Excavations at Las Huacas (AD 1200-1650):
Exploring Elite Strategies and Economic Exchange during the Inca Empire

by

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It is hard to separate this dissertation from the moment that it was written in. As the world is grappling with a pandemic and centuries of systemic racism, my dissertation was far from the most important thing happening. Though, these last few months have demonstrated that history matters. That community matters. For me, archaeology is about community; about creating opportunities for communities to come together to collaborate and learn from each other.

As archaeologists, we are responsible for making our communities better. Archaeology has a problematic past and present, but I feel fortunate to work in Peru where projects have demonstrated the importance of archaeology and community. Many projects throughout Peru show that archaeology is not just the study of the past, but, when done well, can be a creative, thriving, and dynamic part of the present. I learned a lot about working with communities from the Proyecto Qhapaq Ñan, especially the El Huarco project at Cerro Azul. In particular, Giancarlo Marcone, Nina Castillo, Rodrigo Areche Espinola, Samy Irazabal Valencia, Geraldine Huertes Sanchez, and Bryan Núñez Aparacana.

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ABSTRACT

The complex and dynamic strategies of ancient states and empires have been documented throughout the world. The Inca Empire of Peru created a massive empire that extended from central Chile in the south to Colombia in the north. Within this empire, known as *Tawantinsuyu*, the coastal Chincha polity occupied a position of prestige because they oversaw long-distance trade for the prized *Spondylus* shell. Previous research in the Chincha Valley found evidence for a kind of "joint rule" shared by the Inca and the Chincha at the coastal capital of La Centinela, but the effect of Inca expansion on the rest of the valley remained understudied.

This dissertation presents data from the site of Las Huacas, a large secondary center in the alluvial plains of the middle Chincha Valley. The *Proyecto de Investigación Arqueológica Las Huacas* (PIALH) conducted excavations throughout Complex N1, which was occupied from AD 1200-1650. Excavations of Complex N1 found a wealth of data that contributes important insights into the Chincha Valley material culture, mortuary practices, and the effects of Inca expansion. Excavations recovered largely undisturbed mortuary features that contain evidence for a multi-stage burial process and secondary mortuary rituals. Furthermore, research demonstrated that the complex was remodeled and transformed during the Late Horizon (AD 1400-1534) and, possibly, Colonial Period (AD1534-1821). Room A2 of Complex N1 started out as an open space at the base of a platform, it was then turned into a craft production area, then a space used to corral camelids, and finally the location of elite burials.

Broadly the transformation in architecture and activities show a shift from more inclusionary to exclusionary strategies that are likely associated with the rise of a more bureaucratic political system. Excavations at Las Huacas recovered a substantial number of *balanzas* (similar to Roman scales). These artifacts could possibly have been used by the Chincha merchants or artisans described in the ethnohistoric record. They could also have been tied to a nascent market economy. Research has generally regarded the Inca as a redistributive state, but as the Chincha were likely conducting trade in the northern sector of the Inca Empire in Ecuador, the presence of the *balanzas* at Las Huacas begs a deeper analysis of these artifacts and their relationship to systems of exchange.

The data from Las Huacas show the far-ranging implications of Inca expansion at an important secondary center. These effects were influenced by both local and imperial tactics. Las Huacas, while showing similarities to other sites in the valley, such as La Centinela, Tambo de Mora, and Lo Demás, presents a unique footprint of Inca expansion. This is similar to other coastal regions, such as the Lurín Valley, where Inca tactics vary across space and time.

CHAPTER 1

Imperial Economies

Empires grow and expand to encompass large territories and diverse groups of people (Alcock et al. (eds.) 2001; Doyle 1986; Emberling 1997; Luttwak 1976; Parker 2003; Sinopoli 2001; Sinopoli and Morrison 1995). Within these large territories the expansion and administration of the Empire takes many different forms, influenced by local sociopolitical organization and imperial motives. This is especially true for the Inca expansion onto the coast of Peru where the Inca developed their authority alongside local people and transformed existing socio-political institutions. The Inca expanded to create a massive territory that they called *Tawantinsuyu*, or “the parts that in their fourness make up a whole” (in Quechua) (Mannheim 1991:18) and their political economy focused on staple and wealth finance (D’Altroy and Earle 1985), where they stored staple goods for state use, and used luxury goods to develop relationships with local elites. Inca strategies, specifically on the coast of Peru, provide an opportunity to understand how two specialized economies were combined and transformed under imperial conquest.

The Inca Empire successfully incorporated coastal polities that relied on highly specialized economies that included fishermen, skilled craftsmen, and agricultural laborers. One such coastal valley is the Chincha Valley of Peru located on south central coast (**Figure 1.1**). Under the Inca Empire, the Chincha occupied a prestigious position and the Inca developed a style of joint rule (Morris and Santillana 2007; Morris and Covey 2006). Exactly how this system of “joint rule” functioned remains to be explored, especially outside of the Chincha capital of La Centinela, where most of the research has focused. This dissertation presents new data from the site of Las Huacas, which was the second largest site in the valley at 75 ha and was the center for the agricultural laborers (Canziani 2009) (**Figure 1.2 and 1.3**).

In this chapter, I first outline general theories about empires and then discuss current frameworks for understanding how the Inca developed their authority and fueled their political economy. The Inca’s style of wealth and staple finance has its roots in previous political organizations in the Andes. I next expand on a few case studies from Inca provinces, highlighting the need to develop the framework for understanding coastal expansion strategies. The coastal region during the Late Intermediate Period (LIP, AD 1100-1400) (See **Table 1.1** for dates) was home to a variety of complex polities, including the Chimú Empire, the Yschma, and the Chincha (Keatinge 1982; Keatinge and Conrad 1983; Rostworowski 1970, 1977, 1999). These coastal polities, while containing some important differences, present general similarities and differed from the highlands in important ways due to the specialized nature of their economies and their access to maritime resources and commerce. Many models of the Inca are developed using case studies from highland regions such as Huánuco (Morris and Thompson 1985) and the Mantaro Drainage (D’Altroy and Hastorf 2001), but we need to develop more case studies from coastal regions in order to understand the manifold implications of Inca expansion in these contexts. Recent research is beginning to address the complex political relationships between Inca officials and local elites in coastal regions (Eeckhout and López-Hurtado 2018; Mackey 2006, 2010; Mackey and Nelson 2020; Marcus 2017).

In the last section of the chapter, I discuss research on the Aztec Empire of Central Mexico. The case studies of the Inca and the Aztec have often been highlighted as opposites; the

Aztec are viewed as a state that relied heavily on market exchange, while for the Inca, market principles have been thought of as relatively nonexistent, and archaeologists consider the Inca a non-market redistributive state (Murra 1972, 1980; Stanish 1997). The Inca relied on exchange between groups in different ecological zones that was often centralized through the state and relied on the authority of the Inca state. This political economy relied on what Murra termed the Vertical Archipelago (Murra 1972, 1975, 1878, 1980). On the other hand, in the case of the Aztec, while some exchange was controlled through state-redistribution, such as jade and feather-worked pieces (Umberger 2017:195), markets and exchange outside of direct state control were central to supporting the Aztec political economy (Berdan 2016:214; Durán 1994[1581]:159). Recent research in both the Andes and Central Mexico has pushed back against viewing the Inca (Hirth and Pillsbury 2013; Mayer 2013; Sandweiss and Reid 2016) and the Aztec (Brumfiel 1980; Nichols 2017) as strictly market or non-market, but rather to understand the diverse types of exchanges that occurred within specific contexts, and exactly how the economies worked in specific regions.

In both the Aztec and Inca Empires, long-distance merchants played an important role. In the case of the Aztec these were known as *pochtecas* and they traveled to the southern extent of the Empire for important prestige goods such as feathers and cacao (Berdan 2016). The Inca Empire also relied on long-distance traders, likely the Chincha, who traveled north to Ecuador for spondylus shells and precious gems (Barraza 2017; Rostworowksi 1970).

The research from Las Huacas presented in this dissertation demonstrates that the time period when the Chincha were part of the Inca empire (the Late Horizon ca. AD 1400-1534) was a period of dynamic change in the Chincha Valley. During this time period, there were changes to the architecture, material culture, and activities conducted within certain rooms of Complex

N1 (**Figure 1.4**) at the site of Las Huacas. Based on data from excavations, Complex N1 originally had a much more open architectural plan and became increasingly more restricted through time. These changes are likely associated with shifting sociopolitical strategies that were influenced by Inca motives and local Chincha elites. During the Late Horizon there appears to be a shift from more inclusionary to exclusionary sociopolitical strategies at Complex N1 at the site of Las Huacas.

Alongside the transformations to the organization of space, the excavation area in Sector A was the location of various activities. First, it was the location of long trenches likely used for cooking, then for craft production and then to corral camelids. After this occupation, the area was burned and then reused for the burial of multiple individuals using various different mortuary treatments (Chapter 6). Analyses of ceramics (Chapter 5) and other artifacts (Chapter 7) highlight the possibility that ceramic production was moved to another location during the Late Inca Period, which is similar to the site of Tambo de Mora (Alcalde et al. 2010). These transformations to the space and activities conducted there were likely due both to changes imposed by the Inca and actions by local elites as they adapted to the dynamic changes of the period.

Research at Las Huacas also contributes to discussions of economic exchange in the Inca Empire. Excavations recovered a large number of *balanzas*, or scales, at the site of Las Huacas (Chapter 8). While the Inca generally relied on a non-market economy, the networks and methods through which goods were exchanged differed from region to region. The Chincha merchants would have been in contact with unincorporated groups from northern Ecuador, and these transactions would likely have been governed by different principles than the Vertical Archipelago, which relied on the authority of the Inca state. Based on comparisons to studies from the Near East and Europe (Chapter 9), weights and scales are not associated with one specific type of activity, and could have been used by merchants as tools for controlling important resources involved in craft production, or in transactions between local people (Kershaw 2019). Consequently, *balanzas* need to be understood within their context. Unfortunately, most are found in burials and constructing their exact use remains elusive. Analytical analyses of known *balanzas* in the Chincha Valley (Chapter 8) reveal that there might have been different types of *balanzas* that could have been associated with different functional uses or stylistic preferences.

Balanzas are found throughout the Peruvian coast, but the largest known collection comes from the Chincha Valley. Similar types of weighing tools have also been described in Ecuador and Colombia (Salville 1925). The presence of these types of artifacts in Chincha might have been tied to their role as long-distance merchants to Ecuador, and the trade and transactions that they carried out outside of the direct control of the Inca state (Salomon 1987). In these regions, the Chincha would not have been able to rely on the same principles of the Vertical Archipelago. In this same vein, many researchers have highlighted the possibility that Late Horizon Chincha might have had "a nascent market economy" (D'Altroy and Earle 1985:195; Sandweiss and Reid 2016:7-8) and possible early forms of copper money or *chaquira*[1] (Rostworowski 1970:154; Sandweiss and Reid 2016:8-9). The presence and fairly wide-spread use of *balanzas* in the region during the Late Horizon and possible money or *chaquira* highlights that further work is needed to understand the economic organization of the Chincha Valley both during the LIP and the Late Horizon.

[1] *Chaquira* are strings of white and red spondylus shell beads that could have served as an early form of money. (Salomon 1987:66, Sandweiss and Reid 2016:8).

The data presented in this dissertation highlights the complex relationship between the Inca and the Chincha in the Late Horizon and the importance of developing regional frameworks for understanding the multiple interactions between the Inca and local people. These relationships changed though time and did not have the same effect on all sites throughout a region.

Imperial Theory

Empires use a variety of strategies in order to incorporate and administer their territories. Imperial strategies are usually labeled as “direct” or “indirect” (Menzel 1959; Schreiber 1987; D’Altroy 1992), but as research has demonstrated, imperial tactics are rarely exclusively direct or indirect (Alconini 2008; 2016; Covey 2000; Eeckhout and López-Hurtado 2018; Mackey and Nelson 2020; Meddens and Schreiber 2010). Imperial strategies are better viewed as a continuum rather than a clear-cut dichotomy. Furthermore, these strategies are constantly evolving, influenced by both imperial and local actors and provincial administration was the result of actions of both the imperial agents and local elites, which can be understood as an “improvisational order”. As Wernke (2013:8) describes “improvisational order helps to resituate analysis from a top-down perspective toward one that explores the working out of power in situ.” Research presented in this dissertation demonstrates that the site of Las Huacas had less direct Inca influence than the coastal capital of La Centinela, but that there were still substantial changes overtime to the use and organization of Complex N1. These changes were influenced by Inca presence in the regions and local elites as they adapted to changes during the Late Horizon. While Empires are usually thought of in terms of their territorial expansion, the Inca Empire emphasized the control of people and labor over territories (Mannheim, personal communication).

While empires are known for their diversity, their style of political economy drove their administration and incorporation strategies (Alcock et al. 2001; Doyle 1986; Parker 2003; Luttwak 1976). For example, the Mongols used their status as nomads, their military prowess, and tolerance of religious freedom to expand during the 13th and 14th centuries (Honeychurch 2015; May 2018). For their part, the Aztec relied on a complex market and a rigid class system (Berdan 1975, 2014). The Inca mainly relied on a wealth and staple finance political economy (D'Altroy and Earle 1985; Murra 1980), and the control of people and labor.

Ancient Economic Organizations

Economy, religion, and social practice are often considered separately in today's world but are intimately connected in traditional societies (Galaty et al. 2016; Malinowski 1922; Mauss 1990[1925]; Umberger 2017; Rappaport 1971). The anthropological literature provides an avenue for understanding the larger systems in which economies can become embedded. One commonly cited example is the Kula ring of the Trobriand Islands in the western Pacific, which specifically concerned the reciprocal exchange of shell bracelets and necklaces. These goods were circulated across the islands in specific directions and between certain partners (Malinowski 1922). While the focus of these events was on the exchange of these prestige items, these events also drove other types of secondary trade, as well as the acquisition of resources unique to certain islands. Furthermore, while these activities were typically called gift giving, participation in these rituals was not necessarily voluntary. As Mauss (1990[1925]:3-4) described it:

> Exchanges and contracts take place in the form of presents; in theory these are voluntary, in reality they are given and reciprocated obligatorily… in these 'total' social phenomena, as we propose calling them, all kinds of institutions are given expression at one and the same time — religious, juridical and moral, which relate to both politics and the family; likewise economic ones, which suppose special forms of production and consumption, or rather, of performing total services and of distribution.

In this way, economic transactions are embedded in society and involve complex relationships of kinship, social ranks, politics, and religion.

As societies grow in size and increase in complexity, these relationships change substantially and include ever more factors. Economies of ancient empires incorporated diverse polities, and various people, goods and technologies. This diversity required specialized labor and clear class systems (Berdan 1975; Brumfiel 1998; Costin 1991; Costin, and Earle 1989; Levi-Strauss 1963; Sinopoli 1988). Many times, in addressing these economic systems, researchers utilize the dichotomy of market versus non-market systems. Whereas market economies follow the laws of supply and demand, non-market economies rely on state redistribution (Polanyi 1977; Polanyi, Arensberg, and Pearson 1957; Cook 1966; Dalton 1977; Hirth 1998). As Berdan (2000:43) highlights, "the distinction between market and marketplace is important because conditions may exist where markets are in force without actual contact between suppliers and demanders, and marketplaces may exist without the support of market principles." In one approach, market exchange is defined as one where exchanges are related to supply and demand and there is some concept of equivalency (Feinman and Garraty 2010).

There are important differences between market and non-market economies in how value is created and wealth is stored. In non-market economies such as the Inca value "depend[ed] on the human relationships they symbolize" (Morris 1993:42). Within the Inca system cloth played a particularly important role and it was not about the quantity of goods but the symbolic value of specific goods that represented social relationships (Morris 1993; Murra 1962). On the other hand, in the Aztec Empire, when researchers discuss the concept of wealth they look at house size, field size, and quantities of valuable artifacts to discuss different class and wealth distinctions (Olson and Smith 2016; Smith 2009; Smith et al. 2014). Nevertheless, even though there are important differences in the creation of value and expression of wealth in market and non-market economies, scholars often focus too rigidly on classifying groups as one or the other. Through focusing too rigidly on market versus non-market researchers overlook the complex exchange systems that existed, which could sometimes be a mix of both market and non-market. Exchange and economy are not isolated phenomena but rather are embedded in political, religious and social interactions that are grounded in long-standing practices in a region.

The Inca

The Inca Empire arose in the highland region of Cusco during the LIP. After they had consolidated their heartland (Covey 2006), the Inca expanded to create an empire that extended north to Ecuador and south to central Chile (Bauer and Covey 2002). Owing to their ability to combine force and diplomacy, the Inca created the largest empire of the Americas (Alconini and Malpass 2010; D’Altroy 1992; Murra 1980; Rostworowksi 1999). One of their skills was an ability to tailor their incorporation and administration techniques to distinct regions and ethnic groups. Their regional administrative decisions took into account the location, resources and pre-existing infrastructure of the region, as well as how peacefully the inhabitants of incorporated territories acquiesced to Inca rule (D’Altroy and Hastorf 2001; Meddens and Schreiber 2010; Menzel 1959; Morris and Covey 2006; Schreiber 1987; Stanish 1997, 2001)

As is the case with other ancient empires, Inca imperial strategies are often labeled as “direct” or “indirect” (Menzel 1959). Direct rule is commonly conceived of as when the Inca themselves oversaw state-sponsored activities either through Inca officials or local elites who had been elevated to the status of “Inca by privilege” (Bauer 1992a). Indirect rule is when the Inca relied heavily on the institutions and authority of acquiescent local elites to acquire what they needed from the region. Many authors find this direct versus indirect distinction to be simplistic and that Inca strategies in a region are usually the result of both direct and indirect Inca strategies (Alconini 2008, 2016; Eeckhout and López Hurtado 2018).

Regardless of how direct or indirect their administration was, in many regions the Inca developed specialized labor forces and increased the production of strategic state resources through a variety of tactics (Costin 2015; D’Altroy and Hastorf 2001; Mackey 2006, 2010; Mackey and Nelson 2020; Morris and Covey 2006). In creating these changes, the Inca relied on the support and participation of local elites. At certain locations in the region, the Inca extracted a surplus of strategic state resources such as corn, fish, potatoes and craft goods which were then redistributed through the state in the Inca nonmarket economy (Costin 2015; D’Altroy and Earle 1985:201; Murra 1980).

The Inca economy has been described as a wealth and staple finance economy by D’Altroy and Earle (1985). Production of staple resources included corn, potatoes, and fish. These staple goods were stored in state *tambos* (or storehouses). The wealth finance side included the production of prestige items, such as metals, ceramics and textiles that transmitted Inca power throughout the Andes (DeMarrais et al.1996, Shimada (ed.) 2015). As described above, in the Inca state, items were valuable for the social relationships that they represented, therefore specific styles and symbols were important components of expanding Inca power (Morris 1993:42). The Inca were particularly skillful at using material expressions of Inca and local power, such as textiles and metals, to extend their control and build relationships with local people.

This was especially true in the coastal regions where in many cases, including Farfán (Mackey 2006, 2010; Mackey and Nelson 2020) and the Lurín Valley (Eeckhout and López-Hurtado 2018), Inca strategies were geared towards ideological control and incorporating people into the Inca religion and social world (Eeckhout and López-Hurtado; Mackey 2006, 2010; Mackey and Nelson 2020). Imperial luxury craft goods such as metals and textiles were important in building relationships with local elites. Through these relationships, the Inca created a complex sociopolitical organization that contained both hierarchical and heterarchical distinctions (Bauer 1992a, 1992b, 1998b; Zuidema 1964).

Thus, Inca political authority came to be symbolized by certain types of architecture, textiles, ceramics, and metal artifacts (Protzen 1991, 2010; Lechtman 2014; Morris 1993; Costin 2016) that were used in a variety of contexts. Metals, for example, were an important part of elite identity and carried special significance within local and Inca culture (Shimada and Merkel 1991). Architecture was a powerful permanent representation of power and Inca constructions used specific building materials such as stone masonry and Inca adobes (Eeckhout 2010; Farrington 2013; Menzel 1959; Morris et al. 2011; Prtozen 2010). Certain types of ceramics, ranging from utilitarian to fine wares, came to have their shape and decoration tied to certain activities, cultural groups, or religious practices (Cotsin 2016; Bray et al. 2005). The Inca utilized specific forms such as *aríbalos* and plates to extend their control, but in many regions they also incorporated elements of previous styles to develop their authority (Mackey 2020; Costin 2016; Hayashida 1999), this will be described more in Chapter 4. These material objects were central to creating social relationships which were the backbone of the Inca Empire which relied on important horizontal and vertical distinctions.

These distinctions were used throughout the Empire but are most clearly understood for the Inca heartland of Cusco. In Cusco, the Inca established the *ceque* system which divided the city of Cusco and the Empire into regions with both hierarchical and heterarchical distinctions (Bauer 1992a, 1992b; Zuidema 1964). This system was composed of "lines", though sometimes not necessarily straight, which, along with dividing people, were also important in ritual processions (Farrington 2013; Bauer 1992,1998a, 1998b). To varying degrees, this *ceque* system was recreated in important regional centers throughout the provinces in order to symbolically replicate Inca control and further bring important provinces into the state (Bauer 1998a; Coben 2006; Hyslop 1985). Regardless of whether or not a *ceque* system was created, or is proposed to have been created, relationships and ranks between local elites changed under Inca expansion. This is most clearly seen through the designation of "Inca by privilege" (Bauer 1992a; Kosiba 2010; Mackey 2006, 2010; Morris and Covey 2006), in which the Inca bolstered the authority of some local groups and diminished the authority of others. This happened in the Lurín Valley where the Inca diminished the authority of elites living at the site of Panquilma; here an elite structure was burned and then abandoned during the Late Horizon (Eeckhout and López-Hurtado 2018; López- Hurtado 2011). In contrast, at the site of Huaycán de Cieneguilla it appears that the Inca bolstered local authority which resulted in important elite constructions being modified during the Late Horizon (Alvarez-Calderón 2011).

Through various methods the Inca were able to expand and incorporate groups into their growing empire. The social interactions between the Inca and local groups is generally portrayed as fueling the Inca political economy which relied on the redistribution of goods through the Inca State in what Murra (1792) has termed the Vertical Archipelago.

Redistribution in the Andes and the Inca State

Many scholars view the Inca economy through the lens of the "vertical archipelago" model where state redistribution of specific key resources was central (Murra 1975, 1978, 1980, 1983; D'Altroy and Earle 1985). The Inca placed or adapted settlements in strategic resource zones to exploit a variety of resources and produce imperial craft items. Within this type of political economy, reciprocity and redistribution were central components.

The model of the Inca state builds on discussions by anthropologists, economists, and sociologists on how economic and sociopolitical relationships are embedded in redistributive and reciprocal interactions (Mayer 2002; Durkheim 1982[1895]; Malinowski 1922; Mauss 1990[1922]; Polanyi et al.1957). As societies get larger and more complex, the nature of these reciprocal and redistributive relationships changes substantially (Galaty et al. 2016; Nakassis 2010, 2013; Voutsaki 2016).

In the Andes, there is a rich literature that discusses a wide variety of redistributive and reciprocal relationships that ancient people maintained and how this is connected to political organization (D'Altroy and Earle 1985; Goldstein 2013; Mayer 2013; Murra 1975, 1980; Stanish 2010; Van Buren 1996). Many redistributive economies are based on the idea of labor as tribute, a system in which workers are compensated by the state with craft goods and feasts for their services. The idea of labor as tribute probably goes back to at least the time of the Moche (100-700 CE), when labor groups left their makers' marks on adobes used to construct the Huacas del Sol y la Luna (Hastings and Moseley 1975). The later Tiwanaku state (600-1000 CE) relied upon redistributive and reciprocal relationships by sending settlers to diverse resource zones (Goldstein 2005, 2013). Goods were then exchanged by members occupying these different resource zones in a nonmarket economy that relied upon family or fictive kin ties and principles of reciprocity.

Throughout Andean prehistory the vertical archipelago took various forms, based on the size and complexity of the polity (Aldenderfer 1989; Goldstein 2013; Murra 1975). This kind of exchange can be seen clearly in the non-market economy of the Tiwanaku, which was based on reciprocal relationships within ethnic groups (Goldstein 2013). The Tiwanaku were able to exploit resources where it had colonies, but had problems obtaining obsidian and *Spondylus*, which were largely unavailable in the Tiwanaku heartland and its colonial outposts. The Inca, while also relying on a similar model, encompassed a large area of diverse ethnic groups, and could not directly oversee some aspects of imperial control. The Inca, relied on relationships with local elites and *corvée* labor to extract and redistribute strategic state resources and craft goods, rather than exchange solely between kin-like groups.

The sheer size and scale of *Tawantinsuyu* made it difficult for the Inca to foster relationships with all of its subjects; consequently, the Inca established special relationships with local elites and sometimes commandeered local religious centers, such as Pachacamac in the Lurín Valley, to bolster their authority (Eeckhout and López-Hurtado 2018; Kosiba 2010; Mackey 2006, 2010; Morris and Covey 2006; Stanish and Bauer 1997). At the site of Huánuco Pampa, the Inca interacted with local elites and labor groups known as *mit'a* and, in an attempt to make the relationship appear reciprocal, held feasts, and distributed imperial craft goods (Morris 1993). For this purpose, Huánuco Pampa featured 497 storage units, a brewery, and a textile production facility (Morris 1993; Morris and Covey 2006; Morris, Covey, and Stein 2011;

Morris and Thompson 1985;). Under Inca occupation the high grasslands of Huánuco, once sparsely occupied, experienced large-scale changes to its regional economic organization. These changes were integrated through communal feasting and the production and distribution of imperial craft goods and corn beer.

Case Studies of Inca Expansion

The previous section has considered some broad principles of the Inca state, but to fully understand their empire, it is necessary to develop specific cases studies (**Figure 1.5**). As previously described, the Inca sometimes elevated local groups to the status of "Inca by privilege" and other cases demoted their status. Below, I develop examples of the Inca expansion into highland regions such as Huánuco, the Mantaro Basin, and Oroncota. I next look at Inca expansion onto the Peruvian coast with case studies from the Jequetepeque, Lurín, and Cañete Valleys. I draw a distinction between cases from the mountainous regions of the Andean highlands and the coast. While there was no monolithic or single Inca coastal strategy, the Inca approach to the coast contrasted with their administration of the highlands. This is reflective of the differences in the types of polities that they encountered — because they came into contact with specialized and centralized groups, where in many highland regions groups were largely decentralized prior to the Inca (Morris and Covey 2006).

Highlands

Huánuco

In the region of Huánuco, 1,600 km to the northwest of Cusco, the Inca constructed the administrative center of Huánuco Pampa in a previously unoccupied area (Morris et al. 2011;

Morris and Thompson 1985). The Inca relied upon a local group called the Chupaychu to administer the province, and in return the Chupaychu were given a new elite social status and privileges (Morris and Covey 2006). Huánuco Pampa was connected to other Inca waystations and sites by a network of roads (Morris and Thompson 1985, 1992). The construction of the roads created connections throughout the region, and thousands of storage features were created for surplus food resources and craft items. Huánuco Pampa was an important place where Inca officials met with local elites who had been granted the status of "Inca by privilege" and were essential to the extension of Inca imperial power to the region. The architecture of Huánuco Pampa differed sharply from that of other sites in the surrounding area, and so did much of the material culture (Morris and Covey 2006).

