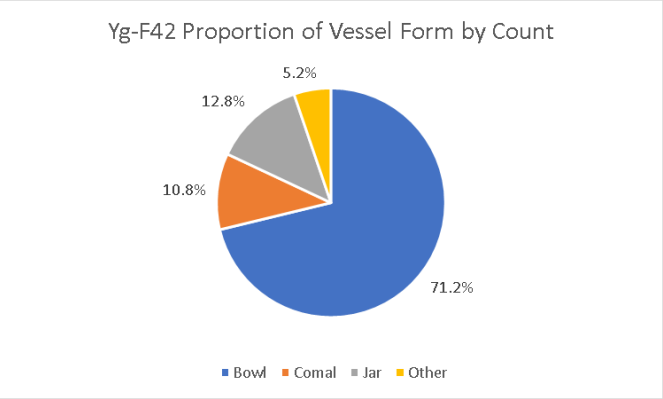

Figure 3.3. Yg-F42 Proportion of Vessel Form by Count

These included comparisons between the proportion of certain paste types and vessel forms, as well as the relative sizes of vessels with certain attributes. I also identified patterns across the midden contexts, across both the acropolis assemblage and the whole sample. These informed me on the nature of ritual feasting at both sites and the degree to which the ceramic elements of feasting practices may have varied, at least on the Río Viejo acropolis. In the following section, I analyze the ceramic contents of each midden separately, beginning with Yg-F42. I first describe the midden context itself, then the vessel form and paste proportions of its ceramic contents. Finally, I consider the specific greyware bowl and coarse brownware jar and comal assemblages.

3.2.1 Feature 42

Feature 42 from Yugüe is a sheet midden associated with Substructure 1, a monumental public building. The shallow depth of the midden suggests its contents were used in either one or a few distinct feasting events. Together, the midden's broad layout, extensive ceramic sample, and public location indicate nondomestic ritual use. A total of 344 rim sherds from F42 are considered in this study.

Paste	Count	Percent
Coarse Brownware	122	35.5%
Fine Brownware	5	1.5%
Greyware	215	62.5%
Greyware Import	2	0.6%
Other	0	0.0%
Total	**344**	**100.0%**

Table 3.1. Yg-F42 Proportions of Paste Type by Count

Greywares were the most common paste type identified within F42 (Table 3.1) As Table 3.1 shows, greywares comprise over 62 percent of the F42 sample. Nearly all the remaining sherds come from coarse brownwares. Only two imported sherds were identified within the feature. Figure 3.2 presents the proportions of paste categories by count. The relative frequency of greywares is lower than in the total sample from all of the middens (73.8 %), but this disparity likely resulted from a lower frequency of bowls at F42 compared to some of the Río Viejo acropolis middens, since a strong correlation between greyware paste and bowls existed during the Chacahua phase.

The predominance of greyware vessels within F42 is indicative of the feature's high frequency of bowls. Over 70 percent of vessels are bowls, and of these 82 percent are greywares, including both imported vessels. There were fewer bowls and more comales and jars than in the sample as a whole. Table 3.2 describes the proportions of vessel forms within F42 below.

Vessel Form	Count	Percent
Bowl	245	71.2%
Comal	37	10.8%
Jar	44	12.8%
Other	18	5.2%
Total	**344**	**100.0%**

Table 3.2. Yg-F42 Proportions of Vessel Form by Count

Vessel Form	Mean Rim Diameter (cm)	Std. Dev.
Bowl	32.071	13.544789
Comal	39.73	9.9851241
Jar	32.163	13.518823
Other	38.375	17.045632

Table 3.3. Yg-F42 Mean Rim Diameter by Vessel Form

In all cases throughout this thesis, the measured rim diameter defines the size of a vessel. Table 3.3 details the mean rim diameter by vessel form within F42. As Tables 3.2 and 3.3 demonstrate, the rim diameters of bowls and jars are only slightly greater compared to the whole sample. The large sample size of F42 resulted in a wider range of rim diameters (Figure 3.4) Bowls with rim diameters between 20 and 45 cm comprise 63 percent of the sample, while 30-35 cm rims are the most frequent category.

Sixty-seven percent of jars ranged from 20 to 45 cm in size, similar to bowls. Jars with 30-35 cm rim diameters were most common (Figure 3.5). Comales at F42 typically exceeded 30 cm in rim diameter (Figure 3.6).

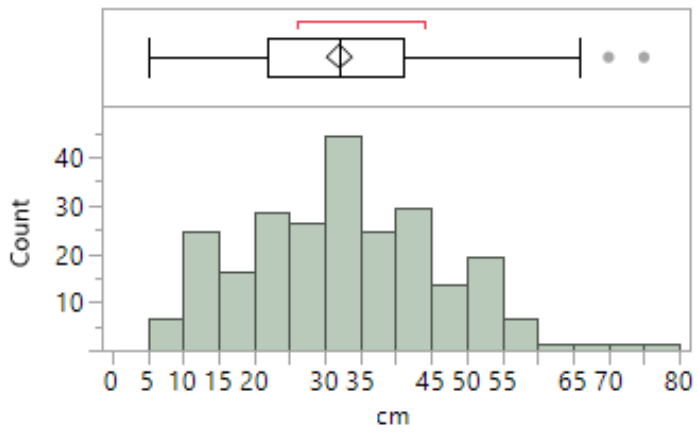

Figure 3.4. Yg-F42 Distribution of Bowl Rim Diameter (cm)

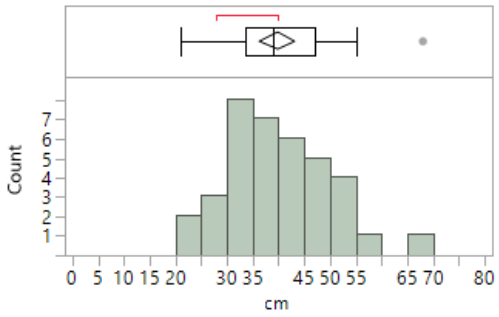

Figure 3.5. Yg-F42 Distribution of Jar Rim Diameters (cm)

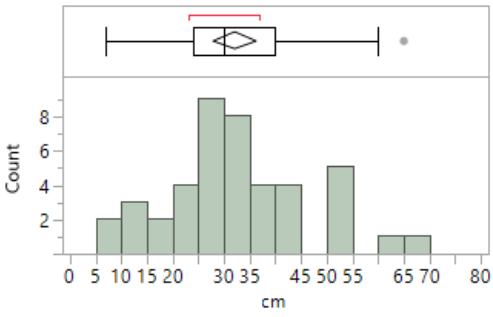

Figure 3.6. Yg-F42 Distribution of Comal Rim Diameters (cm)

Bowl Shapes

The majority of bowls within F42 were conical in form, followed by incurving wall bowls and cylindrical bowls (Table 3.4) Paste category had no apparent effect on vessel shape, although a chi-square test could not be performed due to expected frequencies below five in several cells. According to Barber (2005: 424), the high percentage of undetermined coarse brownware bowls in F42 probably resulted from their tendency to break below the rim, making the specific shape of the vessel difficult to determine.

Vessel Shape	Count	Percent
brazier	2	0.8%
composite silhouette bowl	1	0.4%
conical bowl	171	69.8%
cylindrical bowl	16	6.5%
incurving wall bowl	20	8.2%
none	4	1.6%
plate	1	0.4%
semispherical bowl	14	5.7%
undetermined bowl shape	15	6.1%
undetermined shape	1	0.4%
Total	**245**	**100.0%**

Table 3.4. Yg-F42 Proportions of Bowl Shapes

Bowl Shape	Count	Variance	Mean Rim Diameter (cm)
conical	171	159.2	35.49
cylindrical	15	57.14	32
incurving	20	29.71	15.15
semispherical	14	96.07	16.71
undetermined	15	101.52	32.33
Total	**235**		

Table 3.5. Yg-F42 Mean Rim Diameters by Bowl Shape

The average rim diameters of different bowl shapes varied within the sample, suggesting their functionality as either individual or group serving vessels varied as well, as shown by Table 3.5. The relatively high rim diameter of undetermined vessels shows that most were probably conical bowls. Conical and cylindrical bowls within F42 were on average significantly larger than incurving and semispherical bowls. Variance describes the degree to which rim diameters within a specific shape category stray from the mean. High variance indicates greater dispersion around the mean; low variance indicates less dispersion. The difference in mean rim diameter between bowl shapes was highly significant, suggesting a meaningful, functional correlation between bowl shape and size within the feature (Barber 2005: 425).

Incurving Wall Bowls

Incurving wall bowls had the lowest mean rim diameter of the four most common bowl types in F42, suggesting they were primarily used as individual serving vessels. Eighty percent of incurving wall bowls had rim diameters between 10 and 20 cm, while 90 percent ranged from 9 to 26 cm (Figure 3.7). They also had a lower variance than other common bowl types. Because only two incurving bowls were coarse brownwares (10%), no correlation between paste type and vessel size could be determined.

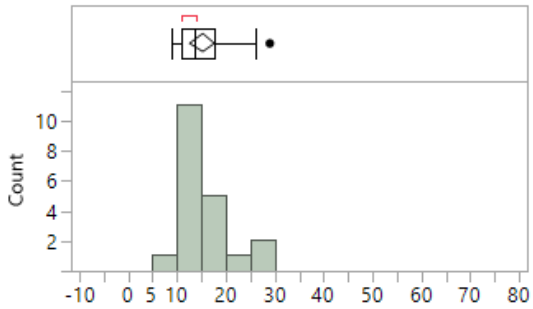

Figure 3.7. Yg-F42 Distribution of Incurving Wall Bowl Rim Diameters (cm)

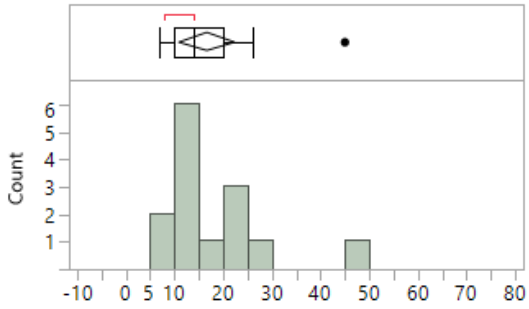

Figure 3.8. Yg-F42 Distribution of Semispherical Bowl Rim Diameters (cm)

Semispherical Bowls

Semispherical bowls exhibited a mean rim diameter close to that of incurving bowls, which indicates they may have shared the same function as individual serving vessels (Figure 3.8). Ninety-five percent of vessels fall within the 5 to 30 cm range and if the 45 cm outlier is removed, the mean shifts down to 14.54 cm. Although semispherical bowls were predominantly greywares, both the largest (45 cm) and one of the smallest vessels (8 cm) were coarse brownwares. The former was likely a cooking vessel on account of its size and paste.

Conical Bowls

Conical bowls represented the most common vessel shape within both F42 and the total sample. The distribution of conical bowl sizes approaches a normal curve (Figure 3.9). The rim diameter of conical bowls generally ranged between 20 to 55 cm. Only 4 vessels were larger than

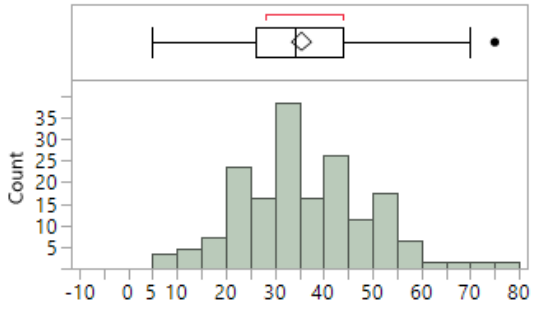

Figure 3.9. Yg-F42 Distribution of Conical Bowl Rim Diameters (cm)

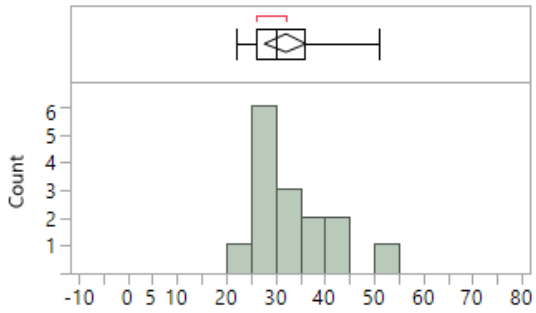

Figure 3.10. Yg-F42 Distribution of Cylindrical Bowl Rim Diameters (cm)

55 cm (2%), while 14 were less than 20 cm (8%). Coarse brownware vessels were on average slightly larger than their greyware counterparts, but this difference was not statistically significant.[5]

Cylindrical Bowls

Cylindrical bowls within F42 were notably large, most commonly possessing rim diameters between 30 and 35 cm, as shown by Figure 3.10. Sixty percent of vessels featured rim diameters between 30 and 40 cm, producing a relatively low variance across the assemblage that suggests a narrow range of functions. In her analysis of various Chacahua phase midden contexts at Yugüe, Barber (2005: 426) identified cylindrical bowls within F42 as "specialized serving vessels tied to communal feasting" due to their large size, everted rims, absence from domestic contexts, and lack of signs indicating they were used for cooking.