Mantaro

Studies of the Wanka polity in the Mantaro River Basin have found evidence for major transformations to the region. While the use of *chicha* (corn beer) and textile production existed prior to the Inca, under Inca rule the area saw an increase in both activities (Costin 2015; Costin and Earle 1989; D'Altroy and Hastorf 2001). Archaeological research also found evidence for changes in settlement patterns and agricultural production; for example, there was an increase in the number of settlements in the *kichwa* (*Polylepis* woodland) ecological zone where corn could be grown. In the Mantaro region Inca expansion created changes to various aspects of the local economy.

Oroncota

On the eastern slope of the Andes the Inca incorporated the region of Oroncota (Alconini 2008, 2016). The Inca constructed a complex on the Pucara Plateau which utilized typical Inca architectural features but there is no evidence for changes to the regional economy or attempts to extract agricultural surpluses. Neither was this complex the focal point of craft production or attached laborers, and there were no large-scale changes to the location and size of settlements during the Late Horizon. Similarly, there is no evidence for increased storage capacity as accompanied the construction of sites such as Huánuco Pampa (Morris and Thompson 1985) or increased agricultural production through the construction of terraces. Alconini (2008) refers to Oroncota as a "disembedded" Inca center, one that was constructed to project Inca power rather than to serve as a center for the type of administrative and economic changes seen in the Mantaro Basin and Huánuco. In this frontier zone the Inca were trying to extend their control into the Amazon Basin (Alconini 2005, 2016)

Inca Coastal Strategies

In Huánuco, the Mantaro Basin and Oroncota, the Inca created their own sites at certain strategic points, but the regions all experienced Inca expansion differently. In coastal regions such as the Jequetepeque, Lurín, Cañete the Chincha Valleys, the Inca used a variety of strategies to create important ideological and economic changes.

Farfán

The coastal site of Farfán was part of the Lambayeque/Sicán polity from AD 1100-1300, the Chimú Empire from AD 1300-1460, and the Inca Empire from AD 1460-1532 (Mackey

2006, 2010). Under both the Chimú and the Inca, changes in the site and its functions built upon preexisting architecture and reflected the sociopolitical strategies of each empire. The Chimú, for example, were motivated by the economic gains they could receive from the Jequetepeque Valley and worked to directly control the site and its surrounding areas. Farfán was next incorporated into the Inca Empire; the Inca took a more ideological control (Mackey 2006:340) through adding an *ushnu*[2], "food preparation mounds", and "areas dedicated to funerary activities and other rituals". These burial features were central to bringing the people of the region into the Inca Empire (Mackey and Nelson 2020). Alongside the burial practices, the Inca also created centers of craft production, and introduced a large number of bureaucrats (Mackey 2010:226). While the Chimú were motivated largely by economic gains, the Inca "emphasized ideological activities, both political and religious" (Mackey 2010:257) in order to incorporate groups from the surrounding region into the empire.

Lurín Valley

Similar to the site of Farfán, many sites in the Lurín Valley were modified while the region was under Inca control. Prior to Inca expansion, local elites had established control over certain regions of the valley and surrounding areas. When the Inca incorporated this region, these elites not only received their authority from cooperating with the Inca, but also through continuing to sponsor feasts and receive support from the local inhabitants (Marcone and López-Hurtado 2015). These local elites were not directly involved in collecting tribute for the Inca state but were important middlemen between the Inca and the local inhabitants of the region.

[2] An *ushnu* is an Inca style altar or platform (Hyslop 1990).

Within the Lurín Valley lies the site of Pachacamac, which was an important oracle and pilgrimage center. During the LIP, researchers believe that Pachacamac's influence was mainly local and that it grew during the Late Horizon as part of the Inca state's expansion (Eeckhout and López-Hurtado 2018; Makowski 2008). The Inca also built a temple of the sun, a new temple for the deity Pachacamac, and an *aqllaqwasi*[3] at the site of Pachacamac. These new constructions were part of the Inca strategy to take ideological control of the region and coopt the religious pilgrimage site of Pachacamac to develop their own authority.

Eeckhout and López-Hurtado (2018:187) list three major categories of Inca administration in the region: "the introduction of foreign population, infrastructure construction, and the co-optation and sometimes suppression of local leadership." The Inca established the site of Pueblo Viejo-Pucará "to control the flow of resources and labor force in the Lurín Valley" (Eeckhout and López-Hurtado 2018:187). The Inca likely created the site of Pueblo Viejo-Pucará to house highland *mitmaqcona* who helped oversee the valley and develop the royal road between Pachacamac and Hatun Xauxa (Makowski 2002).

In other areas the Inca did not construct their own site or bring in labor groups, but rather focused their efforts on the relationships with local elites. Within these relationships, the Inca sometimes suppressed certain local elites while elevating others. During the LIP at site of Panquilma, elite residences and public buildings were an important place where community rituals took place. These residences were burned and abandoned in the Late Horizon, while the domestic residential areas of the site continued to be occupied during the Late Horizon (López-Hurtado 2010, 2011). In this case, it appears that the Inca tried to diminish the authority of the elites that once resided within these residences at the site of Panquilma. On the other hand, not

[3] An *aqllawasi* was a house of the "chosen women", it housed women who were in charge of making corn beer, and textiles among other activities (Mackey 2010)

every Lurín Valley site was treated in this way. For example, elite residences at Huaycán de Cieneguilla and Pampa de las Flores continued to be used throughout the Late Horizon; they were simply modified to contain Inca architectural features, such as trapezoidal niches and Inca-style adobe bricks (Alvarez-Calderón 2011; Eeckhout and López-Hurtado 2018).

Research from multiple sites throughout the Lurín Valley shows that the Inca used a complex array of strategies to incorporate coastal groups, and that these strategies varied within the same region. At the site of Pachacamac, the Inca shared authority with the oracle of Pachacamac, but in other areas they took care to make sure that Inca control was direct, such as the site of Pueblo Viejo-Pucará, where a highland *mitmaqcona*, *corvée* labor groups, likely resided. The Inca elevated the status of local elites at Huaycán de Cieneguilla, and demoted others at Panquilma. These studies represent a complex mosaic of Inca presence and show how strategies could change within the same region.

Cañete Valley

Approximately 75 kilometers south of the Lurín Valley lies the Cañete Valley. As ethnohistoric sources describe it, the Inca first incorporated the upper valley polity known as Lunahuaná, but it took longer for them to incorporate the lower valley Guarco polity that resisted Inca expansion (Marcus 2017; Rostworowski 1978-80, 1999). In Lunahuaná, the Inca constructed the new administrative center of Inkawasi, a site with a large storage capacity where tribute collection and rituals occurred (Chu 2018; Hyslop 1985). Inkawasi had a large plaza and *ushnu* where public rituals could be held, and excavations recovered panels in the floor that were likely used for counting goods, and a large number of *khipus* (Chu 2018). This upper valley site then became a base of operations for repeated Inca attempts to conquer the lower Cañete Valley Guarco polity (Rostworowski 1978-80).

After subduing the local elite of Guarco, the Inca built a highly visible structure atop a seaside cliff at the site of Cerro Azul (Marcus et al. 1985). This structure was constructed in the typical Inca style, using adobe bricks (rather than the *tapia*[4] of pre-Inca times). It had typical Inca features such as trapezoidal niches, an *intiwatana* (sacred stone recording the path of the sun) and a reinforcement wall made out of "sillar stones in Inca style" (Marcus 2017:6). On a nearby cliff the Inca also created a circular public building of sillar stones, which was designed to be highly visible from the ocean. Elsewhere in Guarco, the site of Canchari was also remodeled during the Late Horizon (Serrudo and Coben 2018:21-22).

In the Cañete Valley the Inca used a wide variety of strategies at sites throughout the region. They constructed the entire site of Inkawasi and a new structure at the site of Cerro Azul, while at the site of Canchari existing structures at the site were transformed. Through these changes, the Inca established relationships with local elites and built the necessary infrastructure to grow and expand their Empire. Within this project local elites played various different roles.

Inca Expansion

The case studies developed above represent the wide variety of state infrastructure that the Inca relied upon to expand their Empire into distinct regions. While, each area is unique and should be studied within its own context, there are some important differences between the coast and other cases of Inca expansion. Many of the coastal valleys did not require the same type of infrastructure because they were already home to centralized polities (Cieza de Leon

[4] *Tapia* is a construction technique were clay is poured between two molds and then dries and hardens. This technique was used throughout the Peruvian coast prior to the Inca but was also used during Inca times.

2015[1553]; Castro and Ortega Morejón 1938[1558]; Fernández et al. 1844). Specifically, in the central and the south coast of Peru, the Inca entered political situations where there were many complex polities already trading and competing with each other. In this region, rather than superimposing their power, they selected certain local elites, and shrines, such as Pachacamac, to bolster their authority and project Inca imperialism to a larger population. These aspects of Inca expansion need to be explored to better understand the complex political economies of the coast during the LIP and Late Horizon, and to understand how they were transformed through Inca strategies and local actors.

Aztec Empire

The Inca and Aztec Empires offer good comparisons for each other; both arose in the New World and fell at the hands of the Spaniards. Furthermore, the two empires are traditionally viewed as having two very different economies, with the Inca seen as a largely non-market redistributive economy, while the Aztec relied on tribute, long-distance traders, and marketplaces (Berdan et al. 1996). The Aztec incorporation and administration strategies can generally be divided into (1) tributary and (2) subject (Gasco 2017; Hicks 1992). In subject provinces groups were incorporated through intermarriage or force, where tributary provinces were not as formally brought into the Aztec Empire.

Two subject provinces in the Central Mexican highlands, Cuauhnahuac and Calixtlahuaca, serve as contrasting examples. As the result of multiple marriage alliances, Cuauhnahuac had a good relationship with the Aztec prior to being incorporated; at one point, however, when there was no marriage alliance, an Aztec administrator lived at the site (Sergheraert 2017). In contrast, Calixtlahuaca was forcibly conquered by the Aztec and their ruler was killed. Afterwards, an Aztec overlord was appointed, and a military garrison established at the site. There were multiple reconstructions of buildings at the site that contain Aztec features and a new temple was built that was likely for *Tlaloc,* the important Aztec rain deity. These two cases demonstrate the variety of ways that subject states were incorporated and administered.

Still a third case was that of Xoconochco, a tributary province that was located at the most southerly extent of the Aztec Empire (Gasco 2017). This region was important for procuring feathers and cacao and was incorporated into the empire in the late 15th century. Prior to their incorporation, they had been a trading partner of the Aztec Empire. Within this trading relationship it is unclear exactly what role the Aztec long-distance traders known as *pochteca* played. After the region was incorporated, two military officials were installed at the site (Gasco 2017:238). Outside of the installation of military officials, there were changes to the material cultural, specifically the use of Aztec ritual objects such as figurines and censers (Gasco 2017; Smith 2002).

As part of their tribute demands, Xoconochco had to provide the Aztec Empire with cacao and feathers (Berdan and Anawalt 1992; Gasco 2017). The feathers were used to decorate important prestige items such as warrior shields; cacao, on the other hand, was consumed by Aztec elites and is highlighted in the Colonial records as serving a monetary role. Francisco Hernández described four different kinds of cacao beans, three that he says were used for money and one that was primarily used for making beverages (Gasco 2017:227). In many Colonial records prices are recorded in cacao beans, but there was not necessarily a single price that was recognized throughout the region. Cacao was a good form of currency because “it is portable, relatively durable, divisible, recognizable, and somewhat difficult to counterfeit” (Gasco

2017:225). It was through the tribute demands on this province and original trade relations with this area that the Aztec were able to procure important resources for the state.

Outside of tribute demands, the Aztec economy was heavily structured around the elites who owned land. The commoner population would work this land as a form of *corvée* labor, but they did not necessarily have a patron-client relationship. The commoners were independent and able to provide for themselves through market exchange (Hirth 2016:58). The Aztec system was highly hierarchical, but there was a group of wealthy long-distance merchants known at the *pochteca* who were partially state-sponsored. This group did not display their wealth in the same way as elites, and they were often invested in by the ruling elites (Hirth 2016:236). In this way the *pochteca* were both independent entrepreneurs and important vassals of the state.

Studies in other Aztec provinces also point to exchange that was not regulated by the state (Smith 1997, 2010). In the town of Cuexcomate, household production of textiles within commoner households was used to acquire goods from the markets. These exchanges, while outside of the direct control of the state, were important for the exchange of goods throughout the region and, when incorporating new territories, the Aztec would stipulate how often new provinces had to hold market days (Hirth 2016). While exchange in the markets was not directly overseen by the Aztec ruling class, these exchanges were central to the Aztec economy, and were thus an important part of life in the Aztec provinces.

Aztec Marketplaces

The marketplaces themselves were something that astonished the Spaniards. Bernal Díaz del Castillo (2012[1496-1584]:211-212), a soldier in the Spanish Conquest, described the Aztec market as follows:

> [We] turned to look at the great marketplace and the crowds of people that were in it, some buying and others selling, so that the murmur and hum of their voices and words that they used could be heard from more than a league off. Some of the soldiers among us who had been in many parts of the world, in Constantinople, and all over Italy, and in Rome, said that so large a marketplace and so full of people, and so regulated and arranged, they had never beheld before.

Marketplaces were the center of formalized trade and oversaw the exchange of the majority of products throughout the Aztec Empire (Hirth 2016:59). Outside of the numerous exchanges that occurred within markets, the exchange of some goods was regulated by the state. This included feather-worked pieces (particularly shields) and jade (Umberger 2017:195). These goods were important in maintaining the separation between elites and commoners. While feather-worked pieces were important goods that were generally exchanged under elite control, in many cases regions were expected to provide feather-worked pieces, even when they did not have direct access to these items (Berdan 2016; Berdan and Anawalt 1992). While the Aztec did exact tribute of feathers from regions such as Xoconochco, other regions that did not have direct access to feathers had feather shields among their tribute demands and likely had to procure the materials on their own. In such cases, markets were one source of feathers, so while the state may have not been directly involved in the specific transactions, the Aztec imperial project strove to facilitate these types of exchanges.

As studies from the Aztec region demonstrate, understanding the economies of ancient empires requires multiple lines of evidence as well as diverse perspectives and research methodologies (Berdan et al. 2017; Hirth et al. 2017). The Aztec Empire provides an interesting contrast to the Inca, but it can also be productive to look at some of the parallels (Covey and Aland 2017). From the ethnohistoric record and archaeological evidence, it is clear that the Inca and the Aztec relied on very different political economies. The widespread nature and organization of marketplaces in Central Mexico was not the same as the Andes, where the Inca constructed large storehouses. On the other hand, similarities include how both relied on elite prestige items that were controlled by the state to project, expand, and maintain their power. The Aztec relied on the long-distance merchants known as *pochteca* to procure items for the state. This included exotic feathers and cacao beans that were found at the southern extent of the Empire. Similarly, the Inca relied on the Chincha long-distance merchants to procure *Spondylus* and other gems from Ecuador. The Chincha case will be described more in detail in Chapter 2.

Conclusions

Empires around the world used a variety of strategies to incorporate regions, these strategies were based on the state's political economy and the previous political structures of the region. The case studies developed above for the Inca Empire emphasize the varied role of local elites in the provinces, particularly on the coast. Local elites might have had their authority diminished (as they were at Cerro Azul or Panquilma) or bolstered by Inca authority (as the Chupaychu were at Huánuco Pampa and the Chincha). The Chincha Valley presents an interesting case study due to the role that it served in the Inca Empire as important allies and long-distance merchants to the Gulf of Guayaquil (Ecuador) (Rostworowski 1970; Sandweiss and Reid 2016). In the Chincha Valley, the Inca ruled jointly with the local Chincha leader and their palaces sat side by side at the local administrative center of La Centinela (Morris and Santillana 2007).

Chincha served as an important mediator between the Inca state and the unincorporated polities of Ecuador. In the ethnohistoric sources it is stated that Chincha exchanged copper for Ecuador's (1) highly prized warm water oyster, known as *Spondylus*, and (2) precious gems

(Rostworowski 1977). The Chincha are even described as having copper currency and using scales (or *balanzas*) that might reflect a nascent market economy. As will be described in Chapter 8, my excavations at the Chincha site of Las Huacas recovered a wide variety of *balanzas* which can give new insights into the Chincha economic practices, and the complex methods of exchange that the Inca Empire relied upon. Imperial expansion is a fascinating phenomenon that created diverse changes to local economies. The Chincha case offers a particularly interesting case study due to the prestigious position that they held within the Empire and their relationship to long-distance trade.

Chapter 1 Table and Figures

Time Period	Dates
Formative	800BC – AD 200
Early Intermediate Period (EIP)	AD 200-600
Middle Horizon	AD 600-1100
Late Intermediate Period (LIP)	AD 1100-1400
Late Horizon	AD 1400-1534
Spanish Colonial Period	AD 1534-1821

Table 1.1. Periods of occupation in the Chincha Valley.

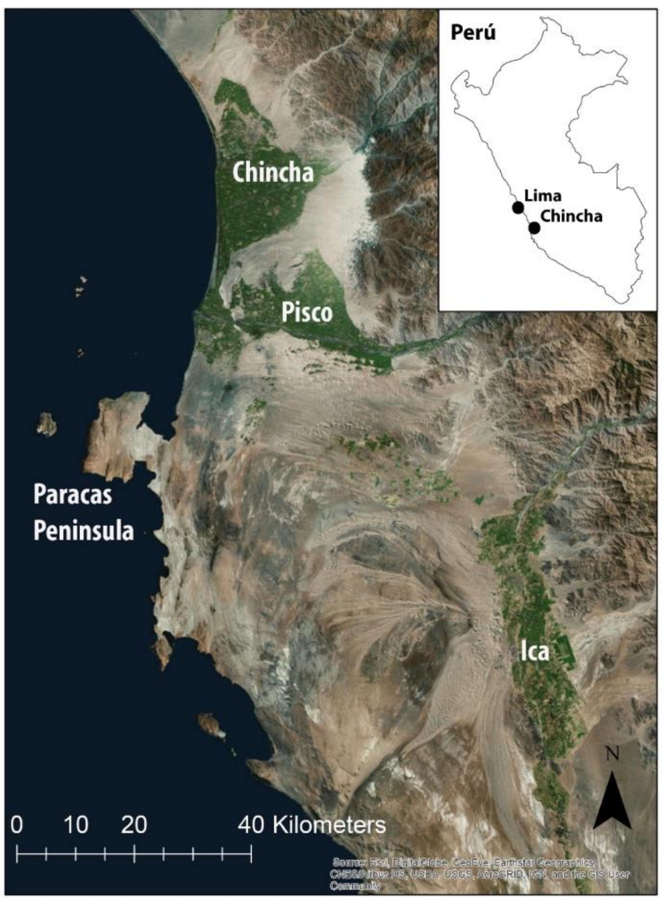

Figure 1.1. The location of the Chincha, Pisco and Ica Valleys and the Paracas Peninsula along the Pacific coast of Peru.

Late Intermediate and Late Horizon Settlement Pattern

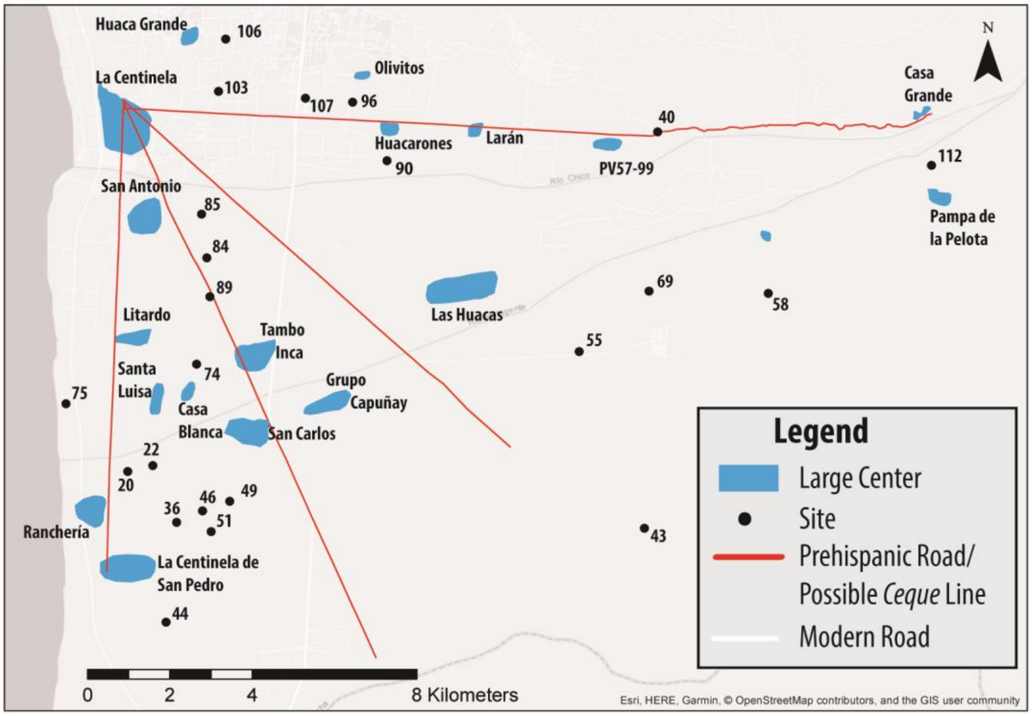

Figure 1.2. Late Intermediate and Late Horizon Sites of the Chincha Valley. In the top left is the Chincha capital La Centinela. In the center is the secondary center Las Huacas.

Las Huacas (PV 57-38) Site Map

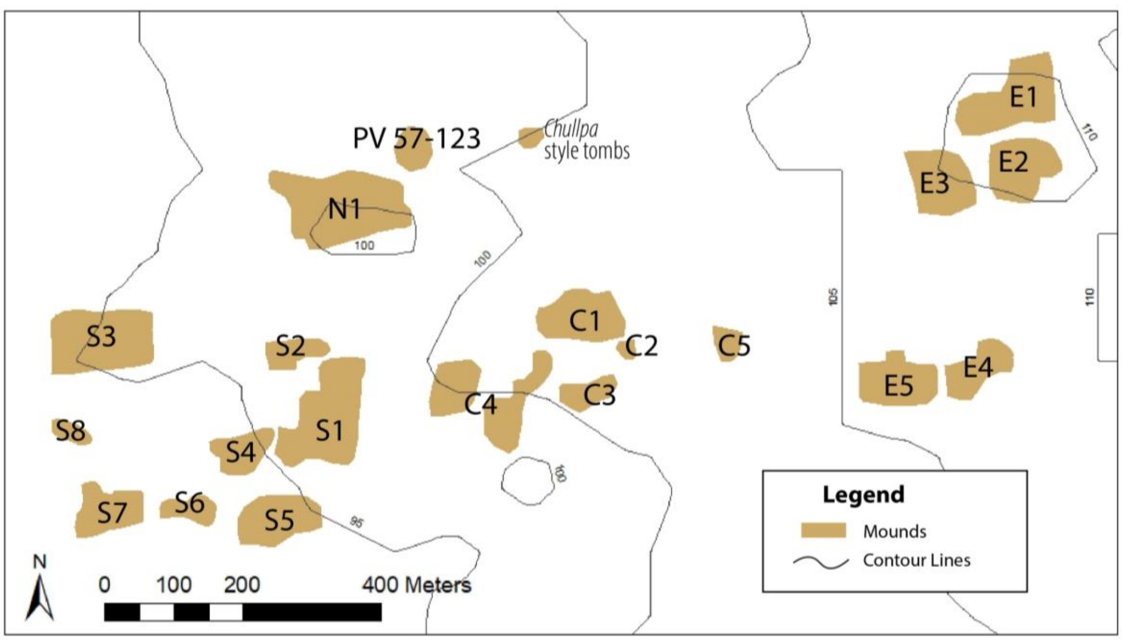

Figure 1.3. The mounds of Las Huacas, as designated by Lumbreras (2001). Complex N1 is in the top left part of the map.

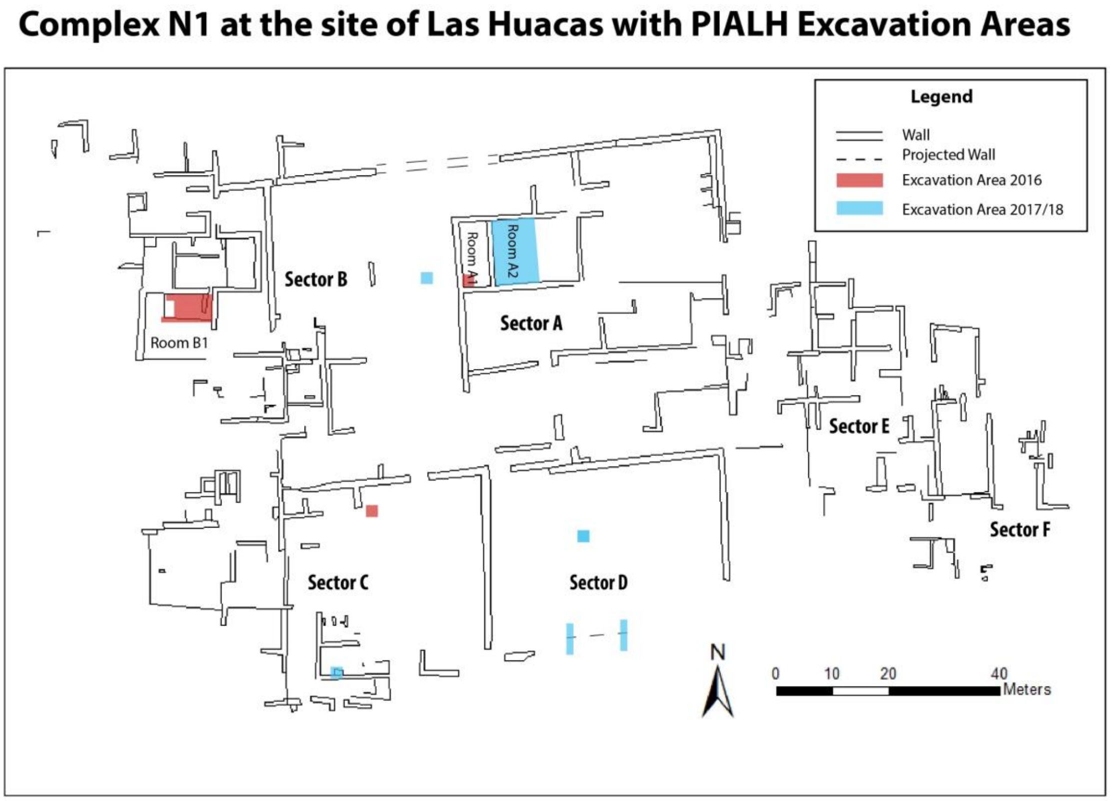

Figure 1.4. Complex N1 at Las Huacas. This plan was created using data from a map created by PIALH using a total station. drone data collected by Dr. Luis Jaime Castillo, and Aerial Photographs from the 1960s. Complex N1 contains multiple plazas, platforms and rooms of varying size, which is typical of Inca coastal constructions.

Figure 1.5. Inca provinces discussed in the dissertation.

CHAPTER 2

The Chincha Valley

The Chincha Valley lies 200 kilometers south of the modern-day city of Lima along the Pacific coastline (**Figure 1.1**). It is currently one of the most productive agricultural valleys of Peru, with 24,000 hectares of agricultural land (ONERN 1970) and its hundreds of archaeological sites have been the subject of numerous studies (Alcalde et al. 2010; Canziani 2009, 2013; Lumbreras 2001; Morris and Santillana 2007; Sandweiss 1992; Stanish et al. 2014; Tantaleán 2016; Wallace 1971, 1998). Most research in the Chincha Valley has focused on the major cultures of the region such as the Paracas, Chincha, and Inca, but much still remains to be learned about the sociopolitical development of this valley. In the early first millennium BC the Chincha Valley was home to the Paracas culture, which was a widespread cultural phenomenon on the south coast that declined around 200 BCE (Nigra 2017). From the decline of the Paracas period to the arrival of the Inca around AD 1400 relatively little is known. While the autonomous Chincha polity (AD 1100-1400) are commonly discussed in Andean literature, much still remains to be learned due to the fact that historic sources were all written after their incorporation into the Inca Empire and the Spanish Conquest. Furthermore, in archaeological studies it is difficult to distinguish the LIP and the Late Horizon as there is considerable overlap in material culture and construction techniques. Below I summarize previous research in the Chincha Valley, starting first with the archaeological surveys of the region, which give a general view of occupations overtime, and then I summarize information pertaining to specific time periods. Time periods used are listed in **Table 1.1**.

Archaeological Surveys

Archaeological surveys are an important part of research that create a context for understanding how a region changed overtime (Drennan and Peterson 2008, Johnson 1980, Parsons 1972, Peterson and Drennan 2005, Steponatis 1981). The Chincha Valley has been surveyed multiple times and these surveys have created a rich database to interpret the cultural history of the region, but there are some notable gaps in knowledge. The most comprehensive survey manuscript is Wallace (1971) and includes the description of 112 sites. Other surveys (Engel 2010; Canziani 2009; Lumbreras 2001) found more sites bringing the total number of sites up to almost 200. Unfortunately, data on many of these sites has not been published. Outside of incomplete published data on sites in the Chincha Valley, another major issue is the association of sites with the correct time period.

Specifically, through survey data it is difficult to associate sites with the Early Intermediate Period (EIP AD 200-600), the Middle Horizon (AD600-1100), and to differentiate between the LIP (AD 1100-1470) and Late Horizon (AD 1470-1532). For the Middle Horizon and EIP the ceramic styles are not well understood. The EIP is associated with the Carmen and Estrella ceramic traditions (Canziani 2009:271-277; Lumbreras 1985; Sandweiss 1992:20) and the Middle Horizon style Huacarones (Lumbreras 1985) has not been described in a published manuscript. In most surveys sites are associated with these time periods based on their similarity to foreign cultures such as Nasca (EIP), Wari (Middle Horizon), and Cerro del Oro tradition from Cañete (Middle Horizon).

Similarly, it is difficult to distinguish between Late Horizon and LIP constructions. Generally, on the Peruvian south coast, Inca rectangular adobes are used to associate specific constructions and sites with the Late Horizon, but it is clear that the local technique of *tapia* was used as well (Lumbreras 2001; Sandweiss 1992; Santillana 1984; Wallace 1971). Excavations at Las Huacas have exposed substantial Late Horizon deposits and Inca architectural features within a complex made almost entirely of *tapia*, and with no major constructions made out of Inca adobes (Dalton and Damián 2017). Therefore, *tapia* was still used during the Late Horizon, and consequently, construction material alone is insufficient to differentiate between pre-Inca from Inca-era (Late Horizon) constructions. In order to understand these changes more data on material culture and architectural form is needed.

Formative (800BC- AD 200)

The first major occupation of the Chincha Valley was the Paracas culture, dating to the Formative (800 BC–AD 200) (Nigra 2017; Stanish et al. 2018; Stanish et al. 2014; Tantaleán 2016). The Paracas people are best known for their elaborate burials on the Paracas Peninsula near the modern city of Pisco, but they also occupied the Ica, Pisco, and Chincha Valleys (**Figure 1.1**). During the Formative era, people came together at large ceremonial mounds in the Chincha Valley for cooperative feasting activities, which were central to maintaining and forming new relationships (Stanish et al. 2018). Most Formative sites were concentrated near the Pacific and on the pampa, a desert plateau at the base of the first coastal mountain range.

It is generally believed that the Paracas people were practicing irrigation agriculture (Nigra 2017), based on ancient canals and abandoned fields yielding Formative artifacts (Canziani 2009:153). Paracas period sites are often characterized by the presence of large ceremonial mounds with three ascending east-west plazas; many have been found in clusters, for example Huaca Soto (PV 57-25, 26) and the El Mono (PV57-63) Complex. Canziani (2009) believes that the area between these mounds would have been the location of domestic structures, which are now buried under 2,000 years of alluvial deposits. He also believes that Paracas culture displayed a nascent urbanism (Canziani 2013); this idea, however, remains to be proven.

Early Intermediate Period (AD200-600)

During the subsequent Early Intermediate (AD 200-600), the region featured two ceramic cultures, Carmen and Estrella (Alcalde et al. 2001; Velarde 1998, 1999). There was also evidence of influence from the nearby Nasca region, based on ceramics recovered through survey (Wallace 1971). During this time period, more sites were found along the southern edge of the middle Chincha Valley and many pre-existing sites still continued to be occupied, suggesting a degree of cultural continuity. Significantly, during this time period there do not appear to be as many monumental constructions as during the previous Paracas period. The major constructions were concentrated either in the middle valley (sites such as Huaca Santa Inés [PV 57-5] and La Estrella Complex [PV 57-54]) and in the pampa (sites such as Pampa de Gentil [PV57-64]).

Middle Horizon (AD 600-1000)

The Middle Horizon (AD 600-1100) is poorly understood in the Chincha Valley. There are ceramics from both from the Cerro del Oro (Wallace 1972:3) culture of the Cañete Valley and the Wari culture of Ayacucho (Alcalde et al 2001). Alongside this evidence of foreign influence in the Chincha Valley, there was also a local ceramic style known as Huacarones (Lumbreras 1985); unfortunately, this style has never been published in detail. Few new constructions can be dated to this time period, one site that did have Middle Horizon constructions is La Cantera (PV 57-138) near the modern-day town of El Carmen (Alcalde et al. 2001).

In the past, constructions at Casa Grande and Pampa de la Pelota were attributed to this time period due to their stone orthogonal architecture (Wallace 1971). Since then, however, research at Pampa de la Pelota has revealed that it was used during the Late Intermediate and Late Horizon, and does not actually date to the Middle Horizon (Alcalde 2012). It now seems likely that the orthogonal structure at Casa Grande is also not a Middle Horizon structure. Casa Grande is located across the narrow valley neck of the Upper Chincha Valley from Pampa de la Pelota, and exhibits similar architectural styles. As a result, the sociopolitical organization and material culture of Middle Horizon Chincha remains poorly understood.

Late Intermediate Period (AD1100-1400)

For the LIP and Late Horizon there is a wealth of information, both from ethnohistorical sources (Castro and Ortega Morejón 1938[1558]; Cieza de Leon 2015[1553]; Curatola 1997; Fernández et al. 1844; Rostworowski 1970) and archaeological research (Alcalde et al. 2010; Alcalde 2012; Bongers 2019; Morris and Santillana 2007; Wallace 1971; Santillana 1984). Unfortunately, there are conflicting ideas about the rise of the Chincha Kingdom. Some documents assert that invaders came “from the sierra” and took control of the region by co-opting the site of an important coastal oracle called Chinchaycamac (Menzel and Rowe 1966). We currently lack evidence, however, to attribute the sociopolitical development of the Chincha

Valley to foreign invaders. On the contrary, many sites have occupations in the EIP or formative, and LIP and could have been continuously occupied, including La Cumbe, Las Huacas, and Ranchería (Canziani 2009; Engel 2010; Wallace 1971). This fact likely points to cultural continuity rather than disruption.

Most of what we know about the Late Intermediate polity of the Chincha Kingdom comes from the ethnohistoric record. However, this record was written by Spaniards relying largely on Inca sources, so it should be approached critically. Furthermore, much of what the Inca said about the Chincha reflects changes that occurred during the Late Horizon. Consequently, it is important to combine the ethnohistoric documents with archaeological data to create a general idea of the structure of the Chincha polity before it was incorporated into the Inca Empire.

In the ethnohistoric records, the Chincha are described as having a highly specialized economy (Castro and Ortega Morejón 1938[1558]; Cieza de Leon 2015[1553]; Fernández et al 1844) in which different groups of specialists lived in separate settlements throughout the valley (Rostworowski 1970). The anonymous document *El Aviso* states that at the time period of the arrival of the Spaniards in 1534 there were 30,000 tribute payers living in the valley: 10,000 fishermen, 12,000 agriculturalists, 6,000 merchants, and 2,000 that were not accounted for and were possibly local elites and administrators. An archaeological survey conducted by Lumbreras (2001) suggests that a total population of 100,000 or more is possible, owing to the density of Late Horizon and Late Intermediate sites he recorded. Thanks to the ethnohistoric record it has long been believed that the pre-Inca Chincha people were masters of long-distance maritime trade, bringing *Spondylus* from Ecuador. But, owing to a lack of *Spondylus* from securely dated LIP contexts, this interpretation has been criticized (Barraza 2017; Morris and Santillana 2007;

Sandweiss and Reid 2016). Some have argued that the Chincha would have found it difficult to compete with the Chimú Empire of the north coast in the LIP, who were involved in the *Spondylus* trade.

The ethnohistoric record asserts that the Chincha relied on a specialized economy, and archaeological investigations provide confirmation. Sites devoted to fishing, agriculture, and craft production are strategically located in specific resource zones, or along roads that lead to upper Chincha Valley copper mines (**Figure 1.2**). A line of settlements along the coast were likely dedicated to fishing; inland agricultural sites appear in the rich alluvial plains of the Chincha Valley. At the site of Lo Demás, Sandweiss (1992) found evidence for a fishing village and at the major site of Tambo de Mora (PV 57-2), Alcalde et al. (2010) found evidence for a metal and ceramic workshop associated with the LIP and the Late Horizon.

On top of having a specialized economy, the Chincha are also described as a wealthy polity, different theories have been put forth as to how the Chincha acquired their wealth during the LIP. While researchers originally associated their wealth with control of the *Spondylus* trade (Rostworowski 1970), new research does not support this interpretation (Barraza 2017; Sandweiss and Reid 2016). Another theory ties their wealth to the control of guano deposits —an important fertilizer— which could be found on islands off the coast of Chincha (Curatola 1997). Alcalde et al. (2010) have also suggested that the Chincha economy was not reliant on specific items (such as *Spondylus* or guano), but instead relied on the production and trade of a variety of craft goods. At the site of Tambo de Mora, Alcalde et al. (2010) found workshops for the production of ceramics and metallurgy. At the site of Huacarones in the middle Chincha Valley, there was also evidence of craft production tied to an elite household (Carmichael 1984). These previous studies suggest a complex economy involved in the production and exchange of a diverse array of items that led to the relative wealth of Chincha elites in the LIP prior to their incorporation into the Inca Empire.

The Inca Period: Late Horizon (AD1400-1534)

According to the historically accepted chronology for the region (Menzel and Rowe 1966), the Inca entered the Chincha Valley in AD 1470. This date remains to be confirmed archaeologically, and recent research in the middle valley (Bongers 2019)— as well as the research from Las Huacas presented in this dissertation (Chapter 3 and 7) — might push the date closer to around AD 1400. Other studies throughout the Inca region are reevaluating chronologies that are based on the ethnohistoric record (Julien 2000, 2008; Marsh et al. 2017; Ogburn 2012). Specifically, Julien (2008) discusses how various sources associate the Inca annexation of the south coast to various different Inca rulers (Julien 2008:168). According to the chronology in the *Relación de Chincha*, Inca expansion on the south coast could be associated with Capa Yupanqui and date to as early as AD 1408. This is the date that Bongers (2019) adopts and research at Las Huacas has found changes to Complex N1 roughly dated to around AD1400 that likely correspond with Inca influence in the region (explained more in Chapters 3, 5, and 7).

One 16th century document, known as the *Relación,* provides information about distinct phases of Inca administration (Castro and Ortega Morejón 1938[1558]; Rostworowski 1999). When the Inca first entered the valley, they stated that they did not want anything from the Chincha, and instead gave the Chincha prestige goods. Instead of trying at this point to take direct control of the Chincha Valley or ask for tribute, the Inca only asked for labor to construct a *hatun cancha*[5]. They also asked for some local women to be assigned to a *mamakuna*[6] to produce textiles, and for a group of local men to be designated *llanacona (yanacona)*[7] to work the lands and produce crafts for the Inca (Rostworowski 1999:117).

After this initial interaction, through later interactions the Inca then increased their presence and created new social divisions by implementing the Inca decimal system of administration (Rostworowski 1999). The Inca also created new roads that would better connect the coast; ordered the construction of new storage centers, called *tambos*; and asked the Chincha to allot even more land to the Inca.

The extraction of resources and control of a growing labor force described in the ethnohistoric record would likely have necessitated certain changes at sites in the Chincha Valley, but it is possible that these changes might not be as visible as they were in highland regions such as the Mantaro Basin (D'Altroy and Hastorf 2001), Huánuco (Morris and Thompson 1985), and the Titicaca Basin (Stanish 1997). In those regions the Inca constructed impressive new sites, facilities, and roads, and brought about a shift in the localities where sites were concentrated. On the other hand, in Chincha and many other coastal valleys, evidence suggests that changes were integrated into preexisting settlements, utilizing existing administrative hierarchies (Eeckhout and López-Hurtado 2018; Hyslop 1985, 1990; Menzel 1959; Morris 1995, 1998; Morris and Covey 2006). For example, research at La Centinela, the capital of the Chincha polity, has found that the Inca built their structures alongside existing Chincha buildings in both elite and ritual areas, rather than building their own center *de novo*

[5] In the language of the Inca Empire, Quechua, this means "big enclosure" or "large house" and would have been some sort of administrative structure.
[6] A designation for a group of elite women that served the Inca Empire as caretakers at state religious facilities; they produced crafts for the empire, especially cloth (Murra 1983).
[7] A designation given to men who oversaw state structures and worked Inca lands (D'Altroy and Earle 1985).

(Morris and Santillana 2007; Santillana 1984; Wallace 1998). It is believed that the Chincha enjoyed a prestigious position in the Inca Empire, resulting in a type of co-rulership, or dual system of authority in the Chincha Valley.

At the site of La Centinela, the pre-existing Chincha capital, the Inca made modifications to structures in Sectors II, III, VIII, and XI during the Late Horizon (Morris and Santillana 2007; Santillana 1984; Wallace 1998). The most striking Inca modification was the construction of an Inca palace in Sector III. This palace was an important seat of Inca power; it was visible from a large public plaza directly to the east, but actual access to the complex itself was restricted (**Figure 2.1**). Thus, the general public could see elite individuals entering and leaving but could not enter the space themselves.

Modifications to other structures at La Centinela do not have as direct of an affiliation with Inca presence (Morris and Santillana 2007; Santillana 1984). For example, in Sector VIII there was evidence for modifications that utilized Inca adobes and Inca architectural principles. Subsector VIIIA was a typical Chincha truncated pyramid. Subsector VIIIB, on the other hand, was likely a Late Horizon construction that included Inca architectural features, such as a large enclosed courtyard and plaza. Subsector VIIIA, while having a typical Chincha architectural footprint, was also remodeled in the Late Horizon, most noticeably with an adobe wall that divided the structure.

Sector VIII at La Centinela thus appears to have been the location of important rituals to which the general public did not have access to. While this sector shows evidence of Inca influence in architectural design, building technique, and material culture, Morris and Santillana (2007) were uncertain whether this modification reflected direct control. They could not decide whether the presence of the two material cultures resulted from elite intermarriage, the presence of Inca officials, or local Chincha emulation of Inca style. While some Inca elements were present, there was still a strong local Chincha influence on architecture and material culture.

In La Centinela's Sector II, which was home to a large temple that likely housed the oracle *Chinchaycamac*, the Inca modified the access route to include Inca features (Morris and Santillana 2007). While the temple retained its Chincha *tapia* architecture, one now had to enter through a plaza with typical Inca elements such as trapezoidal niches. Similar niches were also added to a plaza in Sector XI.

At the site of La Centinela there is evidence for transformations in some sectors during the Late Horizon. The Inca palace has clear evidence for Inca presence, while the other sectors have more subtle evidence of Inca influence. Outside of the site of La Centinela other sites in the valley also contain evidence of transformations during the Late Horizon.

Excavations at the nearby sites of Tambo de Mora and Huacarones also reveal changes in the form and function of structures (Alcalde et al. 2010; Carmichael 1984). Tambo de Mora was occupied throughout the LIP, early Late Horizon, terminal Late Horizon, and Colonial periods. The occupants of one room at Tambo de Mora were important craft producers and metallurgists during both the LIP and early Late Horizon. The evidence for craft production at Tambo de Mora consists of long slender kilns with cobblestone bottoms and the presence of molds and tools for metal working and ceramic production. In the terminal Late Horizon, however, this room no longer served this function and was used as a midden. Based on ethnohistoric documents, some researchers propose that metal production had been moved to a valley that was under tighter Inca control, such as Cañete (Rostworowski 1978-1980:166) or even to the capital of Cusco itself (Alcalde et al. 2010; Rostworowski 1977:234; Sandweiss 1992:6).

In the 1980s a small-scale excavation was conducted at the site of Huacarones. While the scale of the excavation did not allow archaeologists to come to firm conclusions about how the site was transformed during Inca times, they did recover evidence of two different layouts in Subsector E which could be associated with the Late Horizon based on ceramics (Carmichael 1984).

The site of La Centinela de San Pedro (not to be confused with La Centinela) has not been excavated, but surveys of the site reveal changes to this large urban center, which was located at the southern end of the valley and connected to the capital of La Centinela by a road with a long line of settlements following the coastline. From personal site visits to La Centinela de San Pedro, Inca-style rectangular adobes appear in multiple structures; such adobes were also used in the platform for a .7 ha structure in the western sector of the site (**Figure 2.2**). The presence of Inca-style adobes throughout the site demonstrates that changes were made to various structures during the Late Horizon. Due to a lack of systematic work it is unclear what these changes would have been.

Not only is there evidence of changes to existing sites during the Late Horizon, but also possibly the construction of entirely new sites and storage features. One notable change involved the fishing village of Lo Demás (Sandweiss 1992). All radiocarbon dates from Lo Demás are associated with the Late Horizon, leading to the interpretation that the site was established only after the Chincha had been incorporated into the Inca Empire. Sandweiss (1992:148) believes that Lo Demás could have been part of an Inca strategy to foment even more economic specialization, perhaps because the Inca demanded higher fish yields. Additional Late Horizon storage features have been found at strategic points throughout the Chincha Valley (Morris 1984).

While the joint rule of the Chincha Valley stands out on the south coast, it shows broad similarities to cases of dual rule in other empires, such as the Chimú Empire of Peru's north coast (Mackey and Klymyshyn 1990) and Roman Tetrarchy (Rees 2004). Similarly, the Chincha case, while unique in certain regards, such as the amount of power and authority they were given in the Inca Empire, is similar to other cases of Inca expansion onto the coast where the Inca utilized methods of ideological control were they were likely trying to bring local groups into the Inca social world (Eeckhout and López-Hurtado 2018; Mackey 2006, 2010; Mackey and Nelson 2020).

Specialized Economies

Both the LIP Chincha and the Late Horizon Inca relied on specialized laborers and reciprocal and redistributive relationships, but, due to the inherent differences in the scale, goals, and resources of local elites and Inca officials, each would have had different strategies for maintaining authority and likely used different technologies and methods of production. The differences would have been both qualitative and quantitative; local elites were not operating at the same scale as the Inca Empire. The Inca controlled a massive area, which led the Inca to rely on the production of specific portable materials to convey Inca power (DeMarrais et al. 1996; Shimada (ed.) 2015), and, while variation exists, there is some degree of standardization in Inca material culture (Bray 1991; Costin 2016; D'Altroy and Bishop 1990; Quave 2017, 2018). The Inca relied on diverse classes of specialists with a range of skills and prestige (Cobo 1990[1653]; Costin 1991, 1998; Murra 1980). Included in these classes of specialists were the mobile commoner work groups known as *mitmaqkuna*, who were transported throughout the empire; the *aqllakuna*, a group of chosen women from various provinces who made fine textiles and brewed corn beer; and the *qompikamayoc*, a group of commoner men who made cloth (Costin 1998). The products of these various types of laborers were important goods that the Inca used to extend their control.

In an empire that encompassed multiple ethnic groups, languages, regions, and political groups, the Inca needed to create goods that could successfully convey Inca power to diverse groups of people. On the other hand, the local Chincha elites would have operated on a smaller scale, conveying power to the local commoners and likely lacking the same type of codified methods used by the Inca. Within both local and imperial economies, however, the specialization of various types of laborers played a central role. Sandweiss (1992), based on evidence for economic specialization at the site of Lo Demás, concludes that Chincha economic specialization was likely similar to the North coast where sites were economically specialized and structured around local lords (elites). In the commoner section of the site of Lo Demás (Sector I) activities were mainly focused around fishing and processing marine resources, and the elite sector (Sector IV) had attached craft specialists. In this way the Chincha were broadly specialized based on-site location (agriculture vs. fishing), but there was likely a mix of full versus part-time specialists that were attached to local elites (Sandweiss 1992:145). These elites would then have exchanged with other local and foreign elites.

Based on ethnohistoric records, Chincha leaders and their subjects also had a reciprocal relationship. In comparing Chincha to the North Coast, goods and services were likely provided in return for a certain amount of political and military protection (Hart 1983). These interactions were likely mediated through feasting activities, which was widespread throughout the Andes (Eeckhout 2004; Garrido 2016; Hirth and Pillsbury 2013; Marcone and López-Hurtado 2015; Mayer 2002). This relationship was still present during the Spanish Colonial period, when

Spanish administrators tried to maintain such practices (Rámirez 1996). LIP coastal polities relied on the intravalley exchange of resources and craft items between specialized settlements of farmers and fishermen (Rostworowski 1977; Fernández et al 1844).

This dissertation explores how this relationship changed under Inca expansion, and the types of strategies that local elites used to develop and maintain control in this shifting landscape. In some cases of Inca expansion there is evidence that local groups continued and expanded previous production activities to increase their own importance and prestige within the Inca Empire (Garrido 2016). In the Atacama Desert of Northern Chile, the introduction of the Inca road system might have expanded local lapidary and pigment production.

As previously described, the Inca established a form of joint rule in the Chincha Valley. This joint rule was not established over one visit, but through multiple interactions between the local Chincha and the foreign Inca Empire. Overtime, certain aspects of economic specialization changed, as well as the nature of reciprocal relationships and the redistribution of resources. As the Inca likely reorganized certain strategic activities, such as fishing at Lo Demás (Sandweiss 1992), that were tied to the imperial economy and also created ideological transformations through aligning themselves with the oracle *Chinchaycamac* (Morris and Santillana 2007).

The Chincha were also involved with exchanges between the Inca empire and the unincorporated groups of Ecuador. As described in Chapter 1, the Inca economy relied on the Vertical Archipelago where resource redistribution relied on the authority of the Inca State. In encounters with the unincorporated groups of Ecuador, Chincha merchants would have had to rely on different principles (Salomon 1987). As has been highlighted at the time of the arrival of the Spanish, Chincha might have had a nascent market economy (D'Altroy and Earle 1985; Sandweiss and Reid 2016). The artifacts that support a possible nascent market economy are *balanzas* (similar to Roman scales) and early forms of money (possibly made out of copper or *chaquira* beads).

This dissertation will explore how an administrative structure outside of the Chincha capital of La Centinela was affected by the joint rule that was instituted at the capital of Las Centinela. The site of Las Huacas was transformed during the Late Horizon affected by both the local Chincha and the foreign Inca. Through the stratified deposits of Complex N1 research at the site was able to identify changes in the quantity and diversity of commodities over time. I then develop the evidence from Las Huacas into a regional context in order to explore how administrative strategies likely changed overtime.

Chapter 2 Figures

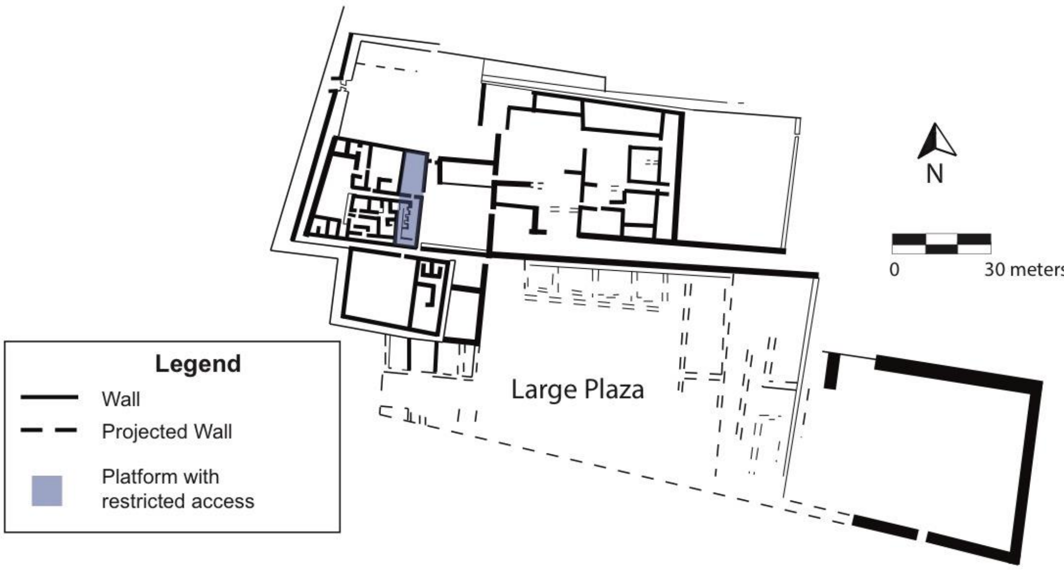

Figure 2.1. The Inca palace in Sector III at La Centinela redrawn from Morris and Santillana 2007:142 Figure 7. The shaded area is the platform within the palace that was visible from the large plaza.