Jars

Jars within the F42 assemblage were highly variable in size, as shown in Figure 3.11. Forty percent of vessels fell within the 25-35 cm rim diameter range; seventy-nine percent fell within the 10-50 cm range. They encompassed a similar rim diameter range as bowls from F42.

[5] Two-tailed t-Test for two independent samples: t = 1.222, *df* = 30, .3>p>.2

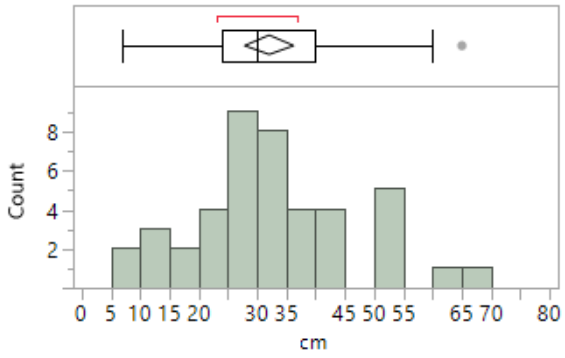

Figure 3.11. Yg-F42 Distribution of Jar Rim Diameters (cm)

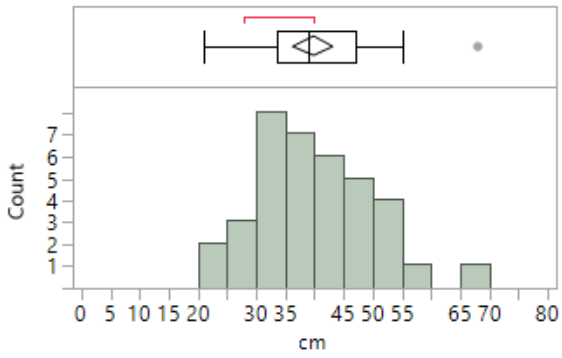

Figure 3.12. Yg-F42 Distribution of Comal Rim Diameters (cm)

Eighty-four percent of jars were coarse brownwares, while the rest were greywares. Coarse brownware jars tended to be larger than greywares, with thicker walls and rims. These characteristics made them ideal for cooking and food preparation (Barber 2005). Greyware jars tended to be small; only one exceeded 13 cm in rim diameter. These smaller, thinner jars were likely used to serve liquids.

Comales

Comales are ceramic griddles used to cook tortillas. As Figure 3.12 shows, over 86 percent of comales exceeded 30 cm in rim diameter. They were predominantly coarse brownwares; only one greyware comal appeared in the assemblage (3%). The presence of comales signifies cooking activity linked to the F42 deposit.

3.2.2 Feature 7

The Feature 7 ceramic assemblage at Río Viejo derives from a midden located on the main platform of the acropolis. It was excavated within Unit 0AA of Operation C of the PRV12. Its presence on the acropolis indicates the midden was functionally nondomestic. Its deposition likely resulted from a series of feasting events during the late Terminal Formative occupation of the acropolis. One hundred-sixty rim sherds from Feature 7 were analyzed in total.

Paste	Count	Percent
Coarse Brownware	37	23.1%
Greyware	123	76.9%
Total	**160**	**100.0%**

Table 3.6. F7 Proportions of Paste Type by Count

As with F42 at Yugüe, greywares represent the predominant paste type among rim sherds in F7. As Table 3.6 shows, greywares constituted over 76 percent of the total assemblage. All other sherds in the assemblage derived from coarse brownwares. No sherds from imported vessels appeared within F7. Figure 3.13 details the proportions of paste categories by count; note the lower relative frequency of coarse brownwares compared to the F42 assemblage.

The predominance of greyware vessels reflects the high proportion of bowls within F7; bowls comprise over 85 percent of the assemblage and 87 percent of these are greywares. Table 3.7 details the proportions of different vessel forms from F7. Figure 3.14 graphically portrays these proportions. Note the smaller proportions of comales, jars, and other non-bowl forms compared to the F42 assemblage.

Vessel size was indicated by the rim diameter. Table 3.8 describes the mean rim diameters and standard deviations of assorted vessel forms within F7.

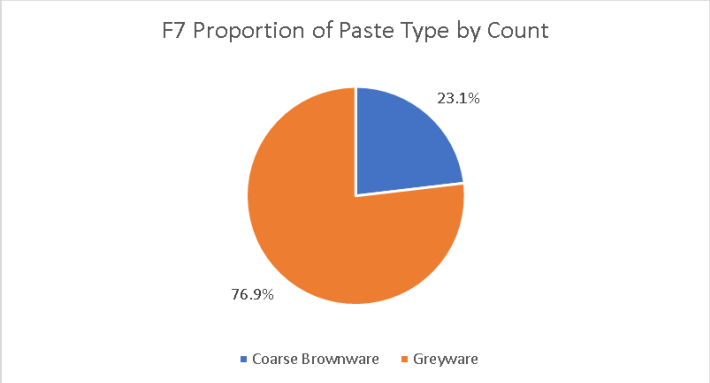

Figure 3.13. F7 Proportion of Paste Type by Count

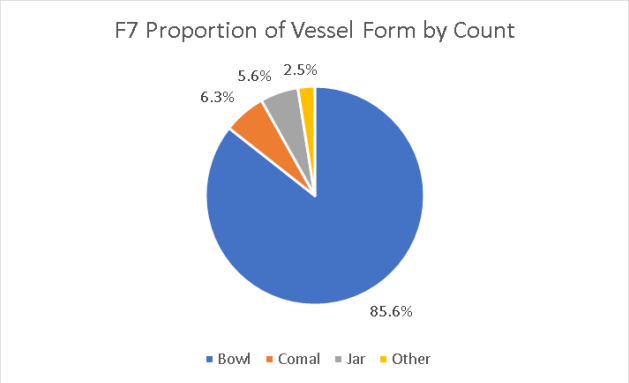

Figure 3.14. F7 Proportion of Vessel Form by Count

Vessel Form	Count	Percent
Bowl	137	85.6%
Comal	10	6.3%
Jar	9	5.6%
Other	4	2.5%
Total	**160**	**100.0%**

Table 3.7. F7 Proportion of Vessel Form by Count

Vessel Form	Mean Rim	Std. Dev.
Bowl	29.5	11.9
Comal	45.4	10.2
Jar	19.6	7.7
Other	22.5	13.6

Table 3.8. F7 Mean Rim Diameter (cm) by Vessel Form

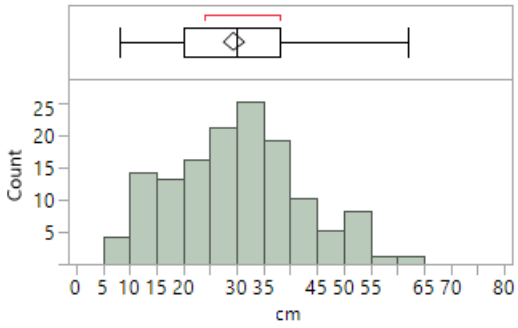

Figure 3.15. F7 Distribution of Bowl Rim Diameters (cm)

Bowl and comal rim diameters were similar to those within F42 at Yugüe, although jar rim diameters were significantly smaller in F7. The small sample size compared to the F42 assemblage limited the range of rim diameters among bowls, yet bowls from both contexts most frequently exhibited rim diameters between 20 to 40 cm. Figure 3.15 presents a histogram of rim diameters among bowls from F7. Jars, though rare within the assemblage, most commonly exhibited rims between 20 to 25 cm. Comales were on average larger than those found in F42, but the difference was not statistically significant.[6]

Bowl Shapes

The F7 bowl assemblage was dominated by conical bowls, followed by incurving wall and cylindrical bowls. Combined, these three shapes accounted for approximately 90 percent of

[6] Two-tailed t-Test for two independent samples: t = 1.569, *df* = 14, .2>p>.1

Shape	Count	Percent
conical bowl	88	64.7%
cylindrical bowl	15	11.0%
incurving wall bowl	20	14.7%
plate	3	2.2%
semispherical bowl	2	1.5%
undetermined bowl shape	7	5.1%
undetermined shape	1	0.7%
Total	**136**	**100.0%**

Table 3.9. F7 Proportion of Bowl Shape by Count

all bowls in the F7 sample. Table 3.9 describes the relative frequencies of bowl shapes within F7. Paste type did not appear to affect the frequency of conical and cylindrical bowls; incurving wall bowls, which constituted a significant portion of the sample, were exclusively greywares, but this was typical of the Chacahua phase assemblage.

Mean rim size once again varied across bowl shapes. Table 3.10 describes the mean rim diameters and variance of selected bowl shapes from the F7 sample. Unlike the F42 sample, in which conical and cylindrical bowls shared roughly equal mean rim sizes, cylindrical bowl rims in F7 were on average 10 cm smaller than conical ones. Incurving bowls, however, closely resembled those in F42 in terms of both average size and variance. The significant differences in

Bowl Shape	Count	Variance	Mean Rim Diameter (cm)
Conical	88	80.223	34.9
Cylindrical	15	132.179	23
Incurving	20	14.129	13.6
Undertermined shape	8	199.929	28.8
Total	**123**		

Table 3.10. F7 Mean Rim Diameter (cm) by Bowl Shape

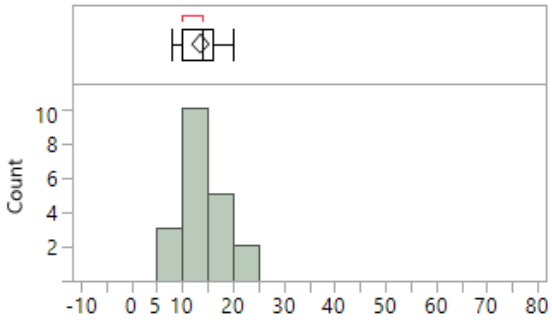

Figure 3.16. F7 Distribution of Incurving Wall Bowl Rim Diameters (cm)

mean rim diameters across bowl shapes, while not identical to those observed in F42, indicate a correlation between vessel shape and size on the acropolis.

Incurving Wall Bowls

Incurving wall bowls within F7 were small; none exceeded 20 cm in rim diameter. Their low variance means rim sizes tended to cluster tightly around the mean. Fifty percent of vessels featured rims between 10 and 16 cm in length (Figure 3.16). All incurving wall bowls featured decorations either along or below the exterior rim surface; rectilinear and diagonal motifs were the most common. Most sherds also exhibited signs of exterior burnishing, wiping, or a combination of the two treatments. The small size and frequency of decorations across the sample suggests incurving bowls were used as individual serving vessels.

Conical Bowls

Conical bowls were the most common type within F7, comprising over 64 percent of bowls in the sample. Plotting their rim diameters results in a distribution approaching a normal curve (Figure 3.17). Roughly 80 percent of vessels ranged between 25 and 50 cm in size. Wall and lip forms were uniform across the sample. Eighty-one vessels featured outcurving walls (92%), while 100 percent of vessels for which lip form could be identified possessed rounded

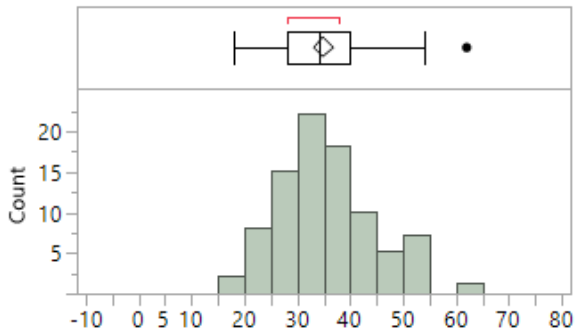

Figure 3.17. F7 Distribution of Conical Bowl Rim Diameters (cm)

lips. No correlation between vessel size and paste type existed; the average rim diameter among greywares was 34.8 cm compared to 35.6 cm among coarse brownwares. Only 39 sherds contained decorative motifs (44%). Among conical bowls 50 cm or more in rim diameter, only 38 percent were decorated, compared to 45 percent among vessels below that range. One of the smaller greyware conical bowls exhibited a combing pattern. Decorations were concentrated around or just below the rim on the interior, exterior, or both. Like incurving wall bowls, conical bowls frequently featured evidence of burnishing along the exterior and interior of the vessel, as well as wiping. Eroded surfaces were also common.

Greyware conical bowls within F7 appear to have been used as serving vessels based on their high frequency, open wall form, and decorated surfaces, since accessible (meaning easy to retrieve food from) serving vessels would have been required to feed large groups of people during a feast. Serving vessels were also highly visible to participants, making them ideal for showing off rim decorations. The frequency of decoration coupled with their large size indicates that these vessels were not used for cooking, but for individual and (predominantly) group serving. The former role would have been filled by coarse brownware conical bowls, in addition

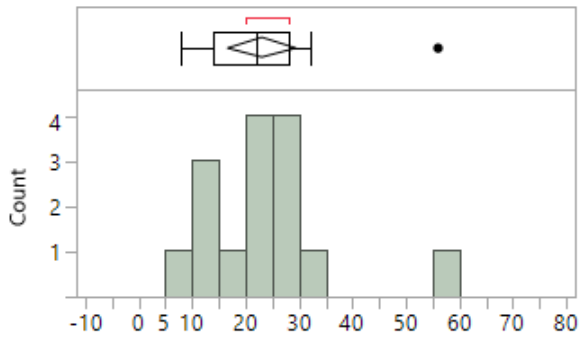

Figure 3.18. F7 Distribution of Cylindrical Bowl Rim Diameters (cm)

to jars and comales, on account of their larger rim diameters and thicker walls, which were more suitable for cooking food at high temperatures (Barber 2005: 444).

Cylindrical Bowls

The rim diameters of cylindrical bowls most commonly fell within the 10-30 cm range, as shown in Figure 3.18. Only three vessels (20%) fell outside this range. Just three coarse brownware cylindrical bowls were identified, making generalizations regarding any correlation between vessel size and paste type difficult, but it is noteworthy that two of these embodied the largest and third-largest vessels within the sample. Excluding one significant outlier (the 56 cm-wide coarse brownware bowl) the maximum cylindrical bowl size is 32 cm and the mean rim diameter decreases slightly from 23 cm to 20.6 cm. Among coarse brownwares, the mean drops precipitously from 33.7 cm to 22.5 cm. Sixty-six percent of greyware cylindrical bowls were decorated; 62 percent of those along or below the rim. None of the coarse brownware vessels exhibited decorations. Exterior and interior burnishing and wiping were prevalent across the sample in both coarse brown and greyware vessels. Greyware cylindrical bowls within F7 were likely used as serving vessels for multiple people based on their large size and decorations. These decorations distinguish the F7 cylindrical bowls from those found in F42 at Yugüe, which were

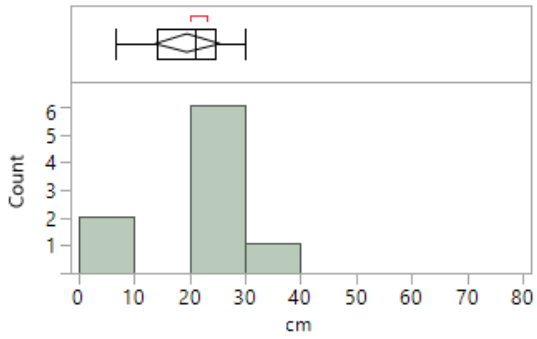

Figure 3.19. F7 Distribution of Jar Rim Diameters (cm)

undecorated. Their absence in F7 represents a significant qualitative difference between the two feasting contexts. F7 greywares also exhibited outleaning or direct rim forms in greater proportions than F42, where nearly all cylindrical greywares (87.5 %) had everted rims. For comparison, only 33 percent of F7 cylindrical greywares featured everted rims. The exceptional coarse brownware vessel may have been used to serve multiple people as well, based on its size.

Jars

Only nine jar sherds were identified in the F7 sample, therefore diminishing their interpretive value. Six were coarse brownwares (66%), while greywares constituted the rest. See Figure 3.19 for a histogram of jar rim diameters within F7. Two greyware jars featured rim diameters below 10 cm (22%). No other vessel was less than 20 cm wide at the rim. The low sample size suggests cooking activity associated with F7 was limited.

Paste	Count	Percent
Coarse Brownware	66	27.3%
Greyware	175	72.3%
Other	1	0.4%
Total	**242**	**100.0%**

Table 3.11. F18 Proportion of Paste by Count

Comales

F7 yielded a small, homogeneous sample of large, coarse brownware comales (n = 10). As shown in Figure 3.20, all vessel rim diameters fell at or above 30 cm, with the highest concentration within the 40-45 cm window. All comales in the assemblage were presumably used for cooking tortillas, though their low frequency within the midden suggests relatively little cooking activity took place in direct association with F7.

3.2.3 Feature 18

Feature 18 encompassed a midden on the Río Viejo acropolis containing ceramic sherds and assorted objects indicative of feasting events. It was excavated within Unit 0N of Operation C during the PRV12. As with F7, F18's location on the acropolis denotes its status as a nondomestic midden containing evidence of a series of feasting events during the late Terminal Formative. A total of 242 sherds from F18 are analyzed in this study.

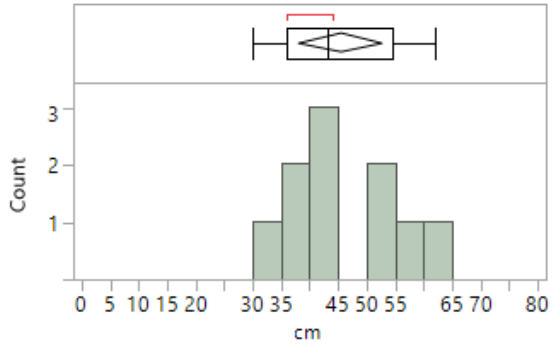

Figure 3.20. F7 Distribution of Comal Rim Diameters (cm)

Vessel Form	Count	Percent
Bowl	187	77.3%
Comal	4	1.7%
Jar	39	16.1%
Other	12	5.0%
Total	**242**	**100.0%**

Table 3.12. F18 Proportion of Vessel Form by Count

Vessel Form	Mean Rim Diameter (cm)	Std. Dev.
Bowl	26.80	10.89
Comal	30.00	8.64
Jar	25.44	9.66
Other	29.00	13.20

Table 3.13. F18 Mean Rim Diameter (cm) by Vessel Form

F18 continues the pattern established by F42 and F7 of greyware vessels dominating the assemblage; they constitute over 72 percent of sherds, compared to 73 percent across the whole sample, as shown by Table 3.11. All but one other sherd—approximately 27 percent—are coarse brownwares. No imported vessels appear in the assemblage. Figure 3.21 shows the proportions of paste categories by count. Note the similarity to paste proportions within F42 and F7.

Once again, we observe the correlation between greywares and bowls, which constitute the most prevalent paste type and vessel form in this midden context, respectively. Over 77 percent of vessels are bowls compared to roughly 80 percent across the whole sample. Table 3.12 describes the proportions of vessel forms from F18. Note the apparent disparity between the relative frequencies of jars and comales.

Table 3.13 describes the mean rim diameters of vessel forms within F18. Comal rim diameters were on average significantly smaller than those within either F7 or F42. As in the

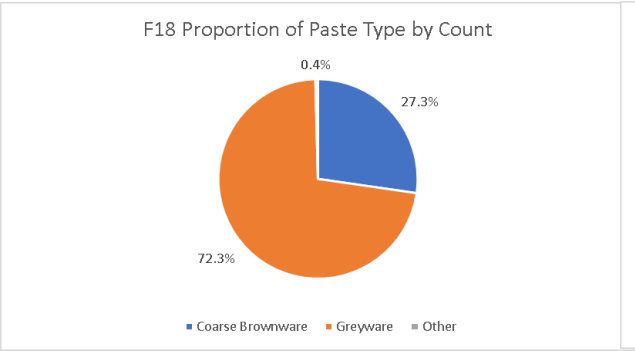

Figure 3.21. F18 Proportion of Paste by Count

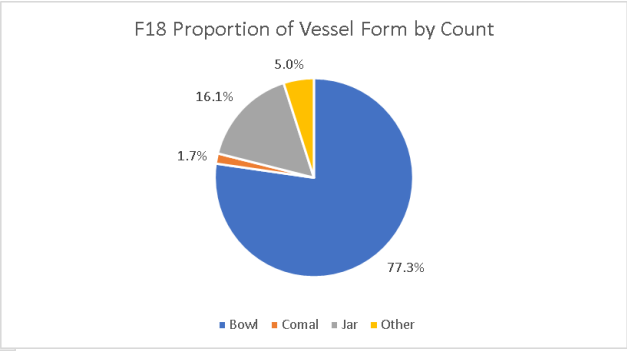

Figure 3.22. F18 Proportion of Vessel Form by Count

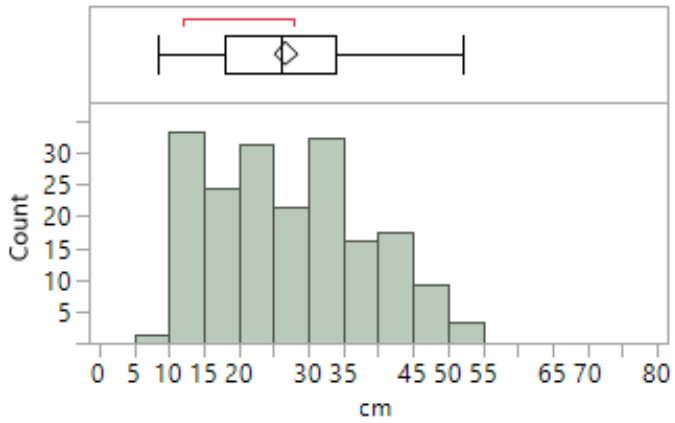

Figure 3.23. F18 Distribution of Bowl Rim Diameters (cm)

case of F42, the relative rim diameters of bowls and jars are nearly equal, although the F18 sample is approximately six cm smaller than the F42 sample.

The wide range of bowl rim diameters may be attributed in part to the large sample size from F18. Figure 3.23 presents a histogram of bowl rim diameters. Most sherds exhibit rim diameters between 10 and 35 cm; the most frequent range, however, occurs between 10 and 15 cm. Very few bowls show rim diameters less than 10 cm.

Bowl Shapes

The majority of bowls in F18 were conical, although incurving wall, cylindrical, and semispherical bowls were also prevalent. Table 3.14 shows the proportions of specific bowl shapes within the assemblage. The high frequency of conical bowls reaffirms their ubiquity throughout the Chacahua-Phase lower Verde; 78.6 percent of bowls were unrestricted. Paste categories had no significant effect on bowl shape, although different paste types reflected different functions within bowl categories.

Bowl Shape	Count	Variance	Mean Rim Diameter (cm)
conical	136	109.27	29.13
cylindrical	13	113.90	30.31
incurving	17	21.15	15.82
semispherical	11	9.24	14.91
undetermined	10	90.49	22.40

Table 3.15. F18 Mean Rim Diameter (cm) by Bowl Shape

Mean rim diameters varied across bowl shapes in F18 by the same pattern observed in F42 and F7: mid-sized conical and cylindrical bowls and smaller incurving wall and semispherical ones. Table 3.15 describes the mean rim diameter and variance of selected bowl shapes from the F18 assemblage. Bowls that could not be assigned a specific shape were almost all greywares. The undetermined-shape sample from F18 likely included bowls from both the larger and smaller shape categories based on the high variance in rim diameters among them. The two-category pattern of larger conical and cylindrical bowls and smaller incurving wall and semispherical bowls suggests the existence of a similar functional correlation between vessel shape and size on the Río Viejo acropolis to that associated with Substructure 1 at Yugüe.