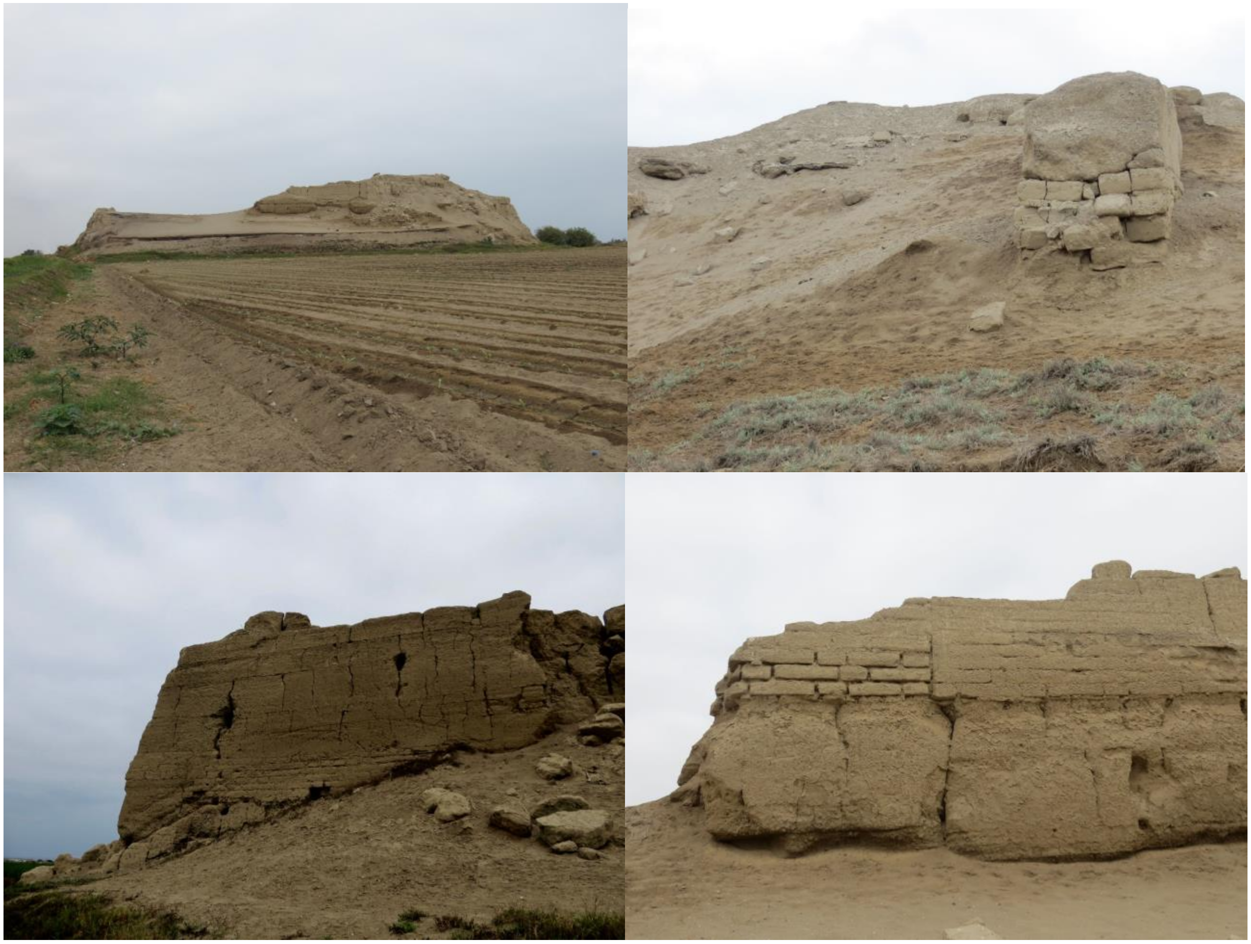

Figure 2.2. Photos from La Centinela de San Pedro showing a large structure located at the western end of the site. The structure utilized Inca rectangular adobes in its construction.

Chapter 3

Introduction to Las Huacas

As described in the previous chapter, early research in the Chincha Valley has demonstrated that the Inca administered a kind of joint rule in this valley. Inca impact has been documented at several sites near the Pacific Ocean, including La Centinela (Morris and Santillana 2007), Lo Demás (Sandweiss 1992), Tambo de Mora (Alcalde et al. 2010), and La Centinela de San Pedro (Chapter 2). To broaden our understanding of the Inca occupation of the region, my project targeted the inland agricultural site of Las Huacas. Las Huacas, an important secondary center in the alluvial plains of the valley, offers a window into a previously under-developed aspect of the Chincha Valley economy, the agricultural laborers.

My excavations at Las Huacas found evidence for major transformations to Complex N1 at the site of Las Huacas (**Figures 1.3** and **1.4**). Based on AMS radiocarbon dates (**Table 3.1**), the complex was occupied from ca. AD 1200-1650, a time period that encompasses when the Chincha polity was autonomous (AD 1100-1400), part of the Inca Empire (AD 1400-1534), and into the Colonial period (AD 1534-1821).

Las Huacas is located 6 kilometers from the Pacific Ocean in the middle of the Chincha Valley between the Río Matagente and Río Chico (see **Figure 1.2**), which are fed by the San Juan drainage. The site is composed of approximately 25 mounds of different sizes and shapes dispersed throughout modern day agricultural fields. Las Huacas is an urban center composed of different sectors, each with unique characteristics. The urban layout of the site of Las Huacas merits further study, but Lumbreras (2001) divided the site into 4 sectors E, C, S, and N, presumably standing for Este, Centro, Sur y Norte[8] (see **Figure 1.3**). A conservative estimate of the site size is 75 hectares. In 1950, Dwight Wallace estimated its size as 1.5 km x 5 km, which might be a typographical error, since that would make it a whopping 700 hectares. If the site is 1.5 x 0.5 km, its size would be 75 ha. Canziani (2009) estimates its size at 105 ha. Based on these estimates, the site's size is probably between 75-105 hectares, making Las Huacas the second largest site in the Chincha Valley after La Centinela.

Sector S

Sector S has the largest number and densest concentration of mounds, as well as the tallest, and probably served as some sort of administrative center. The sector is currently composed of 8 mounds of various sizes. The largest mound, S1, measures approximately 15-20m tall and 165 x 80m. It is composed of three ascending plazas oriented north south. To the west of Mound S1was likely a U-shaped plaza, formed by three mounds (S1, S2 and S4). A modern-day road passes between Mounds S1 and S2 see (**Figure 3.1**), and, based on aerial photos, this road has existed since at least the 1960s. As many modern roads were prehispanic roads, this road could also have been in use in antiquity, as it goes through the U-shaped plaza in Sector S, which was likely the administrative and political center of the site.

To the south of S1 in Sector S is Mound S5, which is completely covered by modern constructions. To the west are Mounds S6 and S7, which are paired mounds similar to those

[8] In the article Lumbreras (2001) discusses 5 sectors, where it appears that he splits the E sector into two groups. He groups E1, E2, and E3 together and E4 and E5 together. Since the map only uses four different distinctions. I will focus on each sector based on the letter designations of the map (Lumbreras 2001:47).

described for the site of Huacarones in the Chincha Valley where one mound was assumed to be an elite residence and the other a ritual one given its relatively large open platform (Carmichael 1984). Mound S8 is likely an earlier construction based on the presence of conical hand adobes at its base, which are associated with the EIP constructions in the region (Wallace 1971). Above this construction are *tapia* walls characteristic of the LIP and Late Horizon. Mound S3 is a tall structure (ca.15 m), and almost completely covered by modern construction. Sector S contains the largest cluster of mounds at Las Huacas and also the tallest (S1). It also may have been one of the earliest sectors to be occupied based on conical adobes found around Mound S8.

Complex N1

Approximately 130 m due north of the U-shaped plaza created by S1, S2 and S4 is Complex N1. My excavations focused on this complex, which contains evidence of Inca architectural planning. While most structures at Las Huacas and throughout the Chincha Valley are truncated pyramids with terraced sides (**Figure 3.2**) (Morris and Santillana 2007), Complex N1 is a 2-ha complex composed of multiple plazas, platforms, and rooms (**Figures 3.3** and **1.4**) (Dalton and Damián 2017). Engel (2010), who called Complex N1 "Las Huacas II", interpreted it as an Inca reoccupation of the site. Complex N1 is the structure at the site that most resembles Inca constructions on the coast, such as the Tauri Chumpi palace at Pachacamac (Bueno 1982; Villacorta 2004), the La Centinela Inca Palace (**Figure 2.1**) (Morris and Santillana 2007), and Tambo Colorado in the Pisco Valley (Protzen 2008, 2010; Protzen and Morris 2004). The plazas of Complex N1 vary in size, with the largest plaza at the southern end of the site in Sector D. The southern end of the Complex was likely how most people would have accessed the site, since

Complex N1 is located at the northern end of the site. There are smaller plazas located in Sectors A, B and C, and other small courtyards in Sectors A and C as well.

I created the map in **Figure 1.4** by using aerial photos from the 1960s, total station data I collected, and drone data collected by Dr. Luis Jaime Castillo Butters. Complex N1is a completely earthen structure made mostly from *tapia*. Even though it appears that local construction techniques were used, there are differences in the size of walls and the types of inclusions (e.g., rocks, sherds). Some walls are made of a homogeneous mud with few large inclusions, while others contain large sherds and rocks. A few of the walls are made of stacked river cobbles and plaster; the typical Inca adobe is noticeably absent from the main construction materials. In the surface survey of Complex N1 we saw no Inca adobes. The excavations in 2017-18 only recovered four Inca-style adobes which were only found in secondary contexts, such as the two placed in the entrance to Room A2 (see **Figure 3.4**), and two others that were associated with the Cist burial features which will be described in Chapter 6.

Next to Complex N1 is Site PV 57-123, an earlier settlement associated with the EIP (Canziani 2009). A description of this site was never published but Canziani (2009:275) includes it in his EIP map and designates it as a mound and occupation site. While PV 57-123 is associated with the EIP, *tapia* walls were constructed on top of it, suggesting some sort of interaction with the mound during the LIP and Late Horizon. Approximately 100 m to the east of Complex N1 and PV 57-123 is a communal burial feature that contains approximately 7-8 *chullpa* style tombs (**Figure 3.5**), similar to those described by Bongers (2019) for the Middle Chincha Valley during the LIP and Late Horizon. The construction material of these *chullpas* includes river cobbles and a few Inca-style adobes.

Sector C

The central sector of Las Huacas, called Sector C, has suffered the most damage from modern construction and farming. Sector C is composed of five clusters of mounds. C4 is a group of small mounds with a large mound to the west. C1 is similar to other residential compounds and has a slightly more complex architectural pattern. Lumbreras (2001:49) describes C1 as having a double doorjamb, which is characteristic of Inca architecture.

Sector E

The eastern sector of the site has various mounds that were likely elite residences. In his description, Lumbreras identifies two groups (1) E1, E2, and E3; and (2) E4 and E5. He postulates that E1, E2 and E3 (**Figure 3.6**) were part of an elite compound surrounded by a large perimeter wall made out of *tapia* (**Figure 3.7** and **Figure 3.8**). This walled-off area that Lumbreras highlights would have had a perimeter of 1,000 m, which fewer than 20 m are still standing today, and the only remaining wall sections border a modern road. In the Chincha Valley *tapia* walls often bordered prehispanic roads (Lumbreras 2001; Wallace 1971). I propose that it is possible that these wall fragments are associated with a road rather than an enclosed area associated with E1, E2, and E3. While there is no known prehispanic road that connects Las Huacas to other sites in the valley, this modern road is a continuation of the road previously described that passes through Sector S. This road could then also have continued north towards the known road that connected La Centinela to the upper Chincha Valley.

At the southern end of Sector E are two paired mounds, E4 and E5 (**Figure 3.9**), similar to S6 and S7 and the structures at Huacarones. These paired mounds may be an important component of Chincha urban organization, in which one served as a ritual area and the other as an elite residence (Patrick Carmichael's interpretation, personal communication).

Burials at Las Huacas

Now that I have described the various sectors and structures at the site of Las Huacas, I will address burial practices. Informal surveys have found evidence for burial features in multiple sectors that are integrated alongside other architecture. The previously described *chullpa* style tombs east of Complex N1 are the only registered free-standing mortuary feature, that is not integrated into multi-use compounds.

Mounds E5, S4, S6, S7 and S8 (**Figures 3.10-3.14**) all contain burial features that are similar to the *chullpa* style tombs of the middle and upper valley (Bongers 2019). These structures are associated with human remains and contain niches. Excavations of Complex N1 also found burials, or evidence of burials in both Sectors A and B. These burials will be discussed later in this chapter as well as in Chapter 6, which focuses on the Las Huacas mortuary features. The integration of burials into structures at the site demonstrates that mortuary practices and rituals were not completely separate from other activities at the site.

Summary

The site of Las Huacas is a complex urban center that had various sectors, and each of these had distinct characteristics, which is consistent with urban centers in other parts of Peru and throughout the world (Chase et al.1990; Fletcher 2009; Moseley and Day (eds) 1982; Smith 2011, 2019; Smith and Novic 2012; Wilkinson et al. 2014). Most notably, Complex N1 displays evidence of Inca architectural canons with its sprawling trapezoidal floor plan with complex architecture that includes multiple plazas, platforms, and rooms of varying sizes.

Sector S, which has the densest occupation, was likely the administrative/political center of the site in the LIP and Late Horizon. The modern destruction to Sector C makes it difficult to characterize fully, but based on the types and shapes of mounds it differs from the other sectors where the Sector C mounds are generally shorter and smaller. Based on the open space in Complex C4, this area may have been used for community rituals. The constructions in Sector E are likely residences that were also associated with ritual activity. The various sectors of Las Huacas would have created a complex urban landscape that future research at the site should define. Given my goal of understanding how Inca expansion affected the site of Las Huacas, my excavations targeted Complex N1, the complex that not only contained Inca architectural features such as painted and plastered walls and trapezoidal doorways, but displayed Inca site planning with its horizontal layout and multiple plazas.

Below I will describe the excavations completed by the *Proyecto de Investigación Arqueológica Las Huacas* (PIALH) in 2016 and 2017-18. The 2016 excavations revealed the Complex N1 stratigraphy and demonstrated that excavations of the complex could speak to changes that occurred while the Chincha were part of the Inca Empire. In the 2017-18 season, PIALH was able to open a large area that produced a wealth of data on how activities and site organization changed between AD 1200 and 1650. Below, I discuss the 2016 preliminary excavations and then the 2017-18 season.

2016 Excavations

Based on the background information given in Canziani (2009) and Lumbreras (2001) and my site visits in 2015, I selected Complex N1 for study. As described above, Complex N1 differs from typical Chincha structures that were constructed on large platforms as truncated and stepped pyramids (Dalton and Damián 2017; Morris 1998; Morris and Santillana 2007; Wallace 1977). Complex N1, which is not constructed atop a platform, more closely resembles Inca architectural and site planning with its sprawling horizontal plan (Morris and Santillana 2007) and multiple plazas (Hyslop 1990).

Room B1

The 2016 excavations were concentrated in Sector B (**Figures 3.15** and **3.16**). Room B1, which is an area on top of a platform, was selected because (1) it included a sealed doorway and (2) the floor was only ca. 20cm below the surface, which I estimated using the height of exposed doorways. The sealed doorway also demonstrated that use and access to the room had likely changed overtime. Furthermore, many of the other rooms at Las Huacas are filled with large deposits of sand and the floor is ca. 1-2 m below the surface, which made them less viable to excavate in a six-week season. I also placed units in the plaza in Sector C and in Room A1 in Sector A (**Figure 1.4**).

In Room B1 of Sector B, PIALH opened 10 units (43 sq. meter) (**Figure 3.17**) that helped develop the stratigraphy of the site. PIALH opened two deep trenches, Trench 1 and Trench 2. Trench 1 was placed in the main room on top of the platform; Trench 2 was in the hallway on top of the platform. We also opened units at the base of the platform. The excavation in Room B1 only measured 6 x 8m, but we encountered three distinct stratigraphic profiles.

Henceforth, these three areas will be referred to as the platform, the hallway, and the base of the platform (see **Figure 3.18**). The stratigraphy in all areas was the same in the upper levels (Surface – Floor 1). Below the surface was loose soil with cultural material (Level 1). Then we found Level 1B, a level with evidence of burning above a floor that was not as well made or preserved as the other floors encountered.

In the hallway and on the main platform we excavated trenches that revealed the unique stratigraphy for these two areas. On the platform we opened Trench 1 (240 cm x 200 cm). In the hallway we opened Trench 2 (113 cm x 220 cm).

Platform Stratigraphy

Trench 1 (see **Figure 3.19**) had 5 separate floors with various levels of fill in between. Floor 2 was clay and approximately 8 cm thick. Between Floors 2 and 3 there were two fill levels, one composed of loose sand with some inclusions and another composed of loose sand with medium-sized inclusions and other cultural material. In this level there was an ash lens that was likely related to a burn event that occurred when the room was remodeled. The ash lens also included ceramics, plant material (such as corn and pacay), animal bone, shell, and camelid coprolites.

Floor 3 was approximately 7 cm thick. Between Floor 3 and Floor 4 there were fill levels with slightly different textures.

Floor 4 had 2 large postholes (ca. 30-45 cm in diameter). Below Floor 4 were fill levels 9A and 9B (9B was an arbitrary division to subdivide this thick 65cm-level). Level 10 contained some areas that were really compact and we recovered shell, carbon, ceramics, organic material, botanics, and rodent bones, but overall there was not much cultural material associated with this level. Below we found Floor 5 which was not associated with any cultural material (either directly on top or within the construction materials). Below Floor 5, the wall to the north of the unit, did not continue. We had reached the end of the occupation associated with this wall after excavating ca. 2.5m from the surface level.

Below Floor 5, we thought that we had reached sterile due to a lack of artifacts, but after 20 cm we began recovering ceramics. The excavation area was only 40 x 70 cm, but we recovered 18 sherds. These were Utilitarian Reddish-brown and Aguirre Orangeware sherds (ceramics that will be discussed in Chapter 5). One of these sherds had possibly been painted, but overall, the sherds were not decorated. The prevalence of the Aguirre Orangeware in this level has led us to interpret Aguirre Orangeware as a local style, since it seems to predate the Late Horizon.

Hallway Stratigraphy

In the hallway, excavations were concentrated in Trench 2 and we recovered 6 floors (**Figure 3.20**), which differed from Trench 1 where we found 5. This was surprising given that the two trenches were separated by less than one meter.

In Level 1 of Trench 2, within the burn layer, excavations recovered a feature composed of a concentration of sherds, rocks, and textiles. This could have been an offering made when the structure was burned, or it might have been a natural accumulation of material at the base of the wall. Floor 1 was associated with a stepped ramp leading out of the room in the northern end of the hallway (**Figure 3.21**). Below Floor 1, in the occupation associated with Floor 2, this area would have been a flat surface, that is associated with two doorways, one to the north and one to the east, that was later sealed (**Figure 3.22**). It is likely that both these doorways were in use at the same time, as both are associated with Floor 2.

Below Floor 2, which was ca. 10cm thick, there was a fill layer that contained a relatively high volume of cultural material. Below this we found 3 plastered floors separated by various fill layers composed of loose soil with small inclusions and some cultural material (**Figure 3.20**). Atop Floor 6 (the final floor excavated in Trench 2); we encountered a Late Horizon "Inca" influenced sherd. This designation is based on the firing technique, surface treatment, and design (**Figure 3.23** and **3.24**).

Trench 2 was surrounded by walls to the east and the west. The western wall ended below Floor 3, and the eastern wall ended at Floor 6 (the last floor associated with the occupation and at approximately the same level as Floor 5 in the Trench 1 stratigraphy).

Later analysis of the artifacts from the hallway and the platform revealed Late Horizon designs on sherds from the surface to the deepest floors associated with the structure in both Trench 1 and Trench 2, indicating that the 2.5-3.0 m thick deposits were all Late Horizon in date, the time period of Inca influence.

Base of the Platform

The area at the base of the platform had a unique stratigraphy as well. Under Floor 1, we recovered Feature 20 in Unit 9, a concentration of textiles, human hair, and organic/perishable plant material. While no human bone was recovered in Feature 20, we did find human hair, suggesting this material was from a looted or disturbed burial. We also found a textile decorated in local style with pink and yellow embellishments (**Figure 3.25**), and the tip of a weaving tool. Human bone was recovered in the surrounding area in Unit 9. Consequently, we interpreted this feature as artifacts that had been included in burials. The interpretation of Feature 20 as artifacts from a disturbed burial feature indicated that Complex N1 had been used for burials. This was also corroborated by local informants who indicated that human bone had been found in various parts of Sectors B and C. As will be described in the following section and Chapter 6, this was further confirmed by the large number of burials that we recovered in Sector A during the 2017-18 season. In Level 3 (below Floor 1) in Units 7 and 8, we also found a concentration of stones with plaster that could have formed a well (**Figure 3.26**). This well would have been associated with Floor 2.

Below Floor 2, we found four other floors, which, based on their depth, are associated with Floor 2 on the platform. Below Floor 5, the wall that created the platform disappeared. For this reason, it appears that the different floors at the base of platform were from later separate remodeling events that do not correspond exactly with the platform and the hallway, but were multiple floor construction events that are contemporaneous with Floor 2 on top of the platform. For suggestions on how the remodeling of the room changed over time, see **Figure 3.27**.

Room A1

In Sector A, PIALH opened a 2 x 2m unit in Room A1 (**Figure 1.4**). Due to time constraints, we were not able to excavate down to a finished floor in Room A1, but we did recover one "*apisonado*" (compact layer) that was an occupation floor. On top of this *apisonado* was a burn layer, recorded as Level 4, and below that in Level 6 was a more domestic looking occupation based on the types of ceramics recovered. Due to the size of the excavations, we could not characterize these occupations, but excavations in 2017-18 found similar stratigraphy of a burn layer on top of an occupation with abundant utilitarian wares.

Sector C Plaza

The unit placed in the plaza of Sector C established the depth of "sterile" soil. The plaza was heavily disturbed by modern agriculture and preservation was poor. We did encounter a floor whose depth would have made the surrounding walls at approximately 4 m tall and placed sterile soil at approximately 102 masl in this part of the site.

2016 Findings

During 2016 my goal was to understand the stratigraphy of Complex N1 and ascertain the function of the complex. I achieved the first goal. In Room B1, Complex N1 has 2.5 to 3.0 m of Late Horizon deposits that includes 5-6 floors and various fill layers. These floors correspond to distinct remodeling events at Las Huacas that altered the use of Room B1 as well as access to the rooms to the north and east. These various remodeling events demonstrate that a lot of labor was invested in resurfacing, rebuilding, and modifying this compound. I also found significant ceramic variability. Some sherds are similar to Nasca, Ica, Cañete, Yschma, Chimú, and Inca pottery.

As to my other goal —ascertaining the function of Complex N1— I found evidence for a wide variety of activities. While prior researchers regarded Las Huacas as an agricultural center (Lumbreras 2001), evidence from other sites in the region found that these large centers were also involved with craft production (Alcalde et al. 2010; Carmichael 1984; Morris and Santillana 2007). Indeed, we found many items that could have been associated with craft production, including weaving implements such as spindle whorls, needles, a weaving sword (**Figure 3.28**), and a figurine mold (**Figure 3.29**). While some of these artifacts, such as weaving implements, are not necessarily related to large-scale craft production, the research from 2016 highlighted the need to reconstruct the context and organization of craft production during the complex's occupation. Artifacts such as the figurine mold suggest a more standardized method of production, but a single mold cannot tell us much about the organization of craft production at a particular site.

We also found evidence for storage and/or cooking with a high volume of corn, and thick-walled sherds likely from vessels used for storage or possibly *chicha*-brewing. The variety of artifacts recovered in 2016 demonstrated that Complex N1 was likely a multi-use compound that could have been used for cooking, craft production and burials, but due to the small scale of the excavations it was hard to characterize the organization of these activities. Furthermore, many of the artifacts recovered during the first season were found in fill and could not be associated with a specific room or area of the complex. Due to these limitations of the 2016 data, reconstructing the organization of activities at Complex N1 would require a much more extensive excavation and piece-plotting of artifacts from meaningful contexts with good preservation.

Our preliminary data from 2016 showed (1) that we had evidence for changes to the architectural layout of Complex N1 during the Late Horizon, (2) that Complex N1 was burned after its final occupation, and (3) that craft production was conducted in Complex N1. I used these discoveries to create a research design to document modifications to Complex N1 and the types of activities that occurred there. By understanding the transformations of this important complex, we can begin to understand the impact of Inca expansion on the Chincha Valley, which in turn provides perspectives on Inca strategies throughout *Tawantinsuyu*.

2017-2018 Excavations

To address questions pertaining to the function, administration, and organization of Las Huacas, PIALH opened multiple excavation units to expose floors and activity areas in Complex N1 and to study access to Complex N1. To document the activities, I created a research design that would target multiple rooms and place excavation units in and around the three large plazas to look for evidence of craft production, agricultural storage, and record-keeping features, such as the floor grids at Inkawasi (Chu 2018) or the *yupana* at Farfán (Mackey 2010:231-232). I also placed excavations at the periphery of the site to look for a perimeter wall.

Many of these goals were met. In 2017-18, I opened 29 units (116 square meters). Excavations focused on Room A2 in Sector A (see **Figure 1.4**). I also excavated in the plaza between Sectors A and B, in the plaza of Sector D, and in Sector C in what appeared to be a storage feature.

Room A2

In Sector A, Room A2 was divided into 24 equal units (**Figure 3.30** and **3.31**). The room was 12.85 x 10.12 m and the excavation units were 2.06 x 1.98 m. I will first outline the major transformations that occurred to the architecture of Room A2 and then discuss the room's stratigraphy (see **Table 3.2** for a summary of activities, architectural configurations, and cultural periods, **Table 3.3** for description of Floors and Levels, and **Figure 3.32** for a sketch of the different architectural configurations).

Methods

Excavations encountered a complex stratigraphy that varied throughout the room and corresponded to a wide variety of activities. For every level and floor in all units and features, I took multiple soil samples. For complete units, the unit was divided into 4 quadrants and an approximately 2-liter soil sample (Lennstrom and Hastorf 1995) was taken for each quadrant, they were labeled with A, B, C, or D. A was the northwest corner, B the northeast corner, C the southwest corner, and D the southeast corner. Features were also sampled separately. The original plan was to analyze the soil samples through a dry sieve, but due to the large number of human remains, project funds were directed towards analyzing the human remains rather than processing soil samples. Soil samples were saved, double bagged, and inventoried for future analyses of macro- and micro-botanical remains, and micro-morphology studies.

For artifacts from the well-stratified levels and floors, specialists in ceramics, bioarcheology, floral and faunal analysis conducted analyses. These analyses are included in the following chapters. In creating names for the levels, we used a 1, 2, 3, 4, etc. system. An A or B was designated if the change of levels was arbitrary, such as in 2A and 2B, or when a new level was found before reaching a known level (see **Table 3.3** for descriptions). In Unit 17, which we excavated first to establish the room's stratigraphy, we did not notice a difference between Levels 4A and 4B, so we only used "Level 4." In other units we noticed a difference within Level 4 and designated a new layer called "Level 4B." Floors were numbered sequentially, the first floor encountered (i.e. the floor associated with the latest occupation) was designated Floor 1.

Floors 2-6

In the earliest occupations, Room A2 was not yet a "room," but rather an open space at the base of a platform (see **Figure 3.32**). The northern, southern, and western walls had not been constructed yet. This architectural plan corresponds to various levels of compact floors. In these levels there is evidence for some large and small postholes, and rectangular cuts in the floor that could have been the base for walls. These floors were superimposed on top of each other with no fill, so all the surfaces were compacted and compressed making it difficult to distinguish features.

In Floor 3 we were able to distinguish large pits filled with ash that were likely used for cooking (**Figure 3.33)**, given their similarity to cooking features in the brewery at the site of Cerro Azul (Marcus 2008). There were also some animal bones recovered in the southwestern part of the excavation area near one of the cooking trenches. These cooking features would have been longer than 2 meters, and there were at least 4 in a line next to each other at the southern end of the excavated area and they extended under the wall (see **Figure 3.33** and **Figure 3.34**).

During excavations, I saw a difference between the architectural features that were part of Floor 1 and Floor 3. Floor 3 was associated with cooking features; Floor 1 was associated with a midden, and two kilns among other features. Furthermore, there was a 5-degree difference in the orientation of features in Floor 1 and Floor 3. Between these floors is Floor 2, which was not clearly associated with the features of Floors 1 nor 3, but later analyses of artifacts and radio carbon dates found that Floor 2 was more similar to Floor 3, so for the purpose of analyses the small amount of artifacts recovered in Floor 2 were grouped with Floors 3-6.

Floor 1

Floor 1 was the first formal floor that our excavations recovered, though we did find *apisonados* (or compact areas) above it. Associated with this floor we found kilns, a midden, and rectangular cuts. Atop Floor 1, the interior hallway wall was constructed (see **Figure 3.36**), so there are unique depositional sequences inside and outside of the hallway. This interior hallway wall was not visible from the surface when we started excavating, so the excavation area in its entirety is still referred to as Room A2, though at some point during the occupation associated with Floor 1 an interior wall was constructed that partitioned the space. The kilns in this floor (**Figure 3.37**) are similar to those found at the site of Tambo de Mora (Alcalde et al. 2010). At Tambo de Mora, these types of kilns were associated with metallurgical and ceramic production based on residue analyses of molds. At Las Huacas we found various types of artifacts associated with the kilns, this included clay and waster sherds (**Figure 3.38**). Similarly, from the Surface Level to Floor 1 excavations recovered various tools associated with craft production (**Figure 3.39**). Of the two kilns, Kiln #1 was located towards the center of the room and Kiln #2 at the base of the western wall. Given the placement of Kiln #2 (slightly underneath the western wall) and the fact that the floor extends underneath the wall, the kiln was likely in use prior to the construction of the western wall. There is also evidence that it was used after the construction of the western wall as there are burn marks on the wall likely associated with the use of Kiln #2.

In Floor 1 we also found rectangular cuts in the floor. These cuts could have been the base for walls made from perishable material, drains, or some sort of ritual feature. The way that the cuts partition the room does not make sense for walls, since there was no way to move between different parts of the room. The cuts do match up with holes in the wall (**Figure 3.40** and **3.41**), which might have meant they were used as drains. It is also possible that they could have had some sort of ritual significance like the rectangular cuts at the site of Samaipata (Meyers and Ulbert 1997:82). The exact purpose of these cuts is unknown, but future research hopes to compare them to similar features at other sites.

On top of Floor 1 the interior wall was constructed at the eastern end of the room, which created a hallway that likely led to a doorway in the southern end of the hallway. This hallway was sealed and the mortuary Feature 17 (described in Chapter 6) was deposited. After the occupation of Floor 1, the rectangular cuts were intentionally filled in; we found rocks from one of the kilns placed within one of the rectangular cuts to fill it in (**Figure 3.42** and **3.43**). In the analyses we grouped the contents of the rectangular cuts together and differentiated them from other intrusive features in Floor 1 (these analyses will be discussed in Chapter 4). We also encountered the entrances to subterranean tombs, which were intrusive features into Floors 1-6. These tombs were constructed by digging through the various floors to a level of river cobbles and sand, then digging horizontally to create cave-like rooms (**Figure 3.44**).

Level 5

Atop Floor 1 after the drains were filled in, the room was used by camelids. This level is characterized by camelid coprolites that had been trampled into Floor 1. It is uncertain exactly how many camelids were in this room, nor for how long. While there was a large quantity of coprolites, our guess is that it was not continuously occupied by a large number of camelids based on the density of coprolites. On top of this occupation was a thin layer of loose sand, Level 5A. In conducting the analyses, we combined Levels 5A and B, since they were both relatively thin levels (1-10cm). 5A did not include a lot of artifacts.

Level 4B

On top of Level 5 was Level 4B which was a burn layer that contained a large quantity of cobblestones in certain parts of the room. This layer was not present in areas that had later mortuary features (see **Figure 3.36** and Chapter 6 for description). This burn layer is similar to those found during excavations in Rooms A1 and B1 in 2016. Based on this burn pattern throughout the complex, we believe that there was a burning event, where the complex was abandoned and then re-used for more limited reoccupations.

Level 4A

On top of this burn layer is Level 4A, which is divided into mortuary and non-mortuary contexts (**Figure 3.36**). Thickness varies between 10 and 20cm. This level was directly below the hallway wall that fell (**Figure 3.45**). This wall may have fallen in an earthquake. The Chincha region registered major seismic events in in 1586 and 1687 (Seiner 2009:344; Dorbath et al 1990:559).

Summary 2017-18

The artifacts and occupations associated with the previously described levels and floors will be discussed in more detail in Chapters 5, 6, 7 and 8. Analyses focused on these levels and floors rather than the Surface level to Level 3B, since they corresponded to well-defined and largely undisturbed contexts. The Surface to Level 3B was largely fill contexts and did not have a well-developed stratigraphy. Artifacts from these contexts were not analyzed unless the artifacts were classified as “special finds”, such as figurines, spindles and weaving belts. Most of the material in these levels were likely associated with burials because we found burial litters, textiles, human hair and bone concentrated in Levels 2 and 3 on the western edge of the room (described in Chapter 6). These burial litters were no longer associated with human remains and it is likely that in antiquity the remains were intentionally removed from this feature, this context will be described in more detail in Chapter 6. Due to the disturbed nature of these burials and the lack of well-developed stratigraphy it is difficult to associate artifacts from the Surface Level to Level 3B with a particular occupation/activity.

The stratigraphy described above generally characterizes Room A2, though there were differences inside the hallway that was constructed on top of Floor 1. One difference is the burn layer of Level 4B was more concentrated in the hallway and some of this ash was found in Levels 3B and 4. This is most likely due to the creation of the mortuary Feature 17 (to be described in Chapter 6), where the ash was dug out to make room to deposit human remains into the hallway. Most of the excavations in 2017-18 focused on Room A2, but units were also placed in the plaza between Sectors A and B, Plaza D and Sector C. The finds from these excavations will be summarized below.

Las Huacas Excavations Summary

The excavations at Las Huacas were successful in recovering a wealth of data on how the site was transformed from approximately AD 1200 to 1650. Samples from secure stratigraphic contexts were dated to develop a chronology for the site (see **Table 3.1**). The dates were calibrated in Oxcal (**Figures 3.46-3.64**) (Bronk Ramsey 1995), and I developed a Bayesian model based on the stratigraphic contexts (**Figure 3.65**) (Bronk Ramsey 2009). The 2016 season revealed the stratigraphy of some areas of the site and explored the topic of how the site was transformed under Chincha-Inca joint rule. The majority of this dissertation will focus on the data from Room A2, but here I summarize the findings from excavations throughout Complex N1 in both 2016 and 2017-18.

Room B1

Excavations of Room B1 showed that the room had been transformed during the Late Horizon, and the architectural plan became more complex through time. **Figure 3.27** shows our best inferences about overall changes to the space. In the 2017-18 season we excavated more sectors and larger areas to better associate architectural transformations with specific activities, which will be discussed in the rest of the dissertation, and specifically in Chapter 7.

Access

Excavations at the edge of the plaza in Sector D and Sector C (**Figure 1.4**) demonstrated that access to Complex N1 was relatively restricted. We excavated two trenches at the southern end of Plaza D to try to define a perimeter feature. We were successful in finding evidence for a wall, but we were unable to estimate the height since the wall had collapsed due to modern agriculture. In Sector C, a feature used as a storage bin (**Figure 3.66**), was originally a restricted entrance into the complex with a width of approximate 1.5 m. The building would have been entered from the south which faces Sector S. Upon entering, a person would have encountered a rectangular niche (**Figure 3.67**) and then turned left (west) and likely entered into a winding route through the building, similar to the Inca complex at Tambo Colorado (Protzen 2008, 2010). While there were possibly multiple entrances into Complex N1, based on excavations in Sector C that found a narrow entrance to the structure and the remnants of a perimeter wall in Plaza D, access to Complex N1 was somewhat restricted.

Plazas

During the two seasons of excavations in 2016 and 2017-18, we put three units in the plazas of the complex (we excavated between A and B, in Sector C and in Sector D). The units in Sector A/B and Sector C were heavily disturbed due to modern agricultural practices. Nevertheless, in none of these units did we find evidence for the types of accounting features observed at Inca sites such as Inkawasi (Chu 2018), Farfán (Mackey 2010) and Huacones (Areche 2019). Absence of evidence does not mean that they were not present, but this absence, paired with the lack of high-density storage features, likely means that Complex N1 was not an administrative center focused on extracting resources from the Las Huacas population. Rather it was likely directed towards more ideological transformations as seen at other coastal sites (Eeckhout and López-Hurtado 2018). In an ideological transformation changes to religion and social practices were geared towards bringing people into the Empire and not explicitly about economic exploitation. If more excavations at Las Huacas encounter a large number of storage features and tools of tribute collection, such as *yupanas* and *khipus*, this would change the interpretation

Burn Layer

From excavation units in both Sectors A and B, we found evidence for an intense burning event atop the final formal floor of the structure. Similarly, in units in and around the plaza in Sector D, we found evidence for ash on top of the first formal floor. This layer in Sector D was only 12-25cm below the surface, so it is possible that the burn event registered in that unit is associated with modern practices. There is also evidence of a burn event on the walls of Rooms

B1 and A2. From this widespread evidence of an ash layer and burn marks on the walls in multiple sectors of the complex, it is reasonable to assume that the entire structure was burned. This is a practice associated with the ceremonial closing of structures in the Inca Empire, as well as in the Middle Horizon period (Moseley et al. 2005).

Samples were dated from ash layers in Room A2 both in the hallway and in the main room (see **Table 3.1** and **Figures 3.54** and **3.58**). These dates are calibrated to AD1400-1434, and AD 1301-1395, but when plugged into a Bayesian framework that uses stratigraphic information these dates are in poor agreement with the other dates from the site, since the AMS dates predate some layers that they are on top of. The poor stratigraphic agreement of these dates could be due to the “old wood effect” (Schiffer 1986) and the dates could be associated with construction materials from a remodeling event and not directly dating the burn event. Due to this, the exact date of this event is difficult to determine, since the AMS dates from this layer are earlier than the Bayesian models would predict (Bronk Ramsey 2009). Based on the stratigraphy and Bayesian modeling, the structure was burned sometime between approximately AD 1450-1550 (based on the date from Level 5B [**Figure 3.60**] and the dates from Feature 17 [**Figures 3.61** and **3.63**]). After this, the complex was still used for mortuary practices that did not take place on the same type of prepared floors that previous activities had.

Transformation

The rest of this dissertation will focus on how activities in Room A2 were transformed alongside the architectural changes described in this chapter. See **Table 3.2** for the architectural arrangements and corresponding activities. Room A2 was transformed from an open space likely involved in producing food for feasts to a craft production area. It was then encircled in walls varying from 2-4 m in height and used for craft production and possibly rituals. Then the rectangular cuts were filled in and camelids used the room. The room was later burned and subsequently used for the burial of at least 76 individuals. The exact sequence of these burials remains to be determined. The analyses of artifacts from these stratigraphic sequences provide a rich dataset for addressing the impact of the foreign Inca Empire on the organization and function of Complex N1, the site of Las Huacas, and the Chincha Valley in general.

Chapter 3 Tables and Figures

AMS Dates from Room A2 in Complex N1 of Las Huacas											
				Calibrated (BC/AD)			Modelled (BC/AD)				
Name	Accession #	Age	Age Error	from	to	%	from	to	%	A	C
Litter	OS-149183	340	15	1505	1643	95.4	1502	1637	95.4	103.6	99.7
R17maiz	OS-149178	375	15	1486	1628	95.4	1476	1624	95.4	91.3	99.7
U25C4	OS-149188	415	20	1451	1622	95.4	1453	1501	95.4	116.2	99.9
R17algodon	OS-149177	435	20	1447	1614	95.4	1446	1611	95.4	104.6	99.8
U13C5B	OS-149176	475	15	1434	1464	95.4	1436	1463	95.4	97.8	99.9
Midden	OS-149227	560	20	1400	1439	95.4	1400	1439	95.4	99.4	99.8
U33C4B	OS-149184	565	15	1400	1434	95.4	1400	1434	95.4	98.6	99.8
Kiln1A	OS-149179	610	25	1319	1421	95.4	1320	1420	95.4	100	99.9
Cisttomb	OS-149340	625	15	1320	1406	95.4	1319	1407	95.4	96.9	99.6
Kiln2	OS-149186	630	15	1319	1404	95.4	1319	1404	95.4	97.1	99.8
R20C4	OS-149228	665	20	1301	1395	95.4	1301	1396	95.4	98.6	99.8
Cooking	OS-149226	730	20	1279	1382	95.4	1276	1301	95.4	113.5	99.9
U31C7	OS-149230	735	20	1276	1382	95.4	1280	1312	95.4	128.3	99.8
Kiln1B	OS-149181	750	20	1271	1380	95.4	1270	1380	95.4	98.4	99.6
U29C8	OS-149182	760	15	1270	1300	95.4	1275	1296	95.4	113.7	100
R20C7	OS-149185	765	20	1233	1376	95.4	1263	1378	95.4	98.1	99.7
U19C10	OS-149229	780	20	1228	1295	95.4	1267	1289	95.4	137.3	100
U29C11	OS-149180	800	15	1227	1284	95.4	1238	1284	95.4	124.8	99.5
U34C10	OS-149187	805	20	1225	1283	95.4	1260	1289	95.4	105.4	99.9

Table 3.1. AMS dates from Room A2 in Complex N1 at the site of Las Huacas. Dates were run at NOSAMS Woodshole Oceanographic Institute. Dates were calibrated using Oxcal Software (Bronk Ramsey 1995) and then modeled using the stratigraphic information and the phase and sequence features of Oxcal. For calibrations and models see **Figures 3.46-3.65**.

Room A2 Occupational Timeline

<table>
<tr><th>Time Period</th><th>Architectural Plan</th><th colspan="2">Construction Events and Activities</th></tr>
<tr><td colspan="4">Starts AD 1174-1275</td></tr>
<tr><td colspan="4">Phase Start AD 1201-1379</td></tr>
<tr><td>Late Intermediate Period
(AD 1100-1400)</td><td>A</td><td colspan="2">Open space at the base of a platform where food was likely prepared for feasts</td></tr>
<tr><td colspan="4">Boundary: AD 1279-1339</td></tr>
<tr><td rowspan="8">Late Horizon
(AD 1400-1534)</td><td>B</td><td colspan="2">Craft Production and Midden</td></tr>
<tr><td colspan="3">Exterior walls built</td></tr>
<tr><td>C</td><td colspan="2">Craft Production, Midden, and possible ritual space</td></tr>
<tr><td colspan="3">Construction hallway wall</td></tr>
<tr><td>D</td><td colspan="2">Camelids used the space</td></tr>
<tr><td colspan="3">Burn Layer</td></tr>
<tr><td rowspan="2">E</td><td rowspan="2">Hallway sealed multiple times</td><td>Level 4A</td></tr>
<tr><td>Mortuary</td></tr>
<tr><td rowspan="3">Colonial Period
(AD 1534-1821)</td><td colspan="3">Boundary: AD 1458-1562</td></tr>
<tr><td colspan="3">Hallway Wall Collapses (possibly in an Earthquake AD 1586 or 1687)</td></tr>
<tr><td>F</td><td colspan="2">Mortuary Revisit and Offerings</td></tr>
<tr><td colspan="4">End of Occupation: AD 1461-1713</td></tr>
</table>

Table 3.2. A timeline of the architectural changes to Room A2 in Complex N1 at the site of Las Huacas and corresponding activities. Construction events are highlighted in the light gray background. Boundaries and the start and end of phases and occupations were calculated using Bayesian modeling in Oxcal (Bronk Ramsey 2009). For model information see **Figure 3.65** and **Figures 3.46-3.64** for the modeled curves for each sample.

Levels and Floors of Room A2

Level	Description
Surface+ 1	Loose soil
2A	Fill
2B	Fill
3A	Fill
3B	This level is *derrumbe* or wall fall from the hallway wall that fell over
4A	This level was directly under the hallway wall that collapsed in some units. In some areas it was loose, in others more compact. In some areas it contained few cultural materials and in others quite dense
4B	This compact surface (*apisonado*) had a high concentration of burned material and ash in some areas and a lot of faunal remains and some cobblestones (*cantos rodados*), likely from tomb construction, in other areas
5A	Thin layer of sand and some cultural material on the floor
5B	Semi-compact to compact level containing camelid coprolites directly on top of the floor for Floor 1
Floor 1	Compact floor
Floor 2	Deteriorated compact floor
Floor 3	Deteriorated compact floor
Floor 4	Deteriorated compact floor
Floor 5	Deteriorated compact floor
Floor 6	Deteriorated compact floor
12	Compact level of soil and cobblestones (found to be sterile)

Table 3.3. The sequence of levels and floors from Room A2 within Complex N1 at the site of Las Huacas.

Figure 3.1. Google Earth Photo from 2006 showing a road that cuts between Mound S1 and Mound S2 at the site of Las Huacas.

Figure 3.2. Western edge of Mound S2 with Mound 1 in the background at the site of Las Huacas. Mound S2 is a truncated pyramid with the typical Chincha architectural style.

Figure 3.3. View of Complex N1 at Las Huacas, taken from the top of Structure S1. N1 has a complex floorplan composed of multiple plazas, platforms, and rooms of various sizes.

Figure 3.4. Inca-style adobes were found in the northern access to Room A2 in Complex N1 at Las Huacas. The photo shows human remains that were found in the doorway.

Figure 3.5. *Chullpa* style tombs located east of Complex N1 at the site of Las Huacas. These are similar to features recorded in the upper Chincha Valley by Bongers (2019).

Figure 3.6. Mound E1 at the site of Las Huacas.

Figure 3.7. Standing *tapia* wall near a paved road at the edge of Sector E at the site of Las Huacas. Lumbreras (2001) suggested that this wall enclosed an area including Structures E1, E2, and E3. The modern road may lie in the same place as a prehispanic road, and the tapia could be associated with the road rather than an enclosed space.

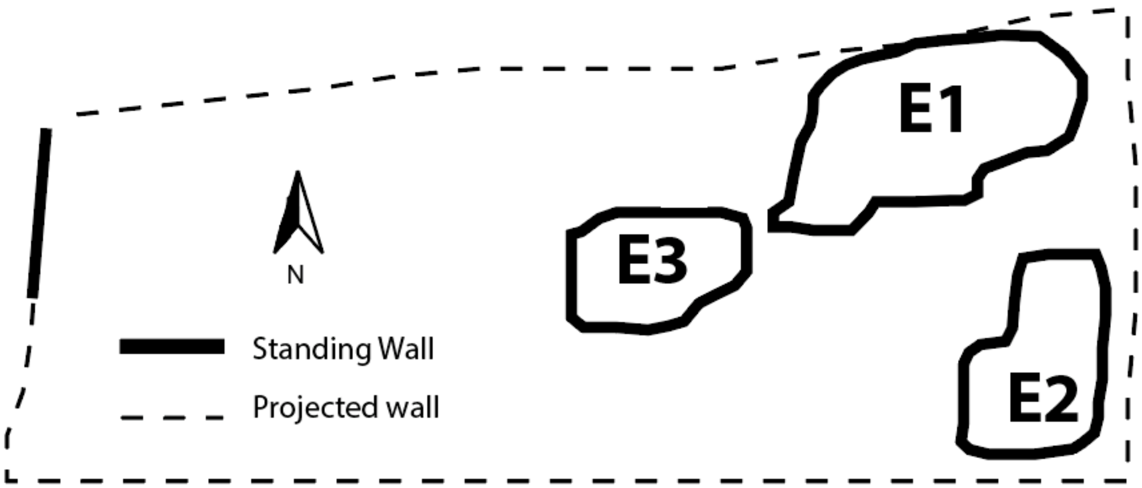

Figure 3.8. Wall suggested by Lumbreras (2001:47). Continuous lines indicate standing wall fragments; dashed lines suggest location of possible wall. Lumbreras associates the standing remnants with a wall that served to enclose the space; I suggest that the standing fragments might have been associated with a prehispanic road.

Figure 3.9. Structures E4 and E5 at the site of Las Huacas in the 1980s. (Photos courtesy of Dr. Patrick Carmichael)

Figure 3.10. Burial in Structure E5 at the site of Las Huacas. (Photo courtesy of Dr. Patrick Carmichael).

Figure 3.11. Burial structures (square constructions in the center of the photo) in Mound S4 at the site of Las Huacas, Chincha Valley.

Figure 3.12. Burial structures in Mound S6, Las Huacas.

Figure 3.13. Burial structure in Mound S7, showing the damage at Las Huacas from modern plowing and farming.

Figure 3.14. Possible burial in Structure S8, damaged by modern agricultural practices.

Figure 3.15. Room B1 in Complex N1 at the site of Las Huacas, where excavations were conducted in 2016.

Figure 3.16. Excavation area in Room B1 of the site of Las Huacas.

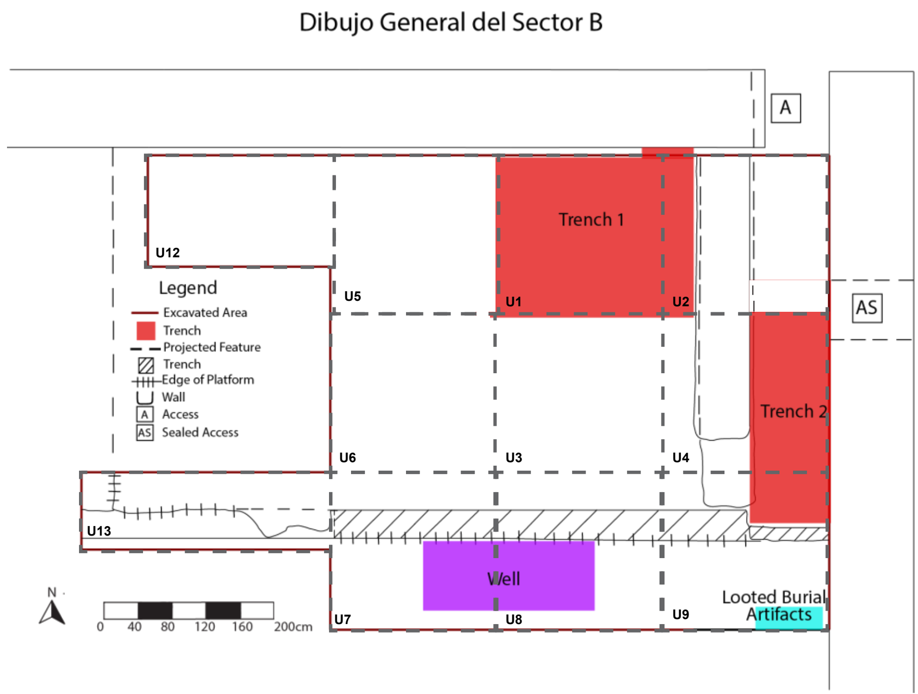

Figure 3.17. Room B1 in Complex N1 at the site of Las Huacas with trenches and features highlighted.

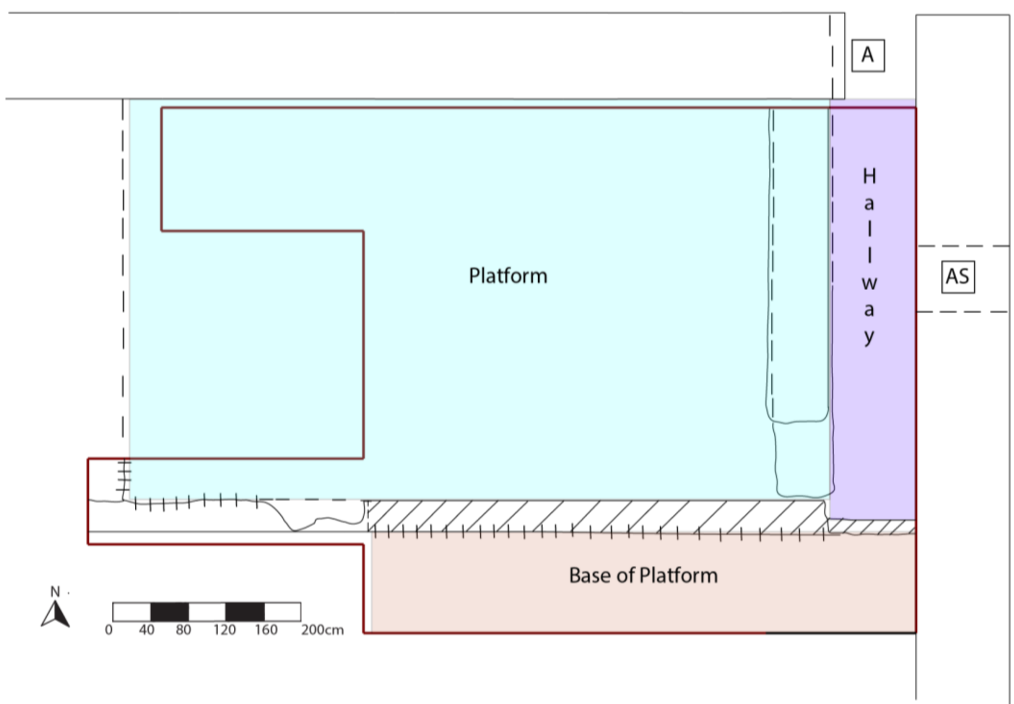

Figure 3.18. Areas with unique stratigraphy in Room B1 in Complex N1 at the site of Las Huacas.