Shape	Count	Percent
conical bowl	136	72.7%
cylindrical bowl	13	7.0%
incurving wall bowl	17	9.1%
semispherical bowl	11	5.9%
undetermined bowl shape	10	5.3%
Total	**187**	**100.0%**

Table 3.14. F18 Proportion of Bowl Shape by Count

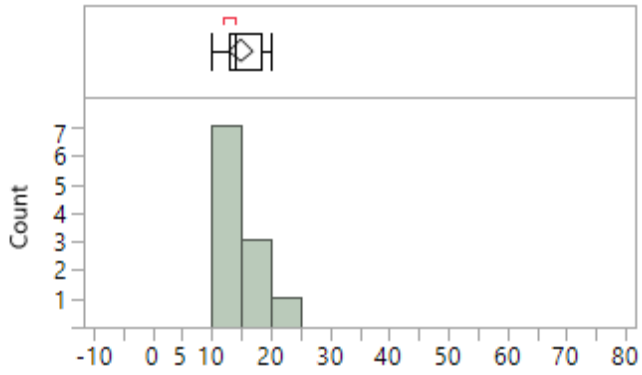

Figure 3.25. F18 Distribution of Semispherical Bowl Rim Diameters (cm)

Incurving Wall Bowls

Incurving wall bowls were small; they most commonly ranged in size between 10 to 15 cm. The low variance in rim diameter indicates they tended to cluster closely around the mean. Seventy-five percent of rim diameters did not exceed 20 cm. Figure 3.24 presents a histogram of rim size distributions among incurving bowls. No correlation between paste type and vessel size could be observed since the sample lacked any non-greyware incurving wall bowls. Thirteen vessels featured rectilinear or curvilinear decorative motifs along or below the exterior rim (76%). Common surface treatments included burnishing and wiping across both the interior and

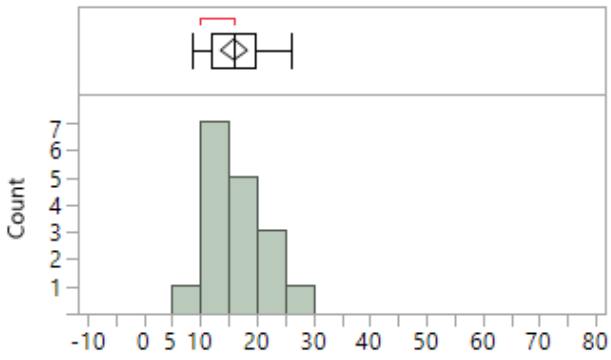

Figure 3.24. F18 Distribution of Incurving Wall Bowl Rim Diameters (cm)

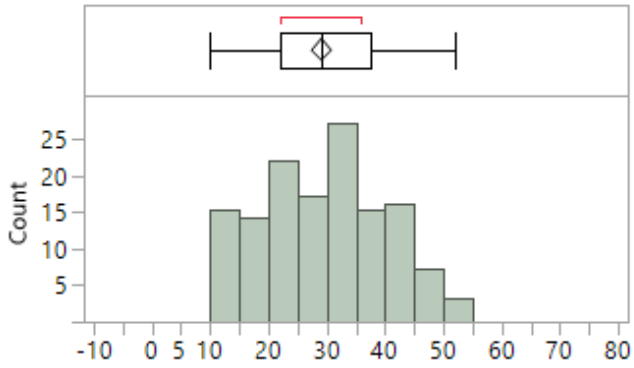

Figure 3.26. F18 Distribution of Conical Bowl Rim Diameters (cm)

exterior of the vessel. Based on their small size and the prevalence of decorations across the sample, these vessels were probably cups used by individuals to consume drinks.

Semispherical Bowls

Semispherical bowls in F18 featured the same small, homogeneous rim sizes found in incurving wall bowls, as indicated by their variance, which was the lowest of the four most prominent bowl shapes in the F18 assemblage. Figure 3.25 shows the distribution of semispherical bowl rim diameters. Seven vessels had rim diameters between 10 and 15 cm (63%). Ninety percent of rim diameters did not exceed 20 cm. The largest vessel was the single coarse brownware bowl with a rim diameter of 20 cm, suggesting a possible, albeit tentative correlation between paste type and vessel size. Decorations were focused around the interior and exterior of the rim, where common designs included rectilinear lines, diagonal lines, and crab claws. Semispherical bowls, like other types in F18 and F7, were frequently wiped and burnished. Their small size marks greyware semispherical bowls as individual serving vessels.

Conical Bowls

Conical bowls constituted the majority of the F18 bowl sample. Rim sizes varied significantly more than in the smaller bowl shapes, suggesting a wider range of functions (Figure

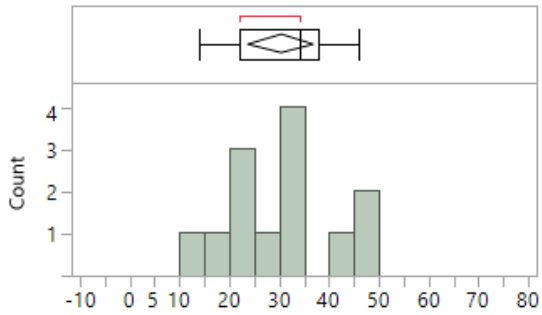

Figure 3.27. F18 Distribution of Cylindrical Bowl Rim Diameters (cm)

3.26). The 30-35 cm range for rim diameters was the most common. Only 50 percent of rims fell within the 20-35 cm range, while just 21 percent were smaller than 20 cm. A slight correlation between paste type and vessel size was apparent in the sample; coarse brownwares accounted for 16 percent of rim diameters equal to or exceeding 30 cm, compared to just 5 percent among smaller vessels. Conical bowls were not decorated as frequently as incurving or semispherical bowls, but most received the same surface treatments, namely interior and exterior wiping and burnishing.

Coarse brownware conical bowls (mean rim diameter = 34.2 cm) tended to be larger than greywares (28.6 cm). Three coarse brownwares possessed rim diameters of 40 cm or more. Additionally, only one was decorated, suggesting they were used for cooking and food preparation. Based on the variety of rim diameters exhibited, the smallest greyware conical bowls were likely used as individual serving vessels. The rest were probably group serving vessels on account of their size and decorative motifs.

Cylindrical Bowls

Cylindrical bowls were similar in rim diameter to conical bowls in the F18 assemblage. Most ranged from 20 to 35 cm, although two reached 46 cm. Figure 3.27 shows the distribution of rim diameters among cylindrical bowls. The sample failed to show a relationship between

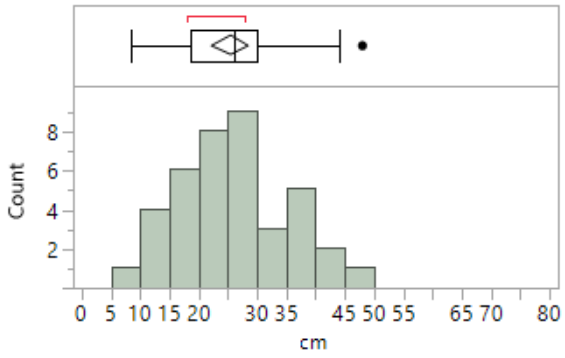

Figure 3.28. F18 Distribution of Jar Rim Diameters (cm)

paste type and vessel size. Three sherds (or 23 %) came from coarse brownwares while the rest were greywares. Only two sherds exhibited any decorations; these were located along the rim exterior. The sherd featuring the most elaborate motifs possessed a rim diameter of only 16 cm, indicating it was probably an individual serving vessel. Burnished and wiped interior and exterior surfaces predominated among cylindrical bowls. No signs of burning that might indicate cooking activity were present within the sample. Ten sherds (or 77 %) had everted rims, including both greywares and coarse brownwares. The cylindrical bowl sample from F18 bears a strong resemblance to that from F42 based on their large rim diameters, lack of decorative motifs, lack of evidence for cooking, and the predominance of everted rim forms. This suggests cylindrical bowls in F18 functioned as specialized serving vessels similarly to those in F42.

Jars & Comales

Jars occurred throughout the F18 assemblage more frequently than other acropolis contexts. The jar rim diameter distribution, presented in Figure 28, represents a similar percentage of the whole F18 sample as jars within the F42 sample (see Tables 3.2 and 3.12). Coarse brownwares constituted 85 percent of F18 jars. Ninety-four percent of these were short-necked; the other two were collared. All remaining jars were small to mid-sized greywares. One possible miniature greyware jar possessed a rim diameter of 8.5 cm. Coarse brownware jars were

Paste	Count	Percent
Coarse Brownware	73	16.4%
Greyware	370	83.3%
Greyware Import	1	0.2%
Total	**444**	**100.0%**

Table 3.16. F24 Proportion of Paste by Count

Vessel Form	Count	Percent
Bowl	397	89.4%
Comal	5	1.1%
Jar	26	5.9%
Other	16	3.6%
Total	**444**	**100.0%**

Table 3.17. F24 Proportion of Vessel Form by Count

probably cooking vessels, whereas greywares may have been used as serving vessels. Despite the prevalence of jars, only four comales were identified within F18. Their scarcity within the sample would suggest tortillas were not cooked in large quantities for feasts associated with F18.

3.2.4 Feature 24

Feature 24 was a midden positioned atop the Río Viejo acropolis dating to the late Terminal Formative. The midden was excavated within Unit 28A of Operation E during the PRV12. Its identity as a nondomestic feasting midden was determined based on its location and contents: Chacahua phase ceramic sherds and assorted organic and inorganic objects indicative of feasting events. The midden likely represents a series of feasting events that occurred on the acropolis. The F24 sample is comprised of 444 sherds, the largest sample of the five midden contexts analyzed in this study.

The proportion of greywares to non-greywares within F24 is the highest of the five contexts; over 83 percent of vessels are greywares. One additional greyware vessel was imported. The remaining sherds were all coarse brownwares. F24 possessed the lowest proportion of coarse brownware vessels of any context in this study (Table 3.16; Figure 3.29). Note the significantly higher proportion of greywares relative to F42 at Yugüe.

Vessel Form	Mean Rim Diameter (cm)	Std. Dev.
Bowl	27.01	9.35
Comal	36.40	2.97
Jar	21.40	9.79
Other	26.09	8.38

Table 3.18. F24 Mean Rim Diameter (cm) by Vessel Form

F24 also exhibits the highest proportion of bowls out of the five midden contexts. Table 3.17 describes the proportions of bowls and other vessel forms within F24. Bowls comprise nearly 90 percent of all sherds; nearly 90 percent of bowls are greywares, keeping with the greyware-bowl correlation indicative of the Chacahua phase. As in F18, comales were rare within the F24 sample.

Vessel sizes varied within the F24 sample. Table 3.18 summarizes the mean rim diameters by vessel form. Comales and jars within the feature were on average smaller than the same forms across the whole sample, while bowl rim diameters within the feature and total samples were roughly equal. Despite its large sample size, F24 exhibits a relatively narrow range of rim diameters among bowls; most are between 20 and 35 cm in length, with 20-25 cm and 30-35 cm encompassing the most frequent rim diameters and forming a bimodal distribution. The concentration of rim diameters suggests distinct correlations between vessel size and function. Figure 3.31 summarizes this distribution through a histogram.

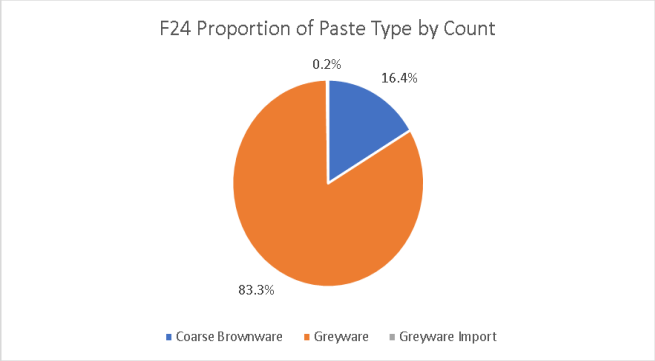

Figure 3.29. F24 Proportion of Paste by Count

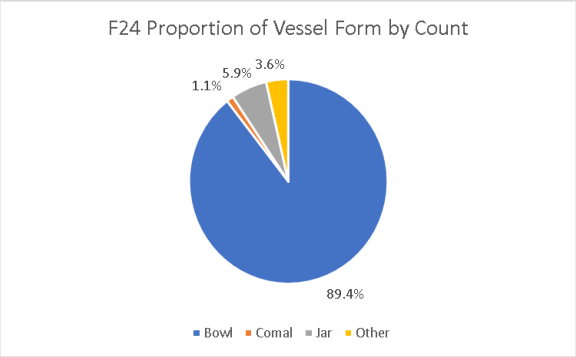

Figure 3.30. F24 Proportion of Vessel Form by Count

Shape	Count	Percent
conical bowl	236	59.4%
cylindrical bowl	49	12.3%
incurving wall bowl	28	7.1%
plate	1	0.3%
semispherical bowl	26	6.5%
undetermined bowl shape	53	13.4%
undetermined shape	4	1.0%
Total	**397**	**100.0%**

Table 3.19. F24 Proportion of Bowl Shape by Count

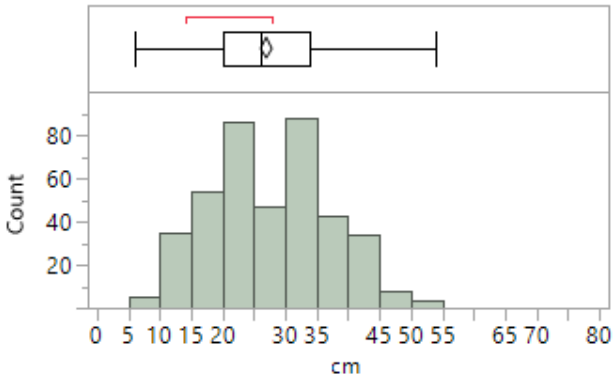

Figure 3.31. F24 Distribution of Bowl Rim Diameters (cm)