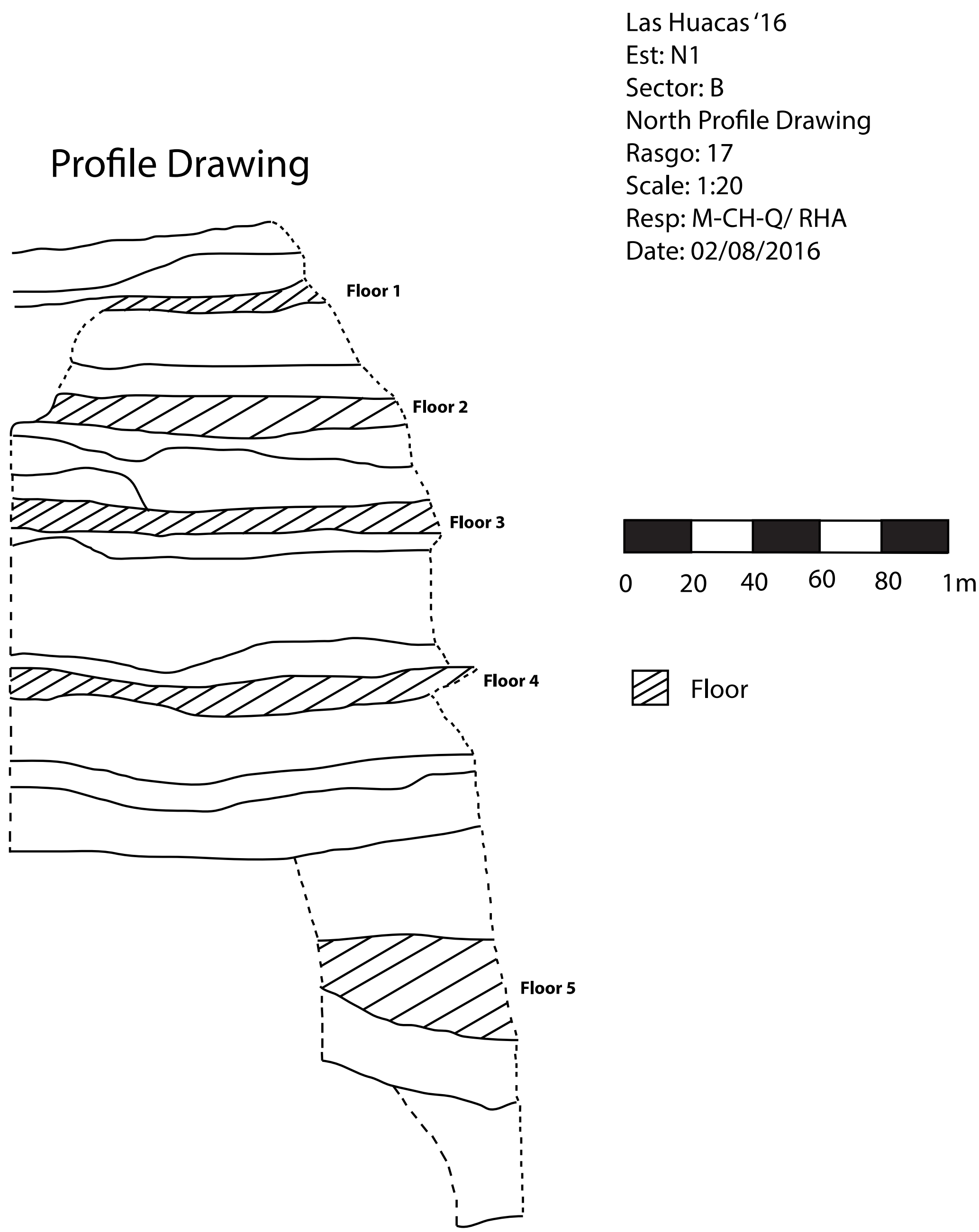

Figure 3.19. Northern profile of Trench 1 in Room B1 in Complex N1 at Las Huacas.

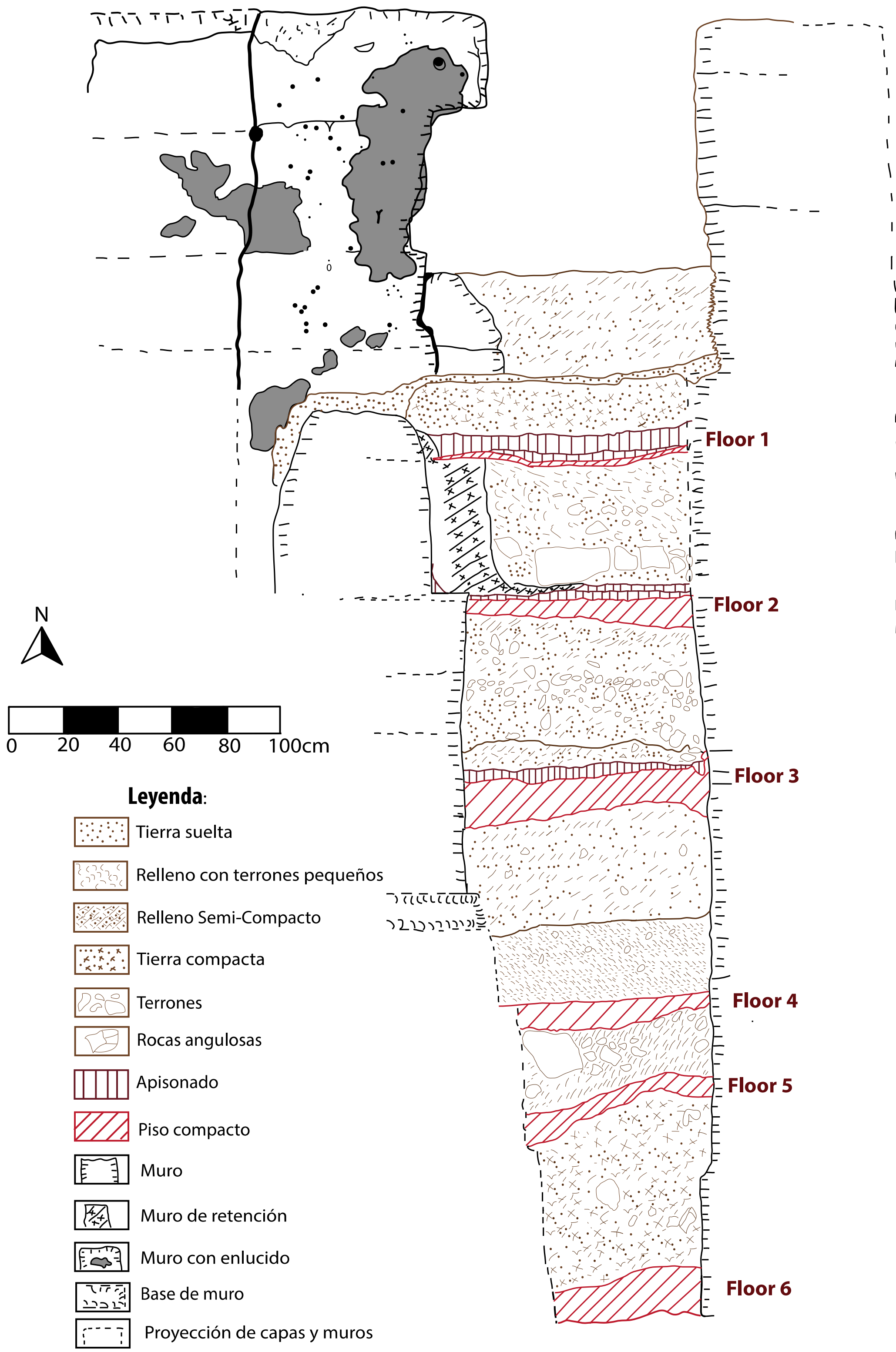

Figure 3.20. Northern Profile of Trench 2 in Room B1 in Complex N1 at the site of Las Huacas.

Figure 3.21. Stepped ramp at the northern end of the hallway in Room B1 in Complex N1 at Las Huacas.

Figure 3.22. Sealed doorway in the eastern wall of Room B1 in Complex N1 at Las Huacas.

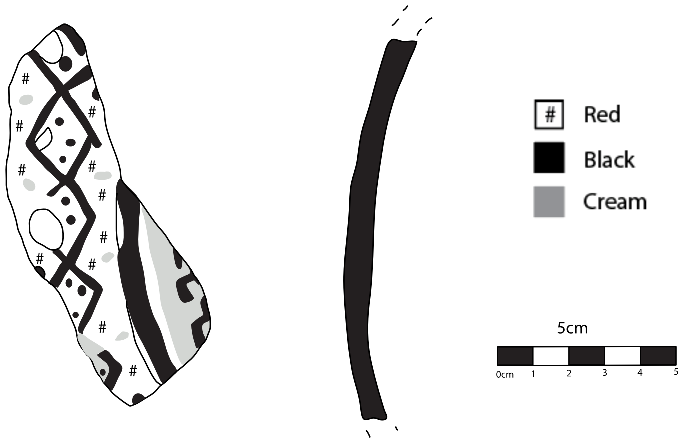

Figure 3.23. Late Horizon sherd on top of Floor 6 in Trench 2 of Room B1 in Complex N1 at Las Huacas.

Figure 3.24. Late Horizon sherd found atop Floor 6 in Trench 2 of Room B1 in Complex N1 at Las Huacas.

Figure 3.25. Fragment of textile from Feature 20 in Room B1 in Complex N1 at Las Huacas, likely from a disturbed burial.

Figure 3.26. Possible trough for water storage in Room B1 of Complex N1 at Las Huacas.

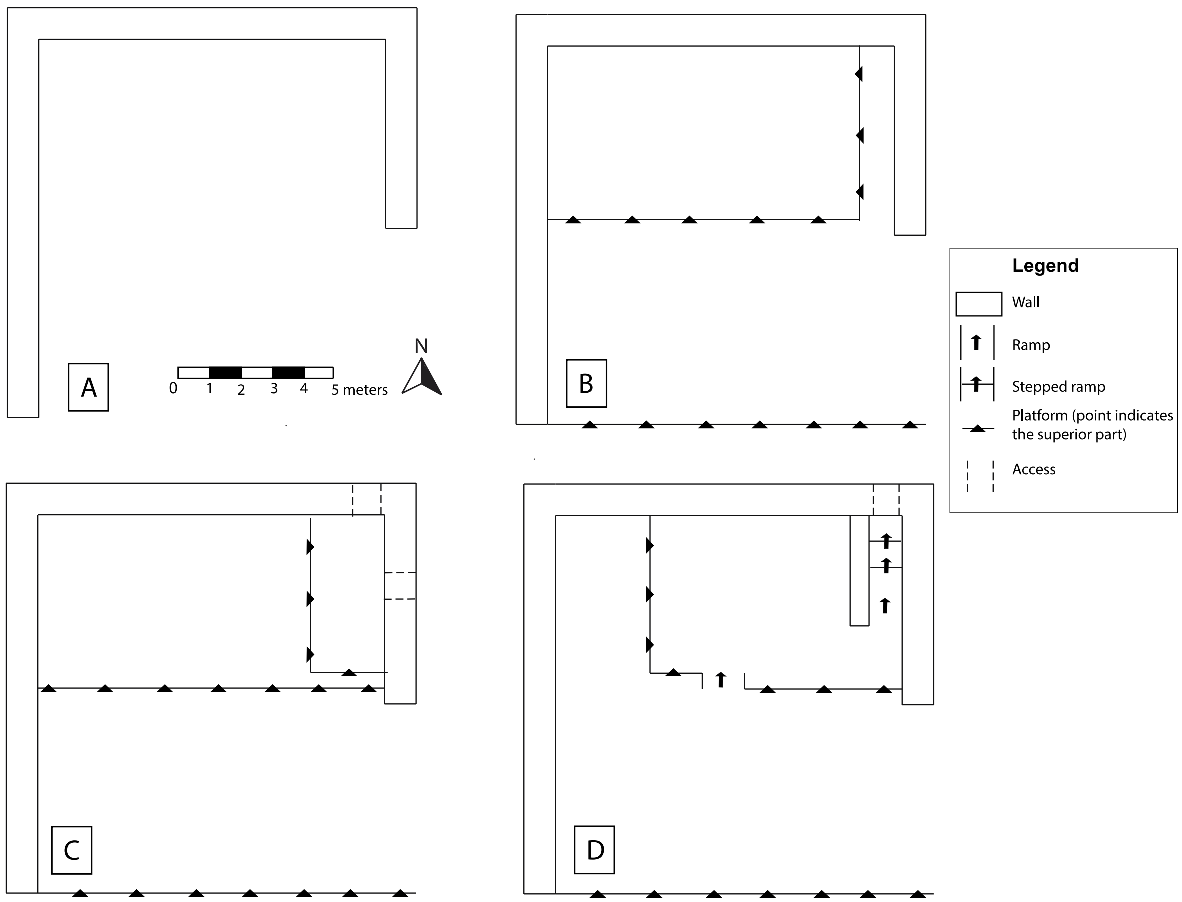

Figure 3.27. Possible organization of Room B1 in Complex N1 at Las Huacas. Phase A is the earliest; Phase D is the final occupation. The organization of the room became more complex through time.

Figure 3.28. Weaving sword recovered from Room B1 of Complex N1 at Las Huacas.

Figure 3.29. Figurine mold recovered from Room B1 of Complex N1 at Las Huacas.

Figure 3.30. Room A2 of Complex N1 at the site of Las Huacas.

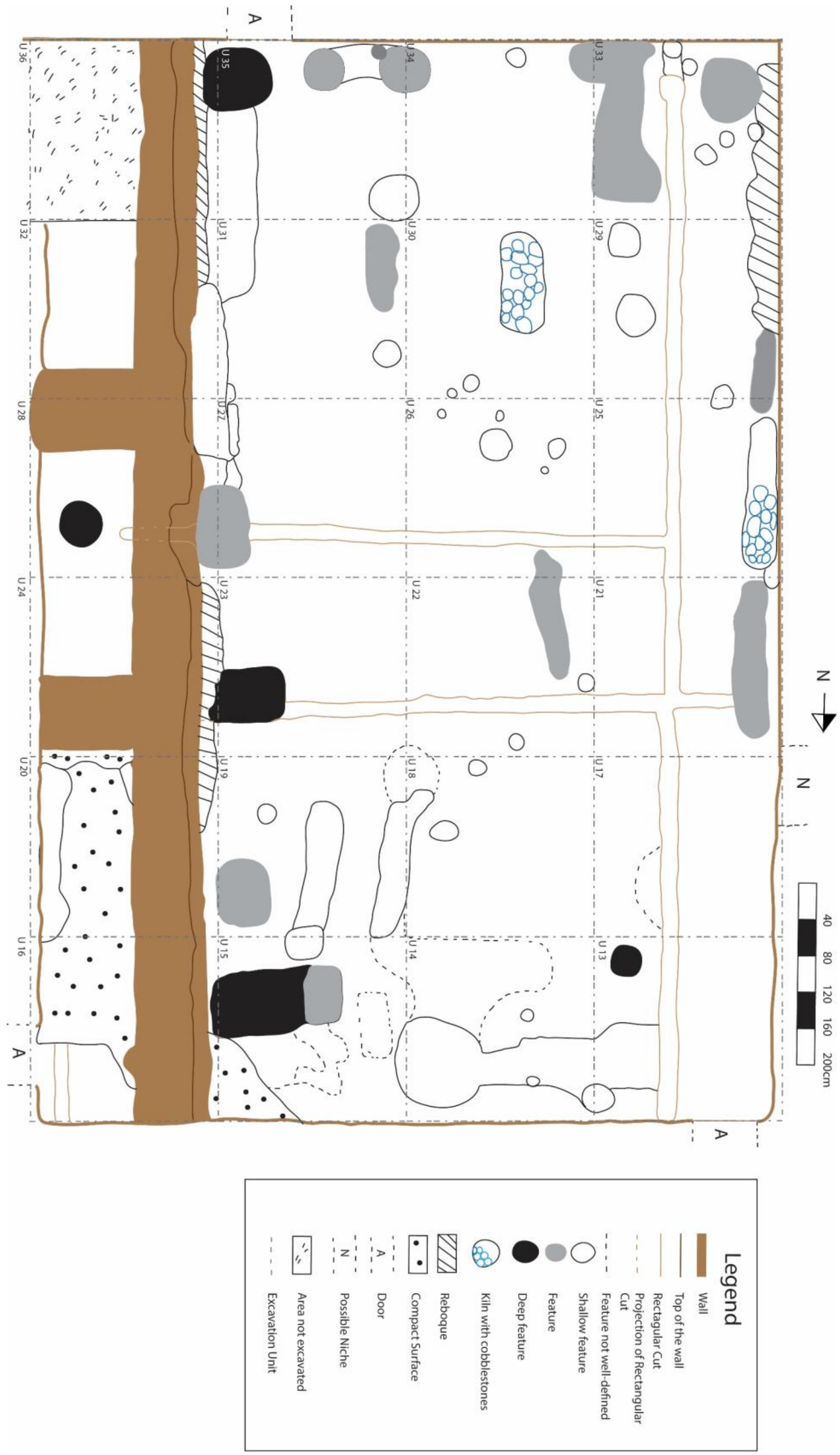

Figure 3.31. Units of Room A2 in Complex N1 at Las Huacas with features of Floor 1.

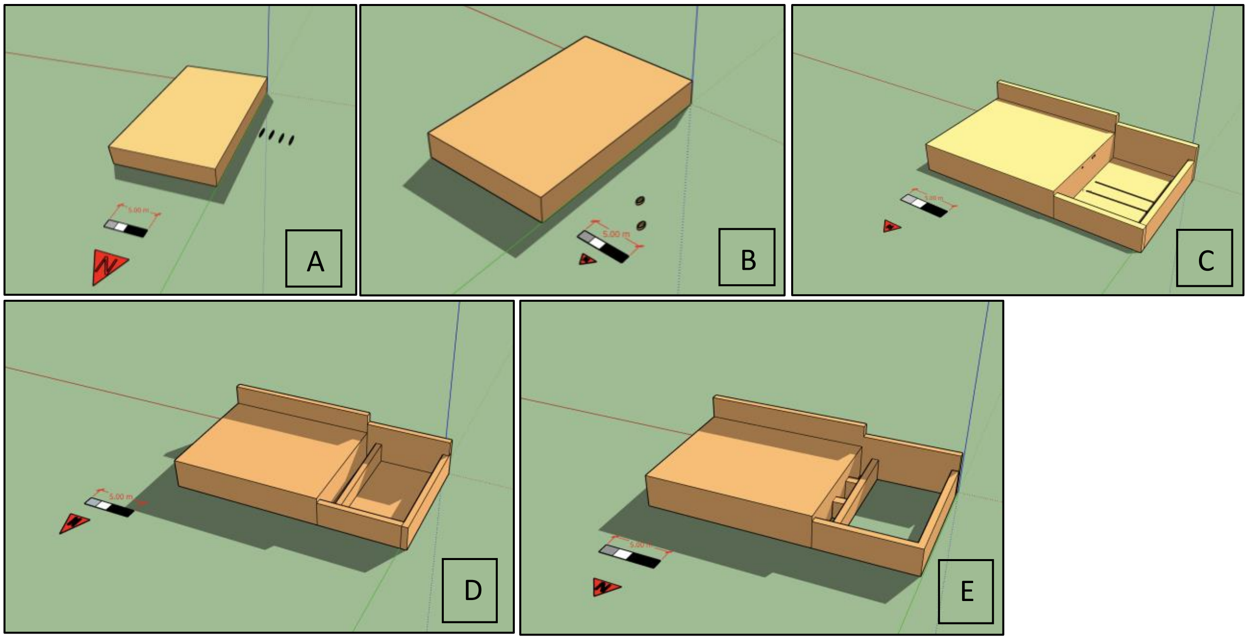

Figure 3.32. Sketches of hypotheses for the different architectural arrangements of Room A2 in Complex N1 at the site of Las Huaca. Arrangement A was the earliest (top left) to Arrangement E the latest (bottom right). Made by Gabriella Armstrong.

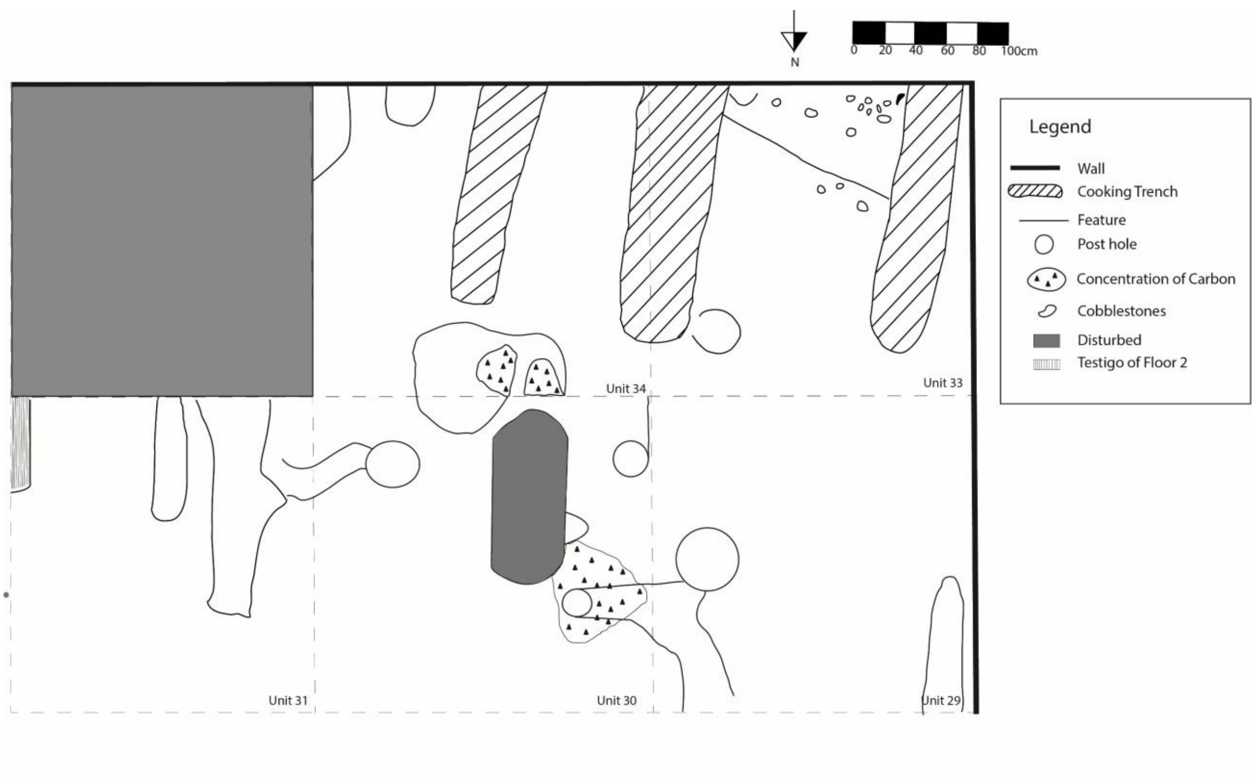

Figure 3.33. Features in Floor 3 of Room A2 in Complex N1 at Las Huacas.

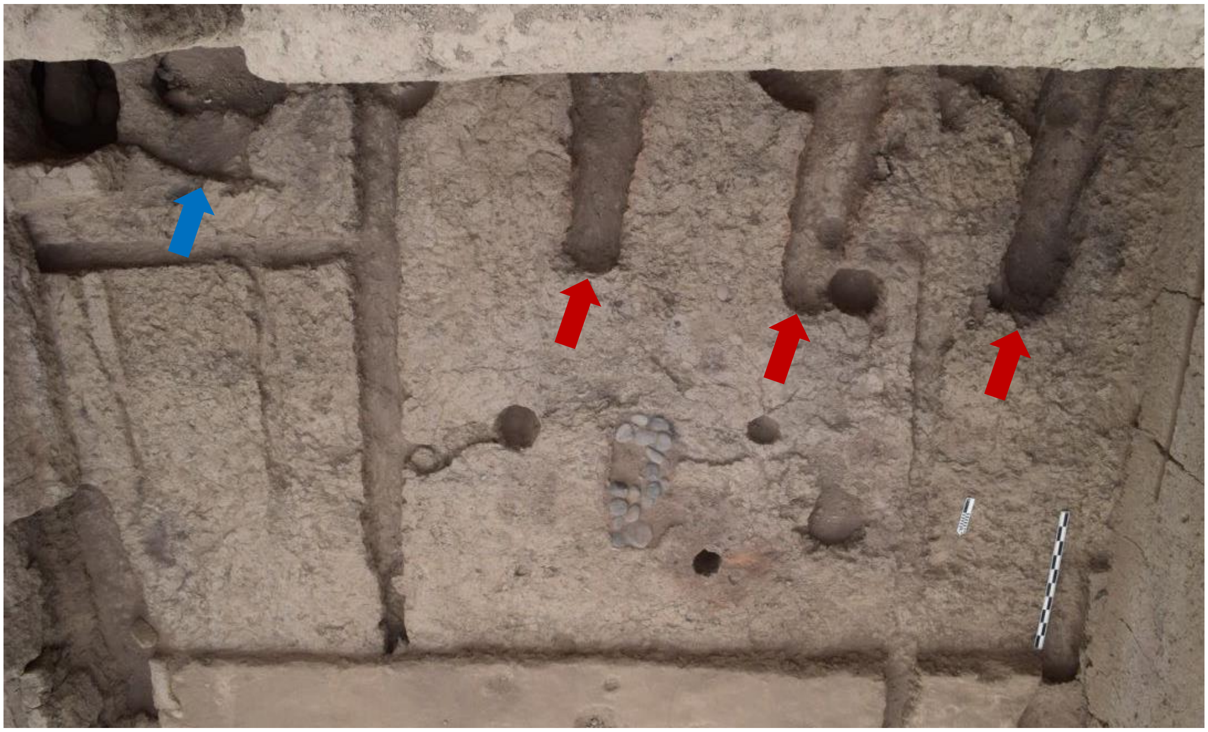

Figure 3.34. Possible cooking trenches that extended underneath the southern wall (indicated by red arrows). The fourth (on the left indicated by a blue arrow) was disturbed by the later construction of Tomb 4.

Figure 3.35. One of the cooking trenches filled with ash in Room A2 of Complex N1. It extends beneath the large *tapia* wall. Its dimensions are unknown.

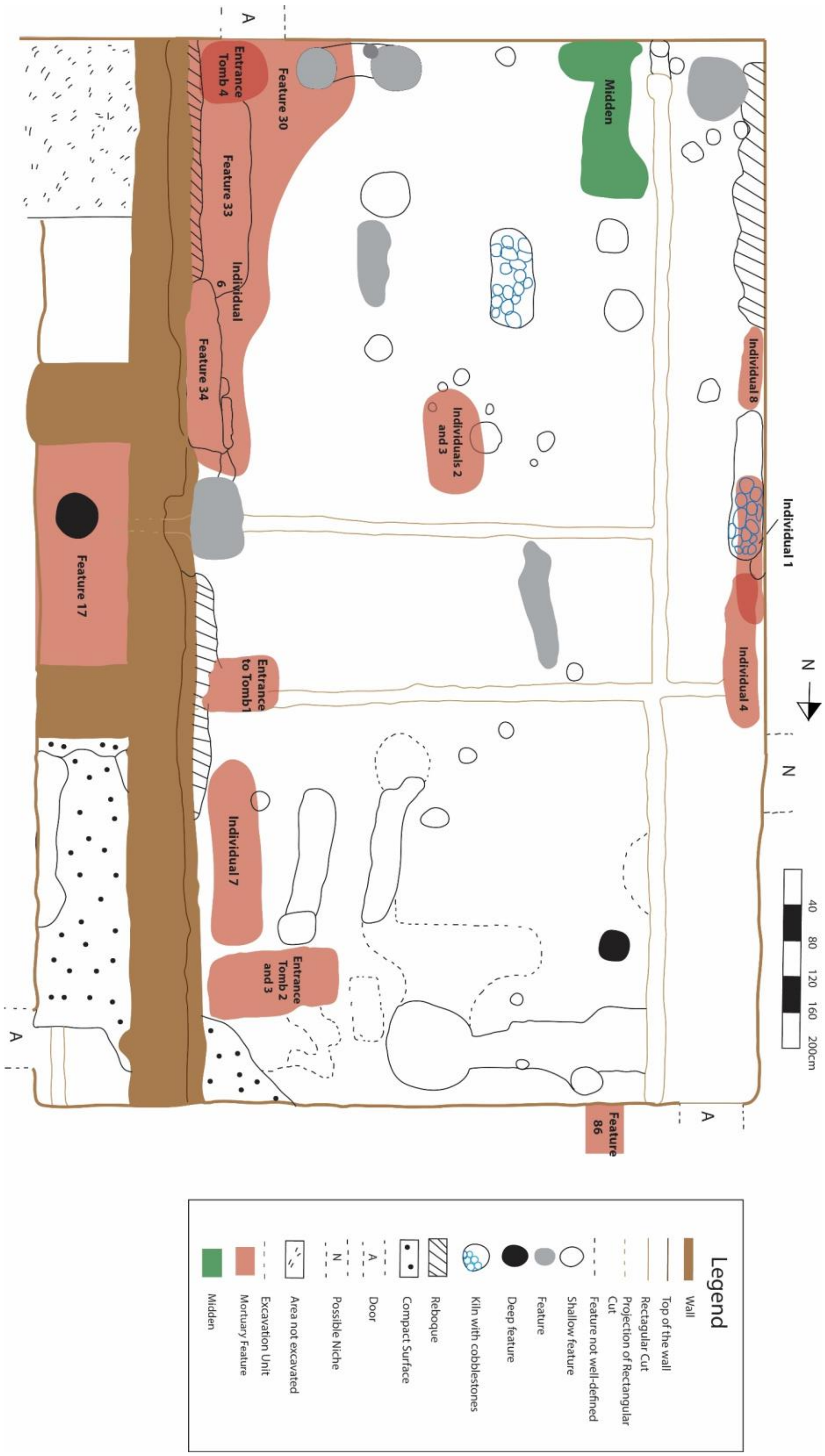

Figure 3.36. Map of Floor 1 in Room A2 of Complex N1 at Las Huacas with the mortuary features and midden highlighted.