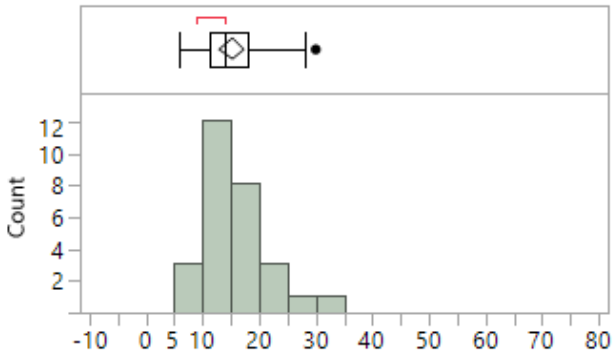

Figure 3.32. F24 Distribution of Incurving Wall Bowl Rim Diameters (cm)

Bowl Shapes

The correlation between bowl shape and vessel size evident within F7 and F18 appears once again in F24, as shown in Table 3.19. Conical and cylindrical bowls were typically larger

Bowl Shape	Count	Variance	Mean Rim Diameter (cm)
conical bowl	236	76.25	30.11
cylindrical bowl	49	80.75	26.04
incurving wall bowl	28	29.16	15.14
semispherical bowl	26	50.62	16.15
undetermined bowl	53	55.06	24.58

Table 3.20. F24 Mean Rim Diameter (cm) by Bowl Shape

than incurving and semispherical bowls, forming two discrete size categories. Together, these four shapes dominated the bowl assemblage in similar proportions to those observed within other acropolis contexts and F42. See Table 3.20 for a summary of selected bowl shapes and associated rim diameter measurements. The relative proportions of greyware and coarse brownware bowls differed more than in other contexts, however; cylindrical bowls were more than twice as frequent among coarse brownwares as they were among greywares. F24 continued the pattern of lacking any coarse brownware incurving bowls.

Incurving Wall Bowls

Incurving wall bowls within F24 were small; most had rim diameters ranging from 10 to 20 cm. Only one vessel reached 30 cm in size; by excluding this minor outlier from the sample, the mean shifts down to 14.59 cm. See Figure 3.32 for a histogram of rim diameters among incurving wall bowls within F24. Although the variance among incurving wall bowls was higher than at F7 or F18, it remained lower than those of other prevalent bowl shapes in the assemblage. Twenty-three sherds featured decorations along the rim exterior (82%), including the largest within the sample (30 cm rim diameter). Predominant surface treatments included interior and exterior wiping and burnishing. Their size and decorations once again indicate incurving wall bowls were used as serving vessels, with the larger ones likely serving multiple people.

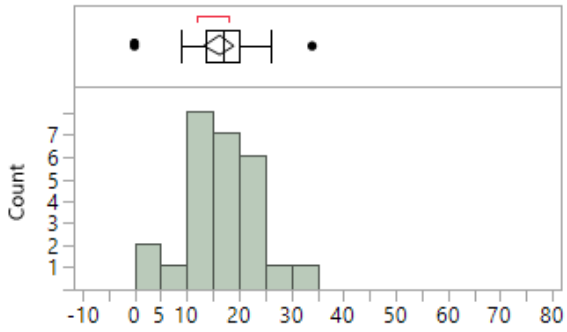

Figure 3.33. F24 Distribution of Semispherical Bowl Rim Diameters (cm)

Semispherical Bowls

Semispherical bowls in F24 typically ranged between 10 and 25 cm in rim diameter (80.7 percent of sample). Figure 3.33 plots the distribution of rim diameters among semispherical bowls. A low variance indicates rim sizes were concentrated closely around the mean. Only nine sherds exhibited decorations (37%); these were most often located along the rim exterior. One greyware bowl, however, featured diagonal lines along the edge of an everted rim. Fifteen percent of vessels featured decorative nubbins; seventy-five percent of these were also decorated. Exterior and interior burnishing and slipping were once again prevalent across most of the sample. The size and decorative nature of these vessels suggests they were also individual serving vessels.

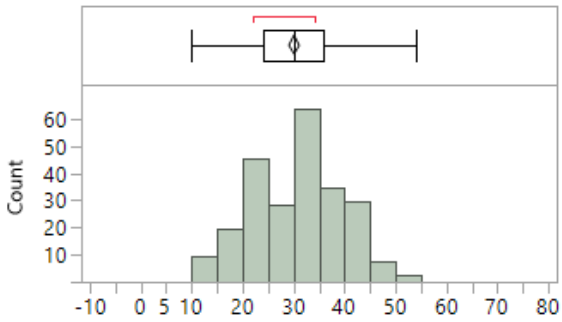

Figure 3.34. F24 Distribution of Conical Bowl Rim Diameters (cm)

Conical Bowls

F24 contained the highest number of conical bowls of any of the contexts studied in this thesis. See Figure 3.34 for a histogram plotting the frequencies of rim diameters among conical bowls. Note the prevalence of 20-25 cm and 30-35 cm rim diameters in the bimodal distribution. Although coarse brownwares tended to exhibit greater rim diameters than greywares throughout the Chacahua phase (Barber 2005), this bimodal distribution does not appear to have resulted from different paste types. See Figures 3.35 and 3.36 for the distributions of conical bowl rim diameters with coarse brownware and greyware pastes, respectively. Coarse brownwares accounted for just 10 percent of rim diameters at or above 30 cm and 12 percent of rim diameters

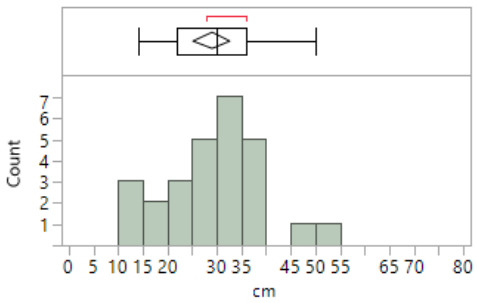

Figure 3.35. F24 Distribution of Coarse Brownware Conical Bowl Rim Diameters (cm)

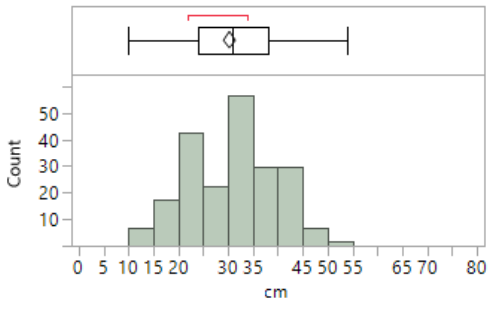

Figure 3.36. F24 Distribution of Greyware Conical Bowl Rim Diameters (cm)

below 30 cm. Also note how the relative frequencies of conical greyware bowls mirror those presented in Figure 3.34 above.

Conical bowls varied more dramatically in rim size around the mean, suggesting conical bowls may have served a variety of functions. Decorations, while common among greywares in the conical bowl assemblage, were entirely absent from coarse brownware conical bowls. In keeping with the pattern exhibited by conical bowls from other contexts in this study, decorations occurred most frequently along the rim exterior of the sherd. Common surface treatments included burnishing and wiping on the interior and exterior of the vessel, as seen in other contexts. The bimodal distribution of conical bowls potentially reflects the presence of two functional types among them: individual and group serving vessels. The smaller modal category (20-24 cm), however, appears large for individual serving bowls. The distribution, then, may not be reflective of two distinct functional categories among bowls, but of two symbolic categories instead. This idea is reinforced by the lack of such bimodal distributions in other bowl assemblages in this study. Finally, nearly all coarse brownware bowls would have been used for cooking, with the possible exception of four bowls featuring rim diameters less than 20 cm, which may have been utilitarian individual serving vessels as well.

Cylindrical Bowls

Cylindrical bowls within the F24 sample were on average slightly smaller than conical bowls. Rim diameters between 20 and 25 cm occurred most frequently. Sixty-one percent of vessels possessed rim diameters between 15 and 30 cm (Figure 3.37). Coarse brownwares tended to be slightly larger than greywares within the sample, though the difference in diameters is statistically insignificant; the average rim diameter was 27.7 cm among coarse brownwares and 25.6 cm among greywares. This would suggest a weaker correlation between paste type and vessel size among cylindrical bowls within F24. Decorations were absent from all coarse brownware cylindrical bowls; twelve greywares, on the other hand, showed rectilinear or other motifs along the rim exterior (31%). No vessels with rim diameters greater than 30 cm were decorated. Less than half of all cylindrical bowls featured everted rims. The variability in rim form and smaller mean rim diameter among cylindrical bowls in F24 indicates that they differed physically from the specialized vessels identified in F42. Once again, interior and exterior burnished and wiped surfaces were common across nearly all vessels in the sample. Greyware cylindrical bowls within F24 were probably serving vessels based on their size. Non-decorated cylindrical feasting vessels were evident in F42; decorated ones of comparable size appeared in

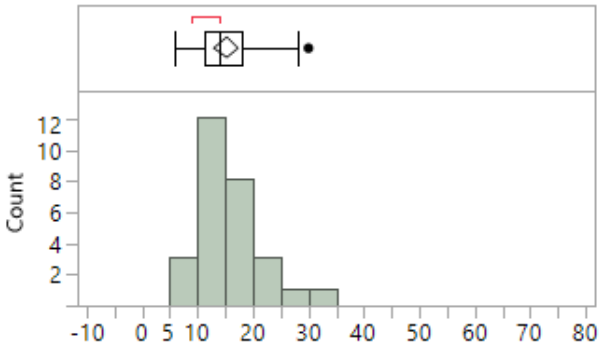

Figure 3.37. F24 Distribution of Cylindrical Bowl Rim Diameters (cm)

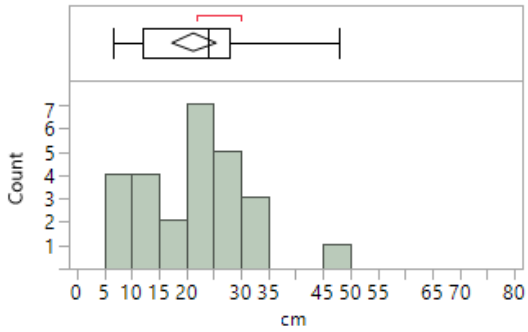

Figure 3.38. F24 Distribution of Jar Rim Diameters (cm)

several acropolis middens. Decoration thus may not have correlated with vessel function among cylindrical bowls. The F24 midden most clearly exemplifies this pattern.

Jars & Comales

Twenty-six jars were identified within the F24 assemblage. Rim diameters appeared smaller than in the F42 assemblage by a margin of roughly 10 cm due to the higher proportion of greyware jars present within F24. See Figure 3.38 for a histogram of jar rim diameters within F24. Coarse brownwares once again dominated the sample, comprising 69 percent of jars. The remaining jars were all greywares. All jars regardless of paste featured short necks. All coarse brownwares surpassed greywares in rim diameter. One greyware exhibited several decorative motifs around the rim exterior and shoulder; this jar may have been used to pour individual liquid portions. The coarse brownwares were all presumably cooking or transport vessels. In addition to jars, five comales were recovered from the midden. F24 thus replicates the relative frequencies of these two vessel forms observed in the F18 assemblage. The comal sample only contained five coarse brownwares, ranging between 32 and 40 cm in rim diameter, and represented a similarly small proportion of the F24 midden assemblage compared to F18.

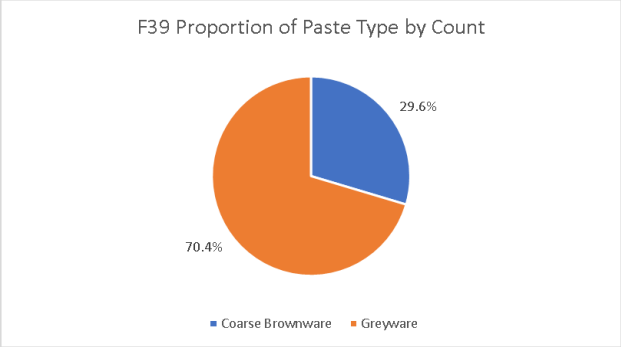

Figure 3.39. F39 Proportion of Paste by Count

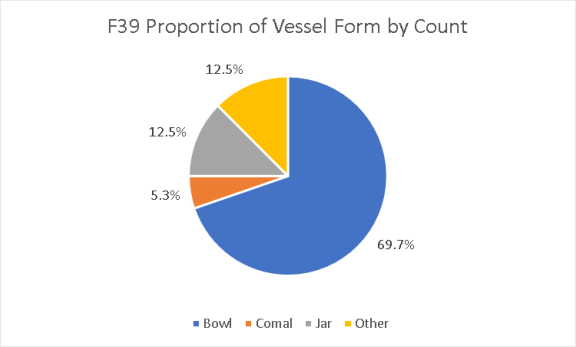

Figure 4.40. F39 Proportion of Vessel Form by Count

3.2.5 Feature 39

Feature 39 is a midden on the Río Viejo acropolis whose ceramic contents and association with a Terminal Formative superstructure (that probably served a public function) denote it as a nondomestic feasting midden. The feature was excavated within Unit -2Z of Operation D during the PRV12. F39 represents the smallest midden context considered in this study; 152 sherds comprise the sample.