Figure 3.37. The cobblestone bottom kilns, recovered during excavations of Room A2 in Complex N1 of Las Huacas: (left) Kiln #1, (right) Kiln #2.

Figure 3.38. Decorated “waster” sherd found near Kiln #1 in Room A2 in Complex N1 at Las Huacas. Sherd contains a decoration similar to the Coastal Inca bird design.

Figure 3.39. Craft production tools recovered from Room A2 in Complex N1 at the site of Las Huacas. (A) and (B) are molds, possibly for metals, since no ceramics recovered from the site fit the mold. (C) and (D) are figurine molds. (D) has a raised circle around the eyes similar to Late Horizon figurines (Menzel 1967). (E) and (F) are pictures of an instrument likely used for blowing on the fire and controlling temperatures in craft production (G) *Concholepas concholepas* with traces of purple pigment. (H) is a mold, possibly for a ceramic pedestal applique.

Photo 3.40. Rectangular cuts in Floor 1 of Room A2, shown by blue arrows in the photo on the left.

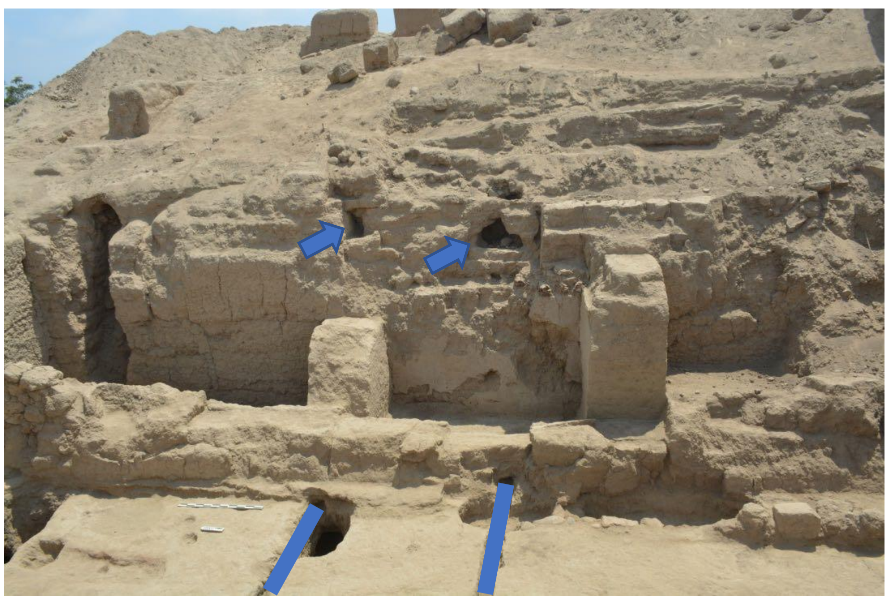

Figure 3.41. Holes in the platform (designated by blues arrows) that match up with rectangular cuts in the floor (designated by blue lines) in Room A2 in Complex N1 at Las Huacas.

Figure 3.42. Cobblestones (*cantos rodados*) from the bottom of Kiln #2 that were placed in a rectangular cut to create a flat surface prior to the room being reused to corral camelids.

Figure 3.43. A rectangular cut that was intentionally filled in so that camelids could walk on a flat surface in Room A2 in Complex N1 at the site of Las Huacas.

Figure 3.44. The entrances and inside of some of the subterranean tombs in Room A2 in Complex N1 at Las Huacas. (top left) Entrance to Tomb 1, (top right) the inside Tomb 1, (bottom left) entrance to Tomb 3 (center) and Tomb 2 (right), (bottom right) the inside of Tomb 3.

Figure 3.45. Fragments of the interior wall that had collapsed in Room A2. The debris from the wall sealed the mortuary deposits of Feature 30, 33, and 34, and the entrance to Tomb 1 and 4. In the photo on the left we see the textiles that covered the Feature 17 communal ossuary.

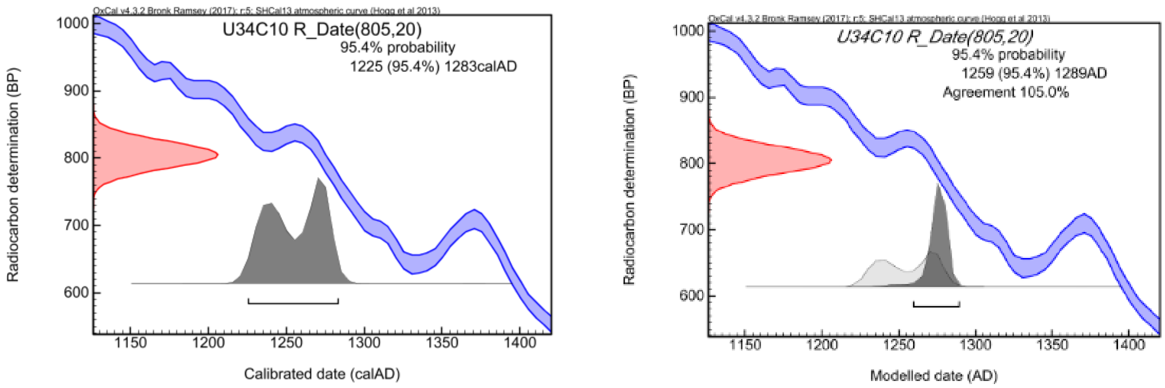

Figure 3.46. Calibrated date for carbon sample from Unit 34 Floor 5: (left) unmodeled, (right) modeled.

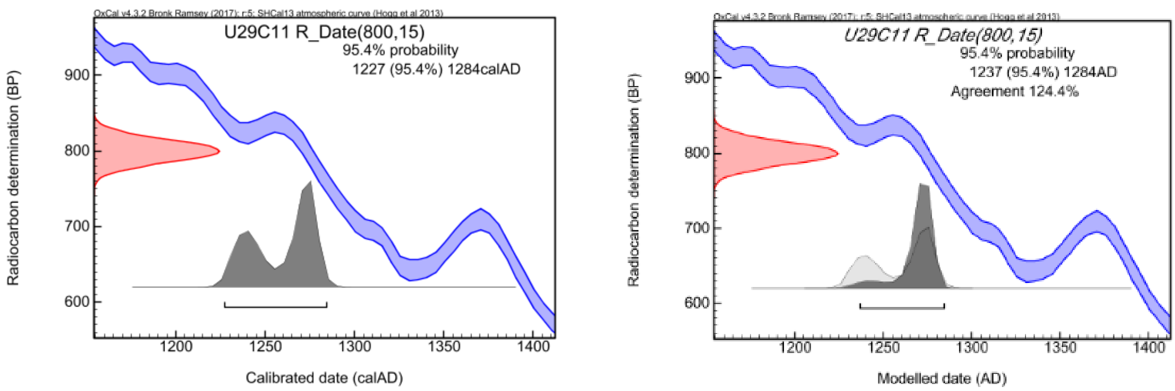

Figure 3.47. Calibrated date for carbon sample from Unit 29 Floor 6: (left) unmodeled, (right) modeled.

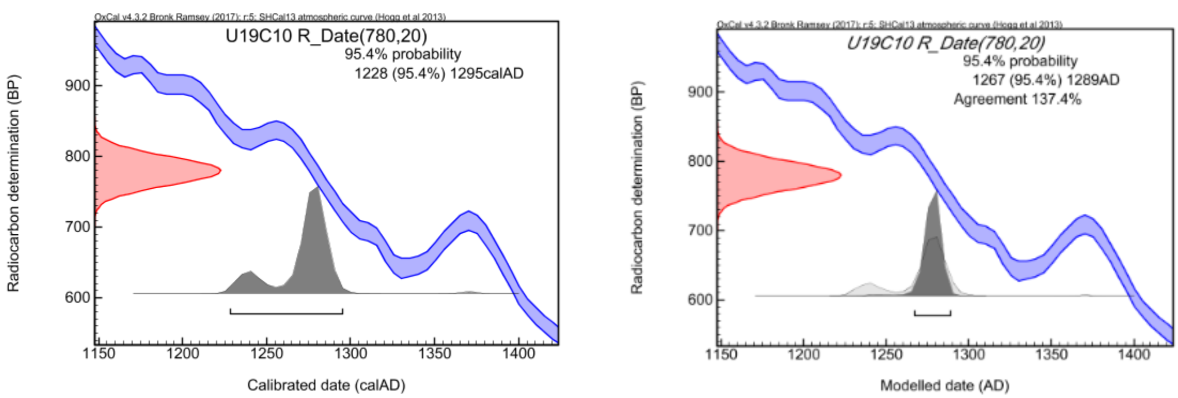

Figure 3.48. Calibrated date for carbon sample from Unit 19 Floor 5: (left) unmodeled, (right) modeled.

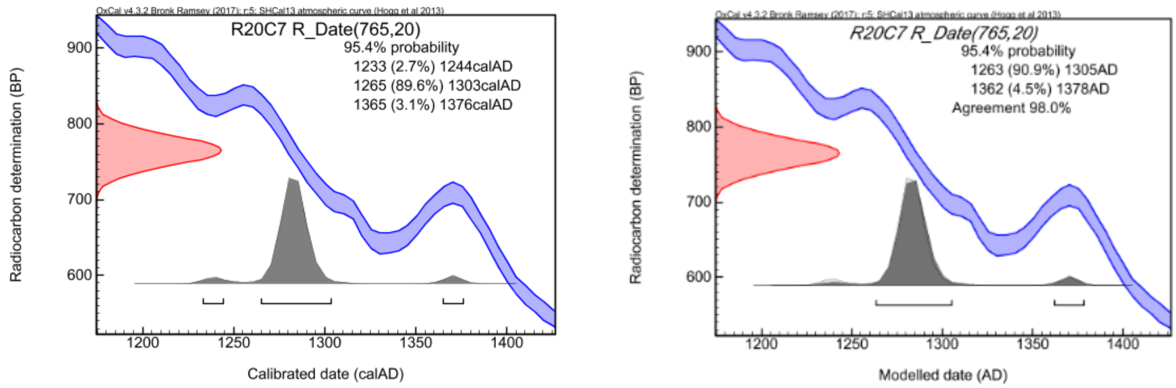

Figure 3.49. Calibrated date for carbon sample from the last floor associated with Feature 20 in the Hallway which was at the same level as Floor 6 in the main room: (left) unmodeled, (right) modeled.

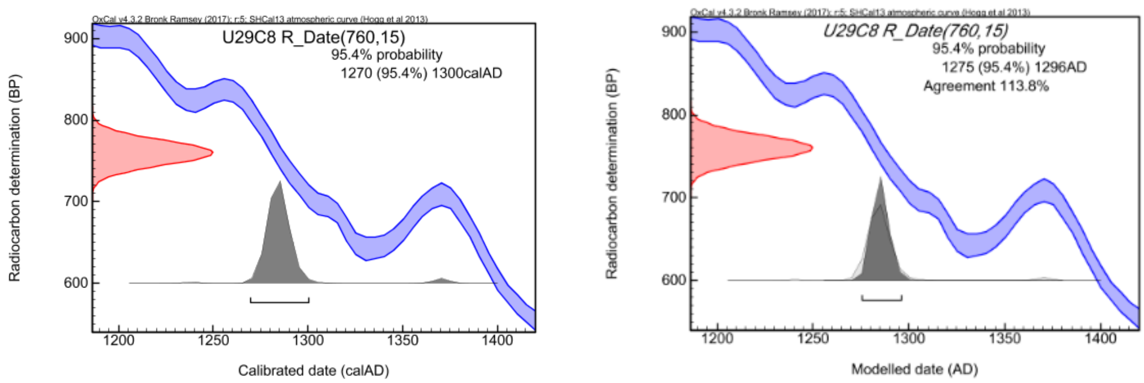

Figure 3.50. Calibrated date for carbon sample from Unit 29 Floor 3: (left) unmodeled, (right) modeled.

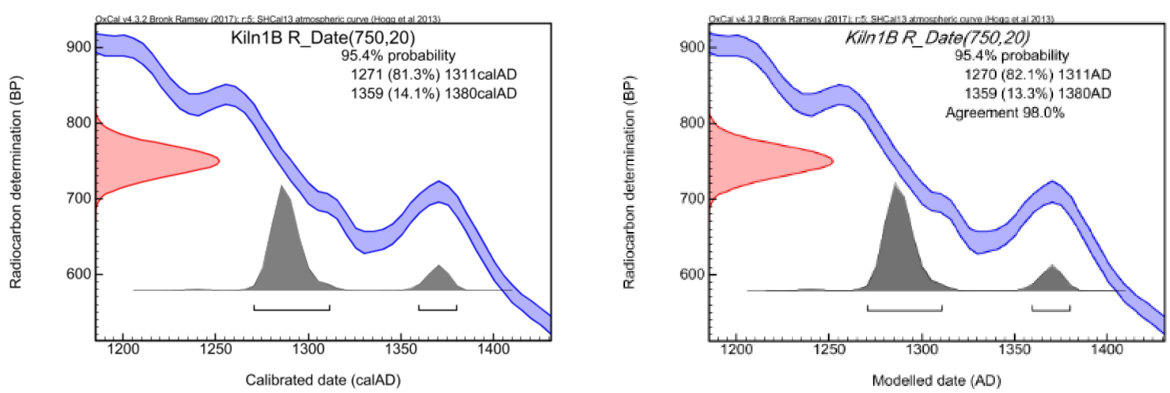

Figure 3.51. Calibrated date for carbon sample from Kiln 1 Level 6B: (left) unmodeled, (right) modeled. The sample was in poor agreement with the other dates, so it was not included in a sequence in the Bayesian model.

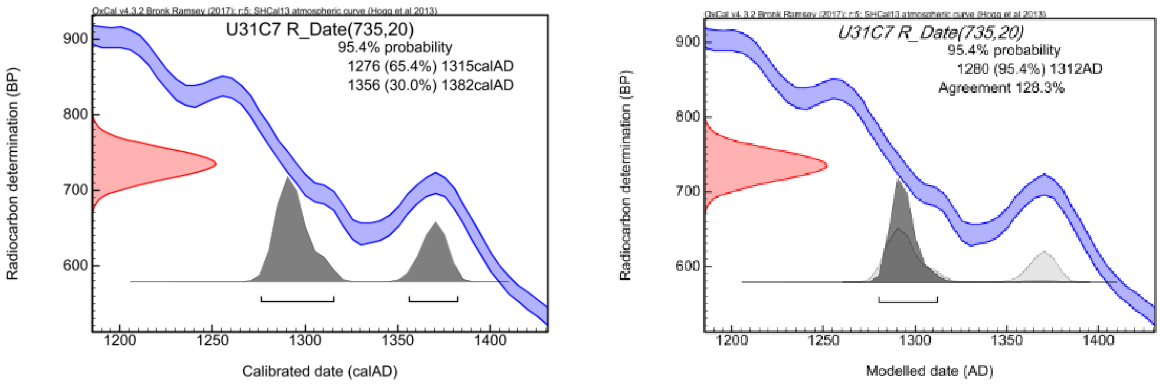

Figure 3.52. Calibrated date for carbon sample from Unit 31 Floor 2: (left) unmodeled, (right) modeled.

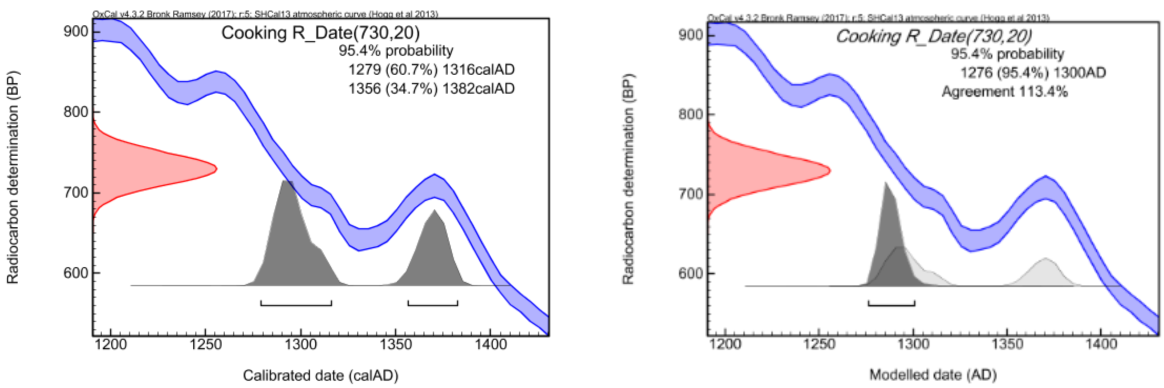

Figure 3.53. Calibrated date for carbon sample from Feature 104 in Unit 34 Floor 3, which was one of the cooking trenches: (left) unmodeled, (right) modeled.

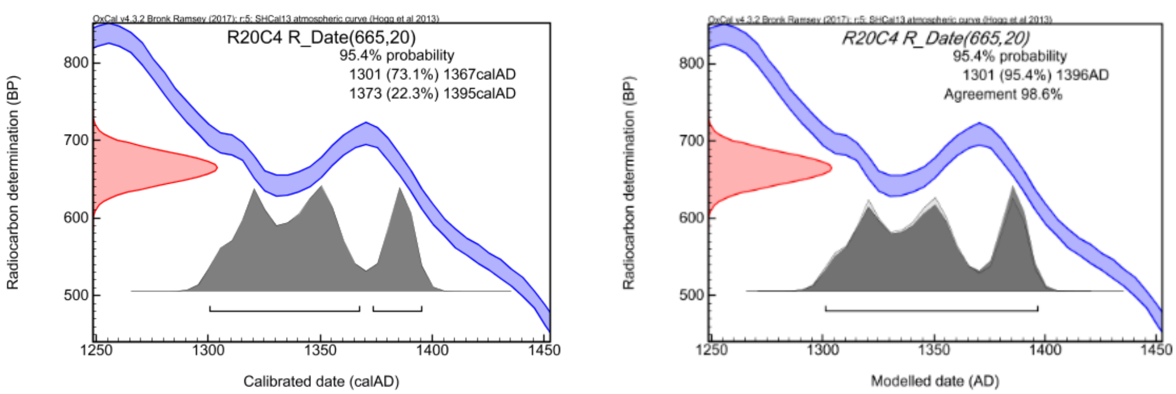

Figure 3.54. Calibrated date for carbon sample from Feature 20 Level 4 in the hallway, a burn layer: (left) unmodeled, (right) modeled. The sample was in poor agreement with the other dates prior to the burning event which could be due to the “old wood” effect (Schiffer 1986).

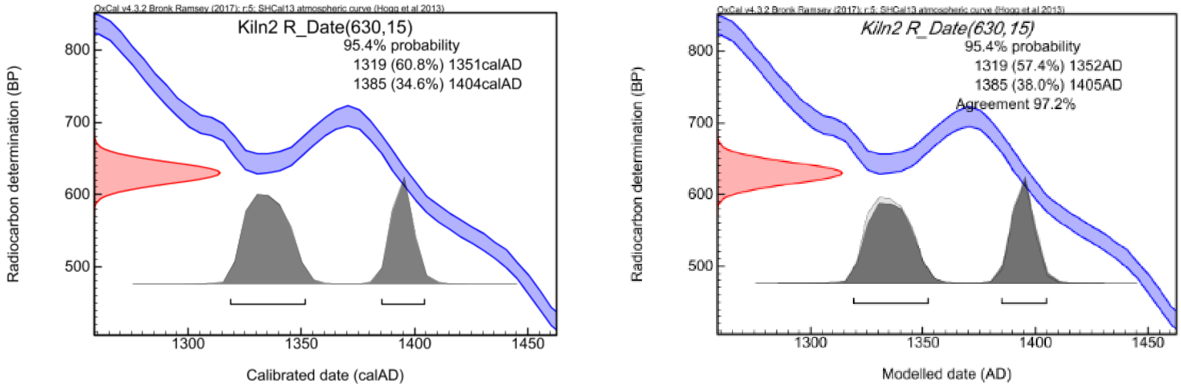

Figure 3.55. Calibrated date for carbon sample from Kiln 2 in Unit 25 Level 6/Floor 1: (left) unmodeled, (right) modeled. Based on the cultural material, the AD 1385-1405 range is more likely.

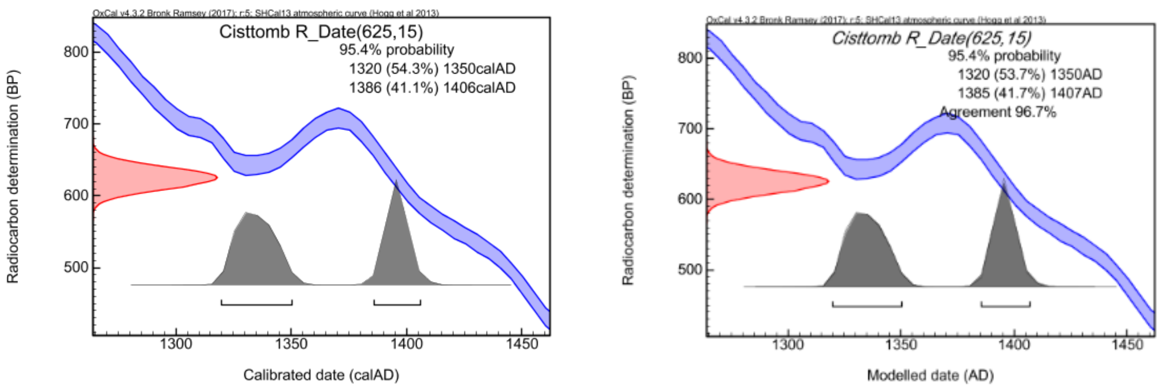

Figure 3.56. Calibrated date for hair sample from Feature 34, one of the Cist tombs: (left) unmodeled, (right) modeled. The sample was in poor agreement with the other dates, so it was not included in a sequence in the Bayesian model. The early date could be due to the marine reservoir effect.

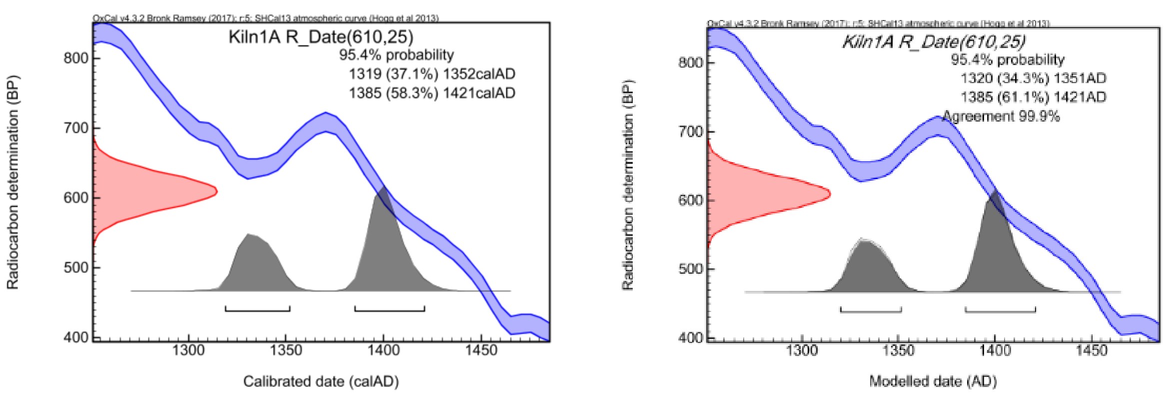

Figure 3.57. Calibrated date for carbon sample from Kiln 1, Unit 30 Level 6A: (left) unmodeled, (right) modeled. Based on the material culture the date ranges from 1385-1421 is more likely.

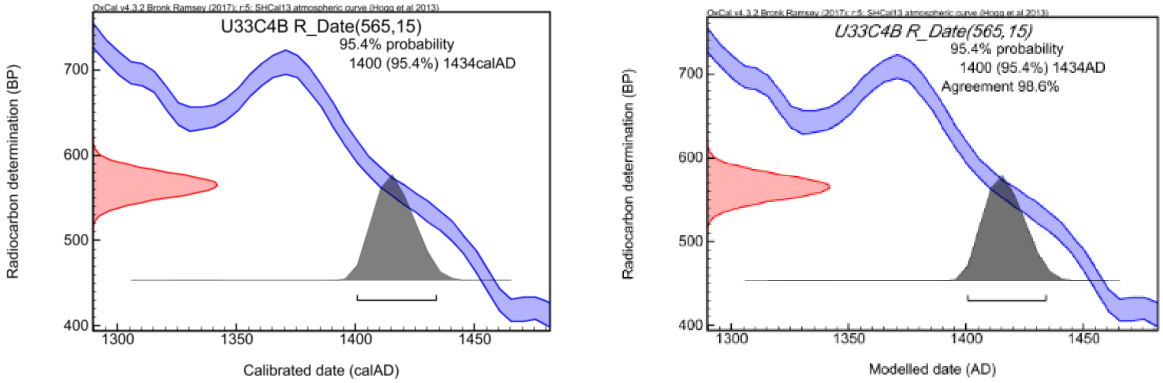

Figure 3.58. Calibrated date for carbon sample from Unit 33 Level 4B, a burn layer: (left) unmodeled, (right) modeled. The sample was in poor agreement with the other dates, so it was not included in a sequence in the Bayesian model. The earlier date could be due to the "old wood" effect (Schiffer 1986).