Greywares dominate this assemblage as well, accounting for 70 percent of all sherds; the remaining sherds are once again all coarse brownwares. See Table 3.21 for the relative proportions of paste types within F39; see Figure 3.39 for a graphical version of the same data. The association between greywares and bowls in Chacahua phase assemblages persists here as well; Seventy percent of sherds derived from bowls, and greywares accounted for all but one

Paste	Count	Percent
Coarse Brownware	45	29.6%
Greyware	107	70.4%
Total	**152**	**100.0%**

Table 3.21. F39 Proportion of Paste by Count

Vessel Form	Count	Percent
Bowl	106	69.7%
Comal	8	5.3%
Jar	19	12.5%
Other	19	12.5%
Total	**152**	**100.0%**

Table 3.22. F39 Proportion of Vessel Form by Count

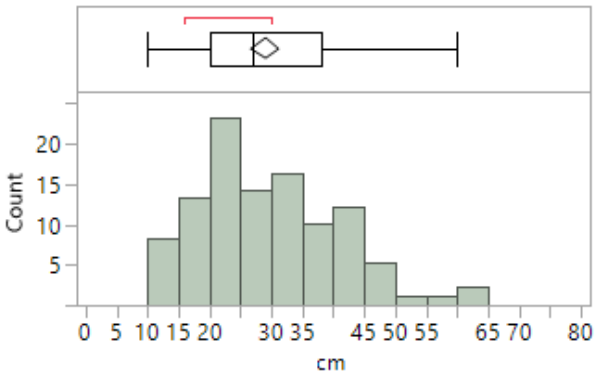

Figure 3.41. F39 Distribution of Bowl Rim Diameters (cm)

bowl in the F39 sample. Table 3.22 outlines the proportions of vessel forms by count within the assemblage.

Mean vessel sizes followed the general pattern observed across the whole sample. See Table 3.23 for a summary of mean rim diameters by vessel form in F39. Note the similarity between the sizes of bowls in F39 compared to the total sample. The variability in bowl size also followed the pattern established through the total sample; Figure 3.41 demonstrates how the middle 50 percent of bowls within the feature range from 20 to 40 cm in mean rim diameter. The 20-25 cm range encompasses the highest frequency of bowl rim diameters within the feature.

Bowl Shapes

Conical, incurving wall, and semispherical bowls within the F39 assemblage exhibit a

Vessel Form	Mean Rim Diameter (cm)	Std. Dev.
Bowl	28.962	11.32299
Comal	42	4.89898
Jar	30.737	10.25693
Other	34.526	11.5054

Table 3.23. F39 Mean Rim Diameter (cm) by Vessel Form

Shape Specific	Count	Percent
conical bowl	49	46.2%
cylindrical bowl	11	10.4%
incurving wall bowl	11	10.4%
semispherical bowl	8	7.5%
undetermined bowl shape	24	22.6%
undetermined shape	3	2.8%
Total	**106**	**100.0%**

Table 3.24. F39 Proportion of Bowl Shape by Count

Shape	Count	Variance	Mean Rim Diameter (cm)
conical bowl	49	122.21	33.47
cylindrical bowl	11	21.09	21.09
incurving wall bowl	11	23.36	16.82
semispherical bowl	8	23.07	16.75
undetermined bowl	24	83.12	32.42

Table 3.25. F39 Mean Rim Diameter (cm) by Bowl Shape

similar correlation between size and shape to that observed in other contexts on the Río Viejo acropolis and at Yugüe (Table 3.24). Table 3.25 shows the mean rim diameters of selected bowl shapes from F39. Note the similarity between the incurving and semispherical bowl rim diameter means; both were typically used as individual serving vessels. Cylindrical bowls, on the other hand, were on average slightly smaller than those from the other contexts. Bowls with undetermined shapes were likely all conical bowls on account of their similarly high rim diameters. F39 was unique in its near-total lack of coarse brownware bowls; the midden sports exactly one coarse brown conical bowl.

Incurving Wall Bowls

Incurving wall bowls within F39 presented a narrow range of rim diameters, partly due to their low sample size. Only three vessels possessed rim diameters exceeding 20 cm (27%).

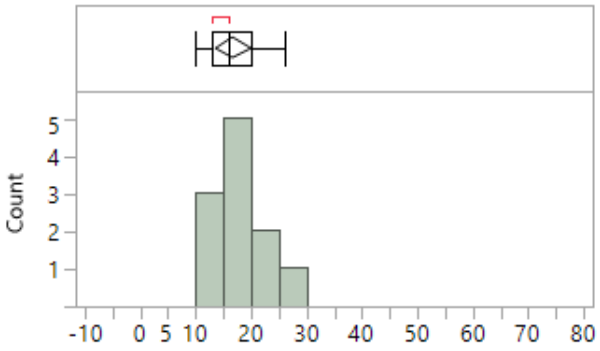

Figure 3.42. F39 Distribution of Incurving Wall Bowl Rim Diameters (cm)

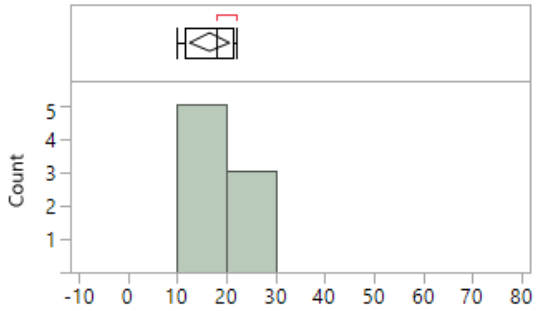

Figure 3.43. F39 Distribution of Semispherical Bowl Rim Diameters (cm)

Figure 3.42 describes the distribution of rim diameters among incurving wall bowls from F39. All sherds in the sample featured rectilinear motifs; in all but one case, these were located along the rim exterior. All incurving wall bowls also exhibited burnished and wiped interior and exterior surfaces. They were probably individual serving vessels like their counterparts within the other acropolis middens.

Semispherical Bowls

Although F39 contained only eight sherds identified as belonging to semispherical bowls, these constituted a significant portion of the feature's bowl assemblage on account of F39's low overall sample size. The interpretive value of the semispherical bowl sample suffers for this fact. All rim diameters fell between 10 and 25 cm (Figure 3.43). Decorations were present on all but one sherd, although their locations on the vessel were unclear in most cases. One sherd was determined to possess a rectilinear pattern along its rim exterior. All sherds featured either wiping or burnishing along the interior and exterior. Keeping the limits of the assemblage size in mind, semispherical bowls appear to follow the same pattern as other small, decorated vessels on the acropolis. They would have therefore been used as individual serving bowls.

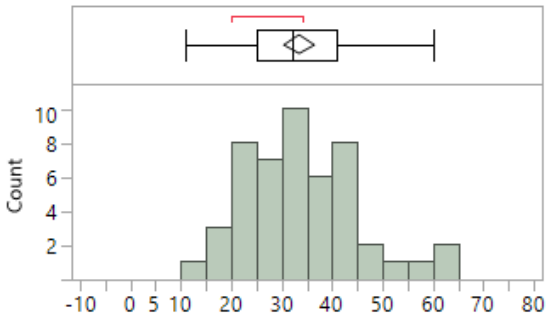

Figure 3.44. F39 Distribution of Conical Bowl Rim Diameters (cm)

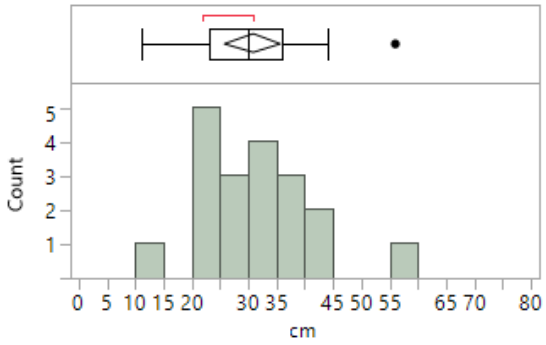

Figure 3.45. F39 Distribution of Cylindrical Bowl Rim Diameters (cm)

Conical Bowls

Conical bowls were the most common bowl shape present within F39. Variance among them was higher than at any other context on the Río Viejo acropolis. Figure 3.44 describes the relative frequencies of rim diameters among conical bowls. Most rims ranged in size from 20 to 45 cm, with the highest frequency occurring within the 30-35 cm range. The single coarse brownware bowl from the conical sample possessed a 56 cm rim, reiterating the general tendency among coarse brownwares to exceed greywares in size, although two greywares from the same sample had 60 cm rims. Thirty rim sherds were decorated (61%); fourteen of these featured decorations along the rim exterior (47%). All vessels featured signs of burnishing, wiping, or a combination of the two along the exterior and interior surfaces. A small subset of conical bowls with lower rim diameters (n = 4) were likely individual serving vessels, whereas the remainder were group serving vessels.

Cylindrical Bowls

Cylindrical bowl rim diameters were on average smaller than those in any other context on the acropolis. See Figure 3.45 for a distribution of rim diameters among cylindrical bowls within the F39 assemblage. Note the high concentration of sherds featuring rim diameters inside the 20-25 cm range, which may have originated from a single, highly fragmented vessel.

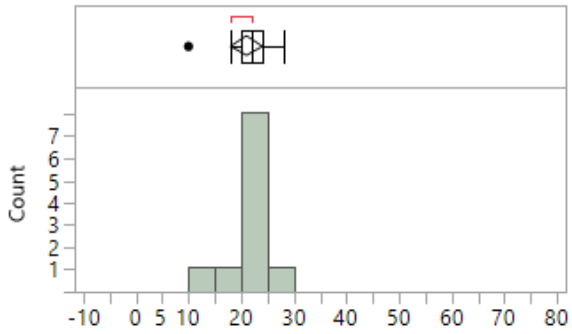

Figure 3.46. F39 Distribution of Jar Rim Diameters (cm)

Excluding the low outlier shifts the mean rim diameter of the sample to 22.2 cm, slightly closer to the mean observed in other acropolis contexts. The high concentration of rim sizes within such a small sample produced a low variance, suggesting cylindrical bowls served one specific function. Eight sherds showed evidence of decoration (72%). Of these, six featured decorations on the rim exterior (54%). Burnishing and wiping on both sides of the vessel were once again predominant across the sample. The low variety among rim diameters, small vessel size, and frequency of decorative motifs indicate these were probably serving vessels, but not the specialized variety seen in F42.

Jars & Comales

The F39 assemblage produced 19 jars comprising 12.5 percent of the feature sample, similar to the proportion of jars within F42 (12.8%). Only F18 exhibited a greater proportion of jars (16.1%) on the acropolis. See Figure 3.46 for the distribution of jar rim diameters within F39. Seventeen sherds belonged to coarse brownwares (89%) and the rest to greywares. Thirteen of the coarse brownwares were short-necked jars (76%); one each was a collared and long-neck jar (6% each). The specific shape of the last two coarse brownwares could not be determined. The smaller greyware jar featured decorations along its shoulder. Additionally, F39 yielded eight

coarse brownware comales ranging in rim diameter from 34 to 50 cm, which could have cooked multiple tortillas each.

3.3 Comparative Analysis of Río Viejo Acropolis Middens

The acropolis midden assemblage yielded a distribution of ceramic vessels that suggests limited variability in midden contents and use. All contexts exhibited characteristic traits of the Chacahua phase ceramic assemblage, most prominently a high frequency of greyware bowls. Coarse brownwares comprised between 15 and 30 percent of each midden sample. A z-test highlighted only one significant difference in the proportion of coarse brownwares between any of the acropolis middens at the .05 level[7]; this occurred between F24 and F39. The relative proportions of specific cooking and serving vessel forms varied across the acropolis midden assemblage; jars constituted a greater proportion of the assemblage within F18 (16.1%) and F39 (12.5%) compared to F7 (5.6%) and F24 (5.9%). A z-test identified significant difference between the proportions of jars in F18 and F7 at the .05 level ($z = -3.1802$; $p = .00148 < .05$). Comales, on the other hand, comprised between just one and seven percent of vessels within each midden, suggesting similar degrees of tortilla production within each feasting context. To determine how the specific nature of these activities (such as how much food consumption occurred via communal compared to individual serving practices) varied across the middens, I tested[8] for any significant difference between the mean rim diameters of vessel sherds across each midden. These tests were organized first by form and paste, then by form, paste, and specific shape.