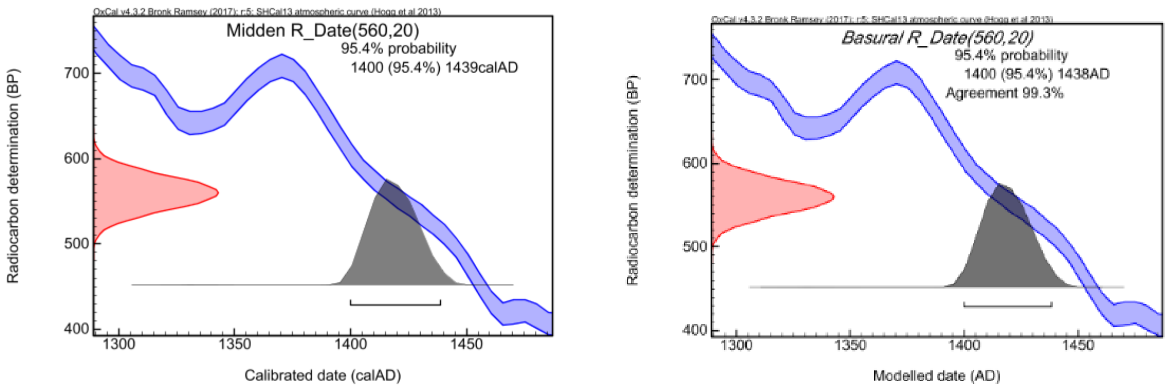

Figure 3.59. Calibrated date for botanic sample from the midden in Unit 33 associated with Floor 1: (left) unmodeled, (right) modeled.

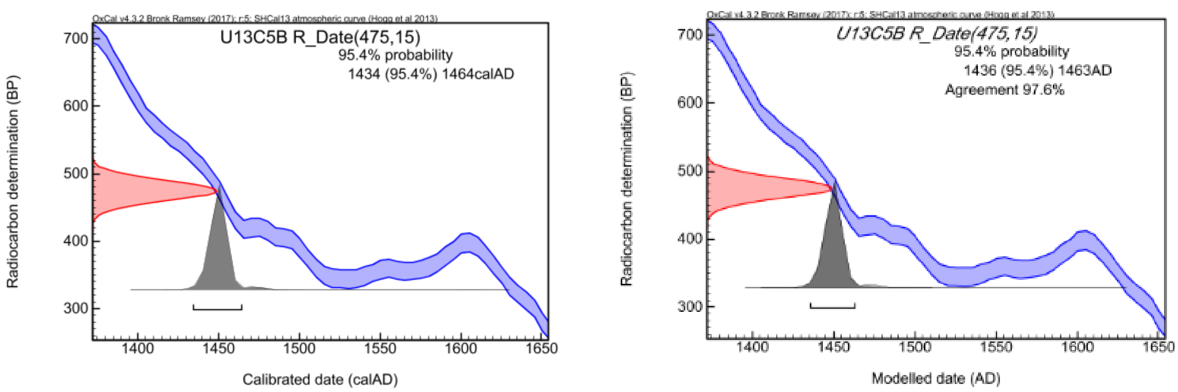

Figure 3.60. Calibrated date for corn from Unit 13 Level 5B: (left) unmodeled, (right) modeled.

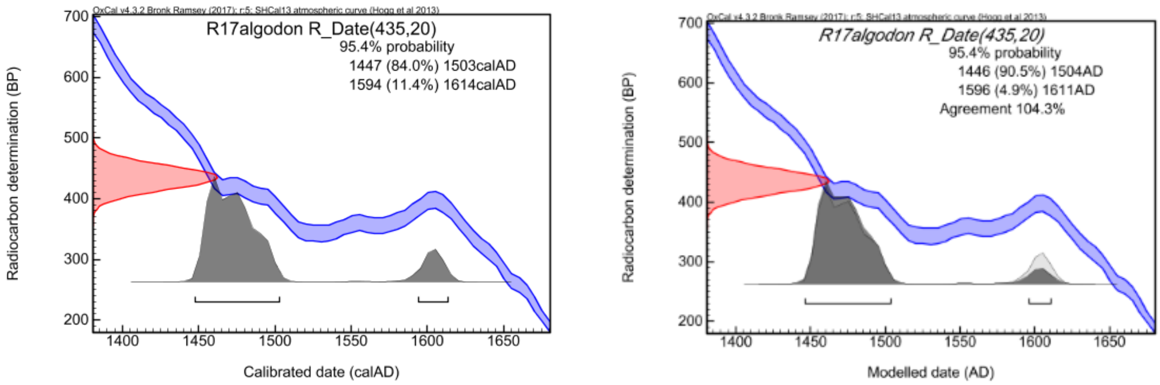

Figure 3.61. Calibrated date for cotton sample from Feature 17 Level 3C: (left) unmodeled, (right) modeled.

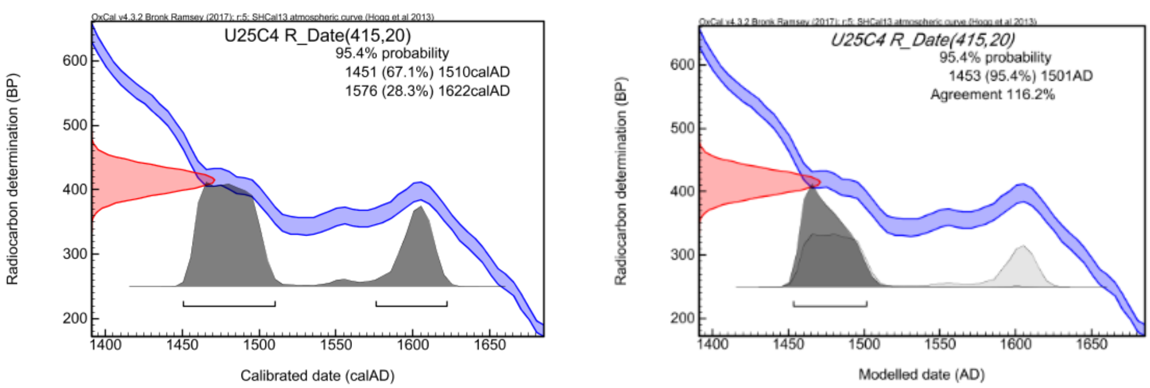

Figure 3.62. Calibrated date for carbon sample from Unit 25 Level 4: (left) unmodeled, (right) modeled.

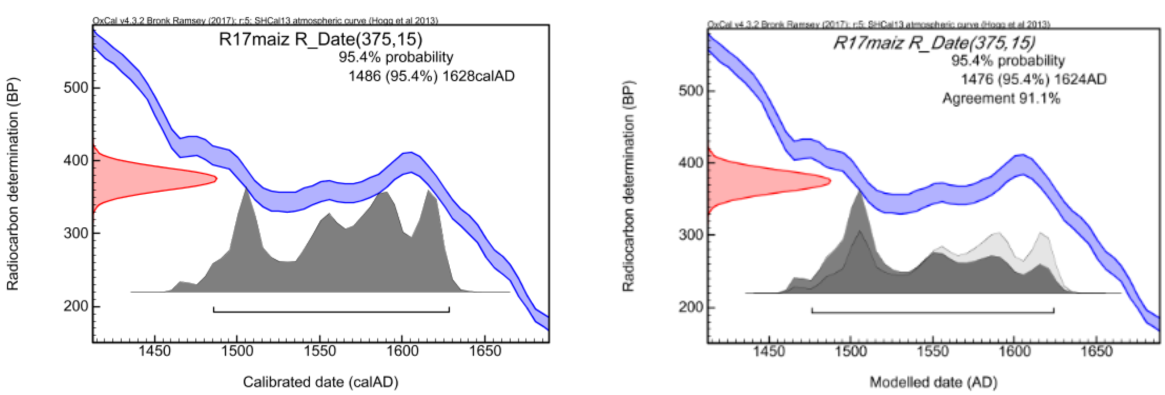

Figure 3.63. Calibrated date for corn sample from Feature 17 Level 3C: (left) unmodeled, (right) modeled.

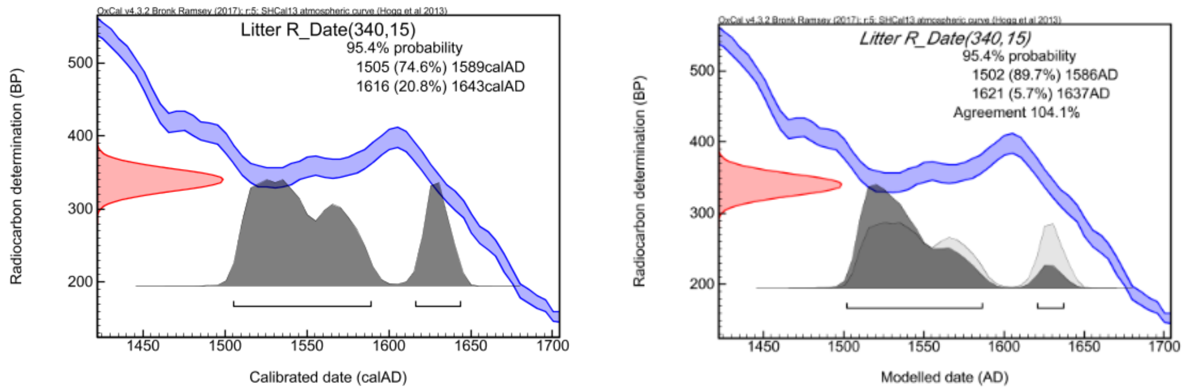

Figure 3.64. Calibrated date for reed from a Burial Litter in Feature 10 in Level 3: (left) unmodeled, (right) modeled.

```
Plot()
{
 Sequence("Las Huacas A5")
 {
  Curve("SHCal13","SHCal13.14c");
  Boundary("Start Site");
  Phase("All")
  {
   Phase("Main Room")
   {
    Sequence("Main Room")
    {
     Boundary("Start Main");
     R_Date("U29C11", 800, 15);
     Phase("Level 10")
     {
      R_Date("U34C10", 805, 20);
      R_Date("U19C10", 780, 20);
     };
     Phase("Level 8")
     {
      R_Date("U29C8", 760, 15);
      R_Date("Cooking", 730, 20);
     };
     R_Date("U31C7", 735, 20);
     Boundary("End Feast");
     Phase("Level 6")
     {
      R_Date("Kiln1A", 610, 25);
      R_Date("Kiln2", 630, 15);
      R_Date("Basural", 560, 20);
     };
     R_Date("U13C5B", 475, 15);
     R_Date("U25C4", 415, 20);
     Boundary("Litter Start");
     R_Date("Litter", 340, 15);
     Boundary("End Main");
    };
    R_Date("Kiln1B", 750, 20);
    R_Date("U33C4B", 565, 15);
    R_Date("Cisttomb", 625, 15);
   };
   Sequence("Hallway")
   {
    Boundary("Start Hallway");
    R_Date("R20C7", 765, 20);
    R_Date("R20C4", 665, 20);
    Phase("Rasgo 17")
    {
     R_Date("R17maiz", 375, 15);
     R_Date("R17algodon", 435, 20);
    };
    Boundary("End Hallway");
   };
  };
 };
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Figure 3.65. Code for the Bayesian Model for the AMS dates from Room A2 of Complex N1 at the site of Las Huacas.

Figure 3.66. Excavation Unit in Sector C of Complex N1 at Las Huacas, which was originally selected for excavation because it looked like a storage unit. Excavations found that it was originally part of an entrance to Complex N1.
The southern and eastern walls were later constructions.

Figure 3.67. Niche associated with the entrance to Complex N1 in Sector C.

Chapter 4

Ceramic Analyses Overview

Ceramic technology is an important component of archaeological studies. Ceramic vessels served an array of functions and often reveal complex relationships between production and distribution (Bray et al. 2005; Costin 1991, 2016; D'Altroy and Bishop 1990; Eerkens and Bettinger 2001; Montoya et al. 2003; Quave 2017; Vaughn et al. 2013; Vieugué 2014; Wauters 2016). For this reason, ceramics not only contain information about the types of activities that occurred in a specific location, but also more broadly about the *chaîne opératoire* of ceramic production and how it was (or was not) controlled and regulated by the state. The most numerous types of artifact recovered at Las Huacas were ceramics, and through the analysis of sherds and complete vessels across various contexts and stratigraphic levels, it is possible to better understand some of the changes that occurred to the sociopolitical organization of the Chincha region.

While there has been earlier work on pottery styles in the Chincha region (Menzel 1966; Kroeber and Strong 1924), these earlier works were based largely on whole vessels, rather than sherds recovered though excavation. As a result, my Las Huacas project employed a system designed for analyzing sherds over complete vessels. The coding system collected data on several traits, such as exterior surface treatment and inclusions, that give a general idea of raw materials used, firing techniques and finishing treatments. In this way the ceramic coding system and typology discussed in this dissertation emphasize the overall “production value” of the item, and less on cultural affiliation. I use the term production value throughout this dissertation as a composite description of firing temperature, inclusion texture, inclusion consistency and finishing treatment. Sherds with a higher production value have finer inclusions are well-fired, dense, regularly formed and were burnished with a slip. Sherds with a lower production value were fired at lower temperatures, are less dense, irregularly formed, and do not have evidence of a large amount of investment in the surface treatment.

The analyses of the sherds (20,088 in total) from my two seasons of excavation was aimed at characterizing the diversity of ceramics from Las Huacas. While Chapter 7 will go into more detail on the changes through time, in this chapter and Chapter 5, I describe the process of ceramic classification and explore what the ceramics at Las Huacas can tell us. In the future, I plan to use neutron activation analysis (NAA) and petrographic analysis to determine compositional elements of the ceramic types discussed in Chapter 5 in order to detect variation that was not be picked up through this first stage of visual inspection.

The methods used by the project demonstrate the importance of using both analytical and intuitive methods for creating ceramic typologies, as each system has its own strengths and weaknesses. Furthermore, as developed in the Chapter 5, my ceramic analyses demonstrate the utility of collecting body sherds, as they add an important dimension to interpreting the site’s occupation as diagnostic sherds over emphasize decorated sherds and under emphasize plainware sherds. Ceramic analyses are an important component of archaeological research that contain information about behaviors and the organization of production, providing windows into understanding elite strategies and their relationship to craft production and exchange networks.

Background on Ceramic Studies

Ceramic studies can provide information about cultural changes in a particular region. There are many ways to classify and study ceramics (Culbert and Rands 2007) depending on the questions that researchers ask. Ceramic typologies can focus to varying degrees on vessel shape, stylistic elements, production technique, and paste (Costin 2016; Feltham and Eeckhout 2004; Menzel 1966, 1976). Vessel shape can be indicative of the types of activities conducted in a certain area, but they can also reflect cultural affiliation. The decorations and design motifs used to decorate ceramic vessels are often important markers of cultural affiliation. Studies of production techniques create an opportunity to understand the technologies used and the communities of practice involved in the production of ceramics. For example, the use of molds or high firing temperatures can leave noticeable traces on ceramics (Costin 2016; Chatfiield 2010; Levine 2020). By studying pastes and inclusions, researchers can determine where raw materials came from and begin to address the decisions that potters and consumers made in selecting clays and creating pots. These different kinds of ceramic studies should in no way be seen as a comprehensive list of all the ways one can study ceramics or as mutually exclusive; they merely demonstrate the breadth of information that ceramics can contribute to understanding the past. Below, I will expand on case studies that demonstrate the utility of studies on vessel shape, style, production technique, and paste.

Vessel shape

Vessel shapes can contribute information on the activities conducted at a site and even the nature of sociopolitical strategies in some cases. An example of this comes from the site of Ak'awillay in the Cusco region, where vessel shapes changed between the Late Formative (ca.

1800-900 BC) to the Middle Horizon (AD 600-1000) (Bélisle 2015). The changes at Ak'awillay demonstrate a trend away from large bowls and plates and towards small serving cups and bowls. Bélisle (2015) has interpreted this trend as an increase in individual servings of *chicha* or maize beer. This could reflect changes in sociopolitical strategy, since *chicha* was likely an important component of negotiating relationships between elites and commoners.

Vessel shape can also be associated with specific cultures. For example, the Inca are well known for utilizing a specific suite of ceramic vessels (Meyers 1975) of which the amphora-like *aríbalo* was the most frequently exported to the provinces (Bray 2004). The *aríbalo* was usually used in rituals and carried liquids such as *chicha.* In addition to the *aríbalo,* a specific type of flared rim also increases under Inca imperialism (Costin 2016). The use of these Inca vessel shapes was an important symbol of Inca power in the provinces (Bray 2004). Sometimes these shapes are directly tied to Inca officials and state sponsored production, and other times they are likely the product of local emulation of Inca styles.

Style

Ceramic style can be an indicator of cultural affiliation and complex political relationships (Carr and Neitzel 1995; Conkey 2006; Conkey and Hastorf 1990; Hegmon 1992, 1995). The Inca were well known for their largely geometric designs and the Chincha for their use of birds, fish, and banded designs (Kroeber and Strong 1924; Menzel 1966,1976). During the Late Horizon, there is also a hybrid style that incorporates elements of both the Inca and the Chincha styles (Menzel 1966; Morris and Santillana 2007). This style has not been described in depth, but incorporates vessel shapes and design elements of the two cultures (this will be discussed more in Chapter 5). On the north coast of Peru, Costin (2016:320) has observed a similar process of hybridization of Chimú and Inca vessels and states that "these hybrid vessels, and the patrons who sponsored their production, manipulated and recombined symbols of social, ethnic and political identity as a means of instilling in the conquered populace acceptance of the naturalness of the developing Inka social order". Similarly, in Chincha this mixing of Inca and local styles was likely part of instituting and naturalizing the Inca world order and Chincha-Inca joint rule.

Production Techniques

The way that ceramics are produced is a learned behavior that can be transmitted through communities of practice (Wenger 1998). As ethnographic research has demonstrated, the technical behaviors associated with craft production are complex (Gorogianni et al. 2016; Gosselain 1998; Gosselain and Smith 2005; Wiessner 1983; 1985). While some production techniques and technologies stay the same, others change. This is influenced by the social situations where ancient people learn their crafts, and on the overall organization of production. How these practices change or stay the same is deeply embedded in social, religious, and economic relationships.

In differentiating between the Inca and the local Chimú production techniques on the north coast of Peru, researchers have relied on the distinction between mold-made ceramics (Chimú) versus coiled ceramics (Inca) (Costin 2016; Hayashida 1999). On the other hand, at the site of Pachacamac on the central coast researchers use arrow-shaped rims and mold-made vessels as defining characteristics of Inca-influenced vessels (Feltham and Eeckhout 2004). These two schemes are obviously in conflict with each other in defining Inca influenced production technologies, as mold-made vessels are associated with the Chimú on the North Coast and the Inca at Pachacamac, but each relies on a well-developed stratigraphy and knowledge of regional production techniques. Consequently, defining Inca ceramics is not about taking an imperial ideal and extrapolating it to other regions, but rather understanding the unique characteristics of each region and how these were, or possibly were not, modified under Inca expansion.

When thinking about technologies and types of production, this can encompass various topics which includes the standardization of vessel shape and elements, use of molds or coil-made techniques, and firing temperatures. Standardization can be conceptualized as "a relative measure of the degree to which artifacts are made to be the same" (Eerkens and Bettinger 2001:493). To study this, measurements across vessels and elements (such as handles or designs) can be compared to each other to evaluate if there is a lot of variety or consistency in certain dimensions. Through collecting traits on vessels and ceramic sherds researchers can understand how the vessels were made and how production may or may not have been regulated. Through the presence of seams on mold-made vessels or remnants of coils in coil-made vessels, researchers can reconstruct the formation process. Mold-made vessels generally imply a high degree of standardization (Levine 2020), but non-mold made vessels can also contain a high degree of standardization (Costin and Hagstrum 1995). Other aspects of production technique include firing temperature, and polished or burnished exteriors. Changes in production technique can be due to cultural contact, or a reorganization of craft production.

Paste

Studies of the paste, or clay, from which ceramics were made, can be revealing. For example, even vessels displaying a foreign style can turn out to be made on local clays (Bedregal et al. 2015). In other cases, it may be important for ancient people that vessels used in a specific ritual come from the same clay source. For example, a study of offerings for the *capacocha* ritual, Bray et al. (2005) found that almost all vessels had been made on clays from the Lake Titicaca area or Cuzco. This consistency in the original provenience of vessels used in these important rituals likely means that where pots were made was likely important to ancient people.

Through analyzing these various aspects of ceramics: vessel shape, style, production technique and paste, researchers can gain insights into various aspects of ancient polities. These include the type of social strategies that elites might have used to develop their authority (Bélisle 2015), communities of practice and methods of apprenticeship (Gorogianni et al. 2016; Gosselain and Smith 2005), cultural affiliation and hybridization (Costin 2016), and how these were integrated into ritual ceremonies (Bray et al. 2005). They can also shed light on the organization of production. As highlighted in Chapter 2, the Inca and Chincha, while both specialized economies, would have been organized very differently due to the size and scale of their economies.

Organization of Production

When dealing with complex polities such as the Inca and the Chincha, it is not enough to simply ask if craft production was specialized, but how it was specialized (Costin 1991; Flad and Hruby 2007; Sinopoli 1988). Researchers often discuss scale, intensity, and the context of production to reconstruct who would have been producing the crafts, how specialized they might have been (i.e., full-time vs. part-time) and how the items were distributed. These theoretical perspectives allow archaeologists to think about the range of variability of craft specialization, but documenting intensity or the presence of part-time specialists requires new data and more cases (Flad and Hruby 2007).

Within complex specialized economies which activities are centralized is tied to the political economy. Studies from both the north coast of Perú (Topic 1982) and Mycenaean Greece (Galaty et al. 2016; Nakassis 2013; Voutsaki 2016) demonstrate how a centralized economy does not necessarily mean that all aspects are centralized, but rather certain strategic aspects that bolster the authority of the state or ruling class. On the north coast of Peru, the Chimú *ciudadelas* were important places where tribute was collected and the location of the production of fine metal artifacts, carved wood, and textiles. Outside of the *ciudadelas*, there is evidence that the urban proletariat were also weaving and metal-working (Topic 1982), but it appears that actual smelting was restricted to the *ciudadelas* and did not occur in the commoner residences. Similarly, studies of Mycenaean economies have found that palaces did not necessarily control all aspects of craft production, but rather concentrated on those that helped to bolster the authority of the elite families that resided there (Galaty and Parkinson 2007).

Both the Inca and the Chincha relied on specialized production, but the Inca would have specialized on specific goods that supported the Inca Empire, while the Chincha likely participated in the production and exchange of a variety of resources. The Chincha were specialized at the level of farmers, fishermen, and merchants (Rostworowski 1970). The Inca focused on resources that were important for the growth and the expansion of their empire, such as maize, fish, and imperial crafts which were used in developing relationships between Inca officials and local elites (D'Altroy and Earle 1985). For example, from the ethnohistoric record we know that there were multiple classes of specialists within the Inca empire, such as the *aqllacona* and *qumpicona* (Costin, 1998). The *aqllacona* were a group of chosen women who were high-status weavers; the *qumpicona* were male weavers of lower status. The Inca relied on a variety of crafters and these crafts were tied to social status, for the Chincha, the accounts of different types of specialists is not as detailed, but we do know that they were likely economically specialized by settlement to some degree.

From the ethnohistoric record (Castro and Ortega Morejón 1938[1558]; Cieza de Leon 2015[1553]; Fernández et al. 1844; Rostworowski 1970) and previous research (Alcalde et al 2010), it is known that the Chincha rulers and other coastal valleys had some form of centralized authority and traded and competed with each other during the LIP. The Chincha were also well-known crafters (they are described as *plateros* in the ethnohistoric record) and merchants (Rostworowski 1970). The Inca and the Chincha would have relied on the specialized production of certain prestige and state goods but in very different ways; the Inca in a highly standardized and strategic fashion and the Chincha in a less standardized way that focused on a broader range of resources and goods. While much remains to be learned about exactly how the Chincha economy operated during the LIP, Sandweiss (1992) found that it likely operated similar to the North Coast where groups were specialized based on the location of the settlement as described in the ethnohistoric record (Rostworowski 1970), and local elites had attached specialists that were involved in craft production. Through the production and exchange of a variety of goods, local elites were able to meet their needs and the needs of the population at large. Inca production strategies were focused on cloth and surplus resources that supported the Inca state (Murra 1962)

The differences described above would have been predicated on each groups' political economy, and the types of goods and activities that were connected to the authority of the state and elites. The Chincha had a generally more diversified economy that was tied to local elite households, while the Inca were focused on resources that were important for the growth and the expansion of the empire. The next chapter, Chapter 5, I outline the ceramic analyses method used by PIALH and then in Chapter 7, I integrate ceramic data alongside other lines of evidence to understand the nature of changes to sociopolitical organization at Complex N1 from AD 1200-1650.

Chapter 5

Chincha Pottery

The material culture of the Chincha Valley is relatively well known in the Andean literature due to the work of Max Uhle in the early part of the 20th century (Uhle 1924; Nigra et al. 2014). Early descriptions of Chincha ceramics focused on complete vessels recovered from mortuary contexts near the capital of La Centinela (Kroeber and Strong 1924; Menzel 1966). The Chincha Valley ceramic tradition has generally been studied in conjunction with that of the Ica Valley, which lies 100 kilometers to the south (**Figure1.1**) (Menzel 1966, 1976). The ceramics of Ica and Chincha share many design motifs, vessel shapes, pastes, and features, but there also some unique characteristics of ceramics in each region (these will be described later in the chapter but for more detail see Menzel 1966, 1976). Uhle (1924:129) treated the pottery of Ica and Chincha as essentially the same and hypothesized that in the LIP Chincha invaded Ica. This view was not based on any stylistic evidence from the pottery, but rather on the fact that Chincha was later elevated to a position of prestige within the Inca Empire and Ica was not (Menzel 1966, 1976).

After Kroeber and Strong's work, Menzel studied Uhle's Chincha collection. Her research spanned the period from approximately 1000 BC-AD 1534 and into Colonial times (Menzel 1959, 1964, 1966, 1976). Menzel published an article on the ceramics of Chincha in 1966 and a book on Ica pottery in 1976. Menzel undertook analyses of the pastes, tempers, shapes, and surface treatment of Chincha and Ica vessels. In her Ica (1976) volume she looked not only at the presence of certain decorative motifs but also where they were found on the vessel as important markers of stylistic change or continuity.

In the Chincha region Menzel utilized these general classifications for vessel shapes: high ovoid jars, squat ovoid jars with shoulder handles, squat ovoid jars without handles, flasks, drum-shaped jars, collared jars, cups, complex-rim bowls, bottles, minor shapes, and figurines (Menzel 1966). In distinguishing between Chincha and Ica pottery she argued that Chincha paste had an orange hue without a red factor and was slightly coarser grained. Also, while the two valleys share some design elements — such as the use of bands and motifs of birds and fish — she saw a difference in the paint used. Both included purple paint, but the Chincha purple had bits of silver in it while Ica purple did not. She also revealed that Chincha often overfired its pottery. Menzel stated, “Chincha decoration is graceful, uncluttered and elegant…. The striking elegance is generally not appreciated by modern collectors, because of the Chincha practice of overfiring the vessels, which often discolors and otherwise mars the surface” (Menzel 1966:92). While Menzel refers to this as “overfiring”, due to the fact that it was a consistent pattern seen across multiple vessels, this temperature was likely preferred by local potters and intentional.

For Menzel, the main vessel that emphasized the difference between the two groups was the bottle, a shape that showed up in both assemblages. In Chincha, this shape category was represented by four standard-sized vessels and three miniatures. The standard Chincha bottles were more uniform than those from Ica, with a height of 21 cm. Ica bottles tended to be smaller, with a height of only 10 cm (Menzel 1966:87). Menzel concluded that the Ica and Chincha ceramic traditions represented two distinct polities and that while there was some Chincha influence on later Ica styles, this did not equate to the same type of direct control that the Inca achieved (Menzel