[7] One-tailed z-test; $z = -3.5271$; $p = .00021 < .05$

[8] In all cases, alpha = .05. Tests were not conducted for some combinations of form, paste, and shape due to insufficient sherd counts.

Significance testing showed that for all combinations of vessel form and paste, no statistically significant difference in rim diameter existed between Features 7, 18, and 24. The highly uniform distributions of rim diameters among both preparatory and consumptive vessels suggests similar feasting practices took place during both food preparation and consumption in all three middens. Feature 39, on the other hand, yielded significantly larger coarse brownware cooking vessels (jars and comales) than those within F7 and F24. The size of cooking vessels within F39 instead appeared more similar to the F42 assemblage at Yugüe, which also diverged from the other acropolis middens in terms of vessel size. F42 consistently exhibited larger cooking and/or serving vessels than the acropolis middens. These tests indicate that vessel sizes from the acropolis midden assemblage were markedly smaller than those used in F42 at Yugüe.

Of course, serving vessels in the late Terminal Formative lower Verde included both individual and group serving vessels. Because *individual* serving vessels should exhibit roughly the same mean rim diameter regardless of context, they can make two serving vessel assemblages appear homogeneous, even if *group* serving vessels feature significant differences in rim diameter. By incorporating specific shapes into significance testing, it is possible to consider individual and serving vessels separately. For example, the apparent disparity in rim diameter among greyware serving vessels between the acropolis and Yugüe middens manifests solely in group serving vessels. Interestingly, only the cylindrical bowls found within Feature 18 closely matched those from F42 in rim diameter, suggesting the former midden may have been associated with feasting practices more closely related to those at Yugüe.

4.0 Discussion

In this chapter, I interpret the findings described in the preceding section. I begin by revisiting the main questions posed in Chapter One regarding feasting practices at Río Viejo and their social ramifications during the Terminal Formative period. Next, I compare the contents and character of the acropolis middens to determine the degree of homogeneity among its four feasting contexts. I then discuss patterns pertaining to vessel form, function, and proportions within the Río Viejo acropolis midden assemblage before comparing them to those exhibited by the F42 assemblage at Yugüe in order to determine the degree to which feasting contexts on the former diverged from the predominant, local-level form of communal feasting represented by the latter. Finally, I discuss the nature of ritual feasting on the acropolis as it pertained to negotiations of regional political authority and identity during the Terminal Formative period.

Throughout this thesis, I sought to answer three fundamental questions regarding Terminal Formative ritual feasting practices on the Río Viejo acropolis: (a) how did these practices compare to contemporary ones taking place at Yugüe, (b) how did these practices affect negotiations surrounding ideas of regional political authority and identity taking place at Río Viejo, and (c) how did vessel form and function inform on feasting practices in the lower Verde? In this study, I have found that communal, ritual feasting on the Río Viejo acropolis was characterized by a highly uniform ceramic assemblage distinct from that of Yg-F42 based on disparities in vessel size and paste proportions. Ritual feasting on the acropolis attempted to embed ideas of regional political authority and identity within its participants, including people from outlying communities like Yugüe. Based on these results, however, it appears these feasting practices—and their underlying notions of regional authority—did not extend beyond the settlement level. The apparent limits of the site's influence support established ideas concerning

late Terminal Formative Río Viejo's place at the center of a tenuous and unstable network of individual settlements defined by their traditional, communal identities.

4.1 Feasting at the Río Viejo Acropolis and Yugüe

Three major patterns emerged from the ceramic analysis of feasting middens at the Río Viejo acropolis and Yugüe. First, the ceramic differences between acropolis middens were limited, suggesting the nature of feasting practices there was well-defined and relatively invariable during the late Terminal Formative. Similarities in vessel form and paste proportions, as well as rim diameter, reflect similar styles of feasting that involved both cooking and serving activities associated with each midden. These similarities were most prevalent among Features 7, 18, and 24, all of which are roughly dated to the late Terminal Formative period immediately preceding the collapse of Río Viejo. Feature 39 more closely resembled Yg-F42 in terms of vessel form, paste proportions, and the size of coarse brownware cooking vessels, but otherwise adhered to the general acropolis pattern, which was dominated by smaller greyware serving vessels.

4.1.1 Uniformity among the Río Viejo Acropolis Middens

Commonalities across midden assemblages on the Río Viejo acropolis reflect a specific set of socially significant patterns through which people produced and reproduced social, political, and religious ideas (Joyce et al. 2016). The shared identity of the site's inhabitants was manifested through communal events that exhibited these patterns, such as the types and proportions of vessels employed in large-scale public feasting. The presence of similar midden assemblages on the acropolis indicates that feast participants were reproducing and negotiating similar ideas throughout the late Terminal Formative. In the case of Río Viejo, ritual feasts served to propagate distinctly regional notions of political authority and identity among the

inhabitants of outlying communities, who contributed to and participated in these acropolis events (Joyce & Barber 2015; Joyce et al. 2016). As mentioned in Chapter One, the ability of local elites at Río Viejo to host repeated, elaborate feasts that drew people from surrounding settlements would have increased the former's tenuous influence over the latter, even if the ideas disseminated through those practices failed to become embedded within neighboring communities. Failure to maintain these practices, however, would have inexorably led to the dissolution of any regional polity being organized around Río Viejo.

The Río Viejo acropolis yielded highly uniform assemblages of greyware bowls that adhered to the same general patterns of form, paste type, and vessel size. The high frequency and proportional dominance of greyware serving bowls in each midden suggests the consumptive phase of acropolis feasting events consistently brought large groups of people together. Every acropolis midden was characterized by high proportions of conical greywares, which exhibited average rim diameters ranging between 29 and 33 cm. Such wide rims would have permitted multiple people to serve themselves concurrently from a single vessel, both allowing hosts to accommodate more participants in a single feast and developing a forum for commensal politics (Brzezinski 2011; Dietler 2001: 67). Local elites at Río Viejo would have benefitted from incorporating more people into the rituals they sponsored; more participants could produce more food for feasts, form more obligations to elite sponsors, extend elite influence, and spread new ideas of regional authority and identity to their own communities.

Vessels on the Río Viejo acropolis were more elaborately decorated than elsewhere in the lower Verde (Brzezinski 2001). Elaborate surface treatments and decorations on serving vessels allowed potters and elite sponsors of ritual feasts to visually impart new ideas onto participants from more traditional communities throughout Río Viejo's hinterland. Serving vessels across all

four acropolis middens were frequently burnished, which Brzezinski (2011: 124-125) notes would have increased their value and stylistic flair. Presenting more elaborate and valuable ceramics during ritual feasts attended by people from neighboring communities may have accentuated the sense of regional political authority imposed by local elite sponsors. More stylized greywares may have represented attempts by ceramic manufacturers to articulate new or more varied cultural ideas within the area (Brzezinski 2011: 124). These greywares would have been integral to the ritual economy of Río Viejo, providing a means through which pottery manufacturers or elite sponsors could affect ideas of status and authority embedded within the ritual feasts sponsored by elites (Barber & Joyce 2007). More intensive analyses of the plastic decorations and motifs on Río Viejo acropolis greywares will provide greater insights into the specific ideas perpetuated through ceramic iconography during the late Terminal Formative.

The relatively small proportions of cooking vessels within the acropolis midden assemblage suggests a substantial portion of the food consumed was prepared elsewhere and transported to the feasting site. In each midden on the acropolis, coarse brownwares constituted less than 30 percent of vessel sherds, compared to 35 percent[9] in Yg-F42. Assuming the Yg-F42 assemblage reflects a normal[10] ratio of cooking to serving vessels employed in ritual feasting, the number of cooking vessels in the acropolis middens is disproportionately low (Joyce and Barber 2015). The presence of a large earthen oven in another area of the acropolis indicates that some preparation could have taken place in a nearby, potentially spatially segregated area of the acropolis. The oven's size, however, would have been too specialized and insufficient to produce all—or even most—of the food necessary for ritual feasting events (Joyce and Barber 2015).

[9] Barber (2005: 419) analyzed paste proportions within Yg-F42 using a slightly larger sample; she found that coarse brownwares constituted 37.8 percent of the feature assemblage.
[10] Normal in the sense of feasting practices at outlying communities

Furthermore, no storage facilities have been identified on the acropolis, indicating that food had to be transported to the acropolis from elsewhere in Río Viejo and the surrounding communities. The only other viable explanation is that feast participants from outlying settlements cooked and transported food from their community to Río Viejo.

Although the general lack of cooking vessels is consistent across the entire acropolis midden assemblage, the proportions of specific types (namely coarse brownware jars and comales) can vary between each context. These differences may reflect variations in the types and/or amounts of food being prepared elsewhere for feasts. For example, the significantly higher proportion of jars found in F18 and F39 compared to the other two middens reflects how feasting participants from outlying communities cooked and transported more food from their own communities for some feasts than others. It is possible that over time, resource strain inhibited the ability of outlying communities to meet their obligations to elite sponsors of feasts at Río Viejo, forcing the inhabitants of Río Viejo to prepare more food (and thus use more local jars) than they had previously needed to. Of course, other factors would have affected the proportions of jars as well, including the number of participants attending a given event and the appropriate amount of food that needed to be prepared in jars for that group. Future insights regarding the specific chronology of the acropolis midden assemblage will shed more light on the influence resource strain had on ritual feasting during the late Terminal Formative. Meanwhile, the preparation of tortillas at outlying sites typified ritual feasting practices on the Río Viejo acropolis. Unlike jars, comales consistently comprised a minute proportion of each acropolis midden sample. These proportions (1–6%) were more comparable to those observed in domestic middens from the Chacahua, Miniyua, and Coyuche phases (4–7 %) than to Yg-F42 (11%) (Barber 2005: 420). This suggests tortilla production for acropolis feasts occurred in

distinct cooking spaces away from the feasting site, since the scale of tortilla cooking for feasts must have exceeded that for domestic meals.

The unique bimodal distribution of bowl rim diameters (particularly greywares) within Feature 24 suggests elite sponsors of ritual feasts on the acropolis may have used vessel size as a means of symbolically distinguishing their feasts from other, contemporaneous events being hosted at outlying sites. Bimodalism to this degree was absent from the other three middens on the acropolis, and both modes exceeded the typical size limit for individual serving vessels (~20 cm). These observations suggest different sorts of feasting practices featuring distinct and well-defined serving bowl sizes occurred within F24, perhaps resulting from changes in the ideas that elite sponsors deployed onto their neighbors via feasting. Of course, feasts could have simply incorporated both large and small group serving bowls, in which case the distribution seen in F24 should be expected of all feasting middens on the acropolis. The presence of more normal distributions among the other acropolis feasting middens, however, suggests this is not the case. The excavation of additional large feasting middens on the acropolis will help determine whether the bimodal distribution of serving bowls within F24 occurs regularly among ritual feasting contexts.

4.1.2 Distinctions between Río Viejo and Yugüe Feasting Middens

The relative uniformity among the acropolis middens forms the basis for a second pattern: that feasting midden contexts on the acropolis were distinctly different from those at Yugüe during the late Terminal Formative. The discrepancy between the ceramic contents of middens at either site suggests feasting practices in both communities were largely confined to the settlement level. People from Yugüe likely participated in ritual feasting events at Río Viejo; the large cylindrical serving bowls found in F18 strongly resembled those uncovered in Yg-F42,

and similar sizes and proportions of coarse brownware cooking vessels such as comales and short-necked jars were found in F39 and Yg-F42. The differences in vessel rim diameters between both serving and cooking vessels at the two sites, however, reinforces the idea that ritual feasting on the Río Viejo acropolis adhered to a distinctly different ceramic pattern compared to the ritual feasting context in Yugüe. People from Yugüe who participated in acropolis feasts, then, may have used different types of vessels for those events than the ones used for local feasts (as seen in Yg-F42).

The clearest distinction between the Río Viejo and Yugüe assemblages was vessel size. Both cooking and serving vessels at Yugüe presented mean rim diameters that differed significantly from the same vessels on the acropolis. Specifically, coarse brownware cooking vessels and greyware group serving vessels from Yg-F42 consistently exceeded their Río Viejo counterparts in vessel size. Since participants from surrounding communities would have been limited in the size of the vessels they could transport to Río Viejo, it makes sense that the acropolis assemblage would consistently appear smaller than the Yugüe assemblage. This reinforces the notion that many components of acropolis feasts were provided by non-local participants. This disparity helps delineate the Río Viejo and Yugüe ceramic assemblages, reflecting distinctions in functional patterns among feasting vessels on the settlements level.

Cylindrical bowls present unique insights into the nature of ritual feasting at Río Viejo and Yugüe in part due to their infrequency across the broader lower Verde ceramic assemblage (Barber 2005: 181). Cylindrical vessels within Yg-F42 consistently featured several characteristics: large rim diameters, everted rims, scraped or smoothed exteriors, and a general lack of decorations. Barber notes that these vessels occurred in Yg-F42—a public feasting midden—far more frequently than in other, domestic assemblages from the Late and Terminal

Formative. Their distinctive design and scarcity indicate they filled a specialized serving role during communal, ritual feasts (Barber 2005). Interestingly, only one acropolis midden (F18) featured cylindrical greywares that matched the Yg-F42 assemblage in terms of rim diameter, rim form, surface treatments, and the absence of decorations. Cylindrical vessels from the other contexts, by comparison, tended to be smaller, with outleaning or everted rims, and were often decorated. If this specialized cylindrical greyware bowl were limited to Yugüe and the Río Viejo acropolis, it would definitively tie the two sites together through acropolis feasting practices, but continued excavations at other sites around Río Viejo will be necessary to determine the pervasiveness of this vessel type. Because Barber's specialized vessels were confined to just one midden on the acropolis, it is less likely that they typified cylindrical greywares in communal feasting contexts on a more regional level. According to this view, their unique design would have embodied the unique communal identity of Yugüe. The inclusion of these vessels in acropolis feasting contexts would therefore demonstrate how ritual feasts served as nexuses for the intermingling of ideas and identities.

4.1.3 Public and Domestic Middens

Finally, the vessel form and paste proportions of sherds across the acropolis assemblage firmly denote the Río Viejo middens as public feasting middens, not domestic ones. Based on data collected from Minizundo-phase domestic middens at San Francisco de Arriba (SFA13-21) and one Chacahua-phase domestic midden at Cerro de la Virgen (CV-F38), the domestic midden assemblage in the Late and Terminal Formative lower Verde appears to have been characterized by high proportions of coarse brownware vessels used for cooking and perhaps serving (Barber 2005). The lower proportion of greywares, particularly in the Chacahua phase CV-F38, indicates that either consumptive practices associated with the midden took place on a smaller scale than

those associated with public contexts, like Yg-F42, or that domestic meals relied more heavily on utilitarian serving vessels. As Barber (2005: 440) points out, higher proportions of greyware serving vessels in Yg-F42 imply that either more people were participating in the consumptive stage of the event, more of the associated preparatory (cooking) activity was occurring elsewhere, or more ornate greywares were being incorporated into feasting practices. In the first instance, a larger group of participants denotes a larger-scale feasting event. In the second, dispersed preparatory activities may reflect an organized, communal, supradomestic effort to hold a public feast.

4.2 Feasting and Political Authority in Río Viejo and the lower Verde

The late Terminal Formative period in the lower Río Verde Valley ended with the collapse of Río Viejo, whose population rapidly diminished in size and ritually terminated its monumental public structures. Efforts by local elites to spread new ideas of regional political authority and identity to surrounding settlements, whose own authorities and identities were firmly communal in nature, clearly failed to form a stable polity in the valley. Had they succeeded, ritual feasting contexts at outlying sites like Yugüe should have more closely resembled those found on the Río Viejo acropolis. Ceramic analysis of the five middens in this study shows that feasting events at Yugüe were distinct from those at Río Viejo in several ways, including paste proportions and vessel size. While certain characteristics of Yugüe feasting are evident on the acropolis, such as specialized greyware cylindrical serving bowls, these only occur in isolated contexts, suggesting the influence of surrounding communities on feasting practices on the acropolis was dynamic throughout the late Terminal Formative. Yugüe may have contributed more resources to some events (by means of food production and transportation) than to others. It is possible that Yugüe initially contributed resources to ritual

feasts both within its own public precinct and on the Río Viejo acropolis, but stopped when the resource strain on its community became too high, opting instead to support its own, local practices as the Formative period came to an end. If other outlying communities faced the same issue, then resource-intensive feasting practices on the acropolis may have contributed to the dissolution of the tentative and unstable network linking Río Viejo to its neighbors.

4.3 Conclusions and Future Research

This thesis provides a foundation for continued research into the political complexities of the Terminal Formative period. Continued excavations on the monumental Río Viejo acropolis will provide new insights into the specific functions associated with the platform and its superstructures, including the intensity of ritual feasting practices and the presence of other communal ritual activities such as caching and burials. Feature 39 in particular has not been fully excavated; once its full extent is known, a revised analysis of its ceramic contents will be necessary.

201 sherds uncovered from the five acropolis midden contexts were excluded from this study due to potential errors and/or ambiguities in attribute classification; close reexamination and verification of the classifications prescribed to the actual sherds excavated by Lucido (2015) during the PRV12 may allow future studies of ritual feasting to incorporate a broader sample from the acropolis midden assemblage. Non-rim sherds could be incorporated this way as well. Additionally, weighing individual sherds will provide a new proxy for comparing the collective samples yielded by each midden.

This thesis was limited by a general lack of Chacahua phase domestic feasting middens to which ritual feasting contexts could be compared. Additional excavations at Río Viejo and surrounding sites will shed light on the nature of domestic meals, allowing researchers to more

accurately assess the differences between household and communal feasting activities. Finding such middens at Río Viejo would be especially illuminating, since the vessels found in households there may well have been used in the preparation and/or serving of food during communal events on the site's acropolis. A more thorough understanding of how Río Viejo locals contributed to communal feasting events on the acropolis will help determine the means and extent to which people from surrounding communities like Yugüe invested their own resources in those rituals.

One last important avenue of research will be comparing ceramic vessels used in ritual feasts to those used in caching ceremonies at individual sites. If these practices exhibited similar patterns of paste type or vessel size, perhaps the social, political, and religious ideas they imparted were related as well. Decorative motifs, which also visually communicated specific ideas related to the contexts in which they were presented, should also be examined more closely for the same reason.

The research presented in this thesis contributes to broader discussions of the relationship between Río Viejo and neighboring communities during the late Terminal Formative period. Based on analysis of feasting middens at Río Viejo and Yugüe, I argue that the presence of distinct ceramic patterns within feasting middens at both sites suggests ritual feasting practices and the ideas articulated through those practices were largely confined to the settlement level. Ideas of regional political authority and identity disseminated by local elites at Río Viejo through communal feasting on the acropolis failed to become embedded within outlying communities, preventing a stable regional polity centered at Río Viejo from forming and potentially fraying relationships between that site and its neighbors, leading to social collapse c. 250 CE.

Appendix A: Ceramic Attribute List

Paste
Medium brown
Coarse brown
Fine brown
Gray
Orange
Orange/gray
Gray import
White-rimmed blackware import
Other import

Vessel form
B: bowl (unrestricted)
C: comal
J: jar
O: other

Specific shape
1: conical bowl
2: semispherical bowl
3: indeterminate (conical or semispherical bowl)
4: cylindrical bowl
5: composite silhouette bowl
6: incurving bowl
7: comal
8: brazier
9: figurine
10: undetermined
11: plate
12: short-necked jar
13: collared jars
14: jars (long neck)

Wall form
1: outleaning
2: outcurving
3: incurving divergent
4: incurving convergent
5: vertical
6: composite silhouette
7: undetermined
8: inleaning
9: outleaning or outcurving

Rim form
1: direct
2: vertical
3: outleaning
4: outcurving
5: inleaning
6: incurving
7: everted
8: inverted
9: other
10: undetermined

Base form
1: round
2: flat
3: ringed
4: annular
5: undetermined
6: grooved

Rim width
1: unthickened
2: exterior thickened
3: interior thickened
4: exterior bolstered
5: tapered
6: undetermined
7: interior bolstered
8: thickened interior and exterior
9: bolstered
10: interior thinned/stepped
11: exterior thinned/stepped

Lip form
1: rounded
2: beveled exterior
3: beveled interior
4: beveled interior and exterior
5: beveled top
6: grooved
7: undetermined
8: intentionally skipped
9: bell-shaped
10: lipped
11: eccentric

Jar neck form
1: outcurving
2: outleaning
3: direct (vertical)
4: undetermined

5: inleaning
6: outcurving or outleaning
7: incurving divergent
8: incurving convergent

Decorative zones
1: rim-just below rim
2: main body of pot
3: base-just above vase
4: neck of jar
5: shoulder of jar
6: break in composite silhouette
7: base interior
8: edge of everted rim
9: all
10: rim-just below rim (exterior)

Plastic decoration
1: incised
2: excised
3: engraved
4: punctuated
5: impressed
6: combed

Surface treatment
1: unclear
2: eroded
3: wiped
4: burnished
5: scraped
6: smoothed
7: partially burnished
8: pattern burnished
9: well burnished
10: roughened
11: other
12: burned
13: unclear (exterior)
14: wiped (exterior)
15: burnished (exterior)
16: scraped (exterior)
17: smoothed (exterior)
18: partially burnished (exterior)
19: pattern burnished (exterior)
20: well burnished (exterior)
21: roughened (exterior)
22: other (exterior)
23: burned (exterior)
24: unclear (exterior and interior)
25: wiped (exterior and interior)
26: burnished (exterior and interior)
27: scraped (exterior and interior)
28: smoothed (exterior and interior)
29: partially burnished (exterior and interior)
30: pattern burnished (exterior and interior)
31: well burnished (exterior and interior)
32: roughened (exterior and interior)
33: other (exterior and interior)
34: burned (exterior and interior)

Surface decoration
1: slip
2: self-slip
3: wash
4: pain
5: slip (exterior)
6: self-slip (exterior)

7: wash (exterior)
8: pain (exterior)
9: slip (exterior and interior)
10: self-slip (exterior and interior)
11: wash (exterior and interior)
12: pain (exterior and interior)
13: stucco
14: paint
15: unidentified pigment

Color of decoration

1: red
2: black
3: yellow
4: white
5: orange

Decorative motifs

1: rectilinear
2: curvilinear
3: punctated
4: lazy "z"
5: zigzag
6: cross-hatch
7: diagonal (hatchure)
8: finger impression
9: spiral
10: zoomorphic
11: anthropomorphic
12: anthro-zoomorphic
13: fetamorphic (plant)
14: lazy "S"
15: forked tongue/double spiral
16: single horizontal framing line
17: double line break (vertical)
18: double line break (horizontal)
19: single line break (vertical)
20: waves
21: steps
22: scene
23: step fret (simple)
24: diagonal lines
25: vertical rim tics
26: single line at rim (on edge)
27: diagonal rim ticks
28: trefoil 1
29: trefoil 2
30: trefoil 3
31: volute
32: feathers
33: hook curves
34: hook curves (paired)
35: "crab claw"
36: architecture
37: stamp box
38: grouped rectangles
39: complex step fret
40: Arch 1
41: Arch 2
42: Arch 3
43: Arch 4
44: alternative S-curves
45: paired lazy-S
46: fancy S-curve
47: upper framing line
48: two upper framing lines
49: vertical line
50: two vertical lines
51: three vertical lines
52: lower framing line
53: two lower framing lines
54: vertically-aligned horizontal ticks
55: coupled sets of diagonal lines
56: notches under rim
57: notches on rim
58: diagonal lines (Repeated in error)
59: heart
60: "fork glyph"
61: diagonal lines in triangle
62: basket (looks woven like patate)
63: rays
64: "eye"
65: arrow
66: curly Q
67: applique (to simplify their presence if they are not analyzed individually)

68: other/undetermined
69: middle framing line (present between upper and lower framing lines)
70: trefoil undetermined
71: horizontal grooves
72: arrow type 2 (tentative)
73: quatrefoil type 1 (like 28)
74: quatrefoil type 2 (like 29)
75: quatrefoil type 3 (like 30)
76: "target"

Rim additions
1: scalloped
2: tabbed
3: pushed in
4: flanged
5: incised
6: notched
7: eccentric
8: handle
9: eccentric (trefoil-like; angled notches and incising)
10: eccentric (trefoil-like but vertical notches/incising replacing triangular notch)
11: pie crust

Applique
1: supports (x3)
2: supports (x4)
3: anthropomorph
4: zoomorph
5: anthropo-zoomorph
6: fetamorph
7: handle
8: nubbin (handle)
9: nubbin (support)
10: nubbin (decorative) (also rim tabs)
11: wall flange
12: support (number unclear)
13: chain
14: undetermined
15: notched basal flange

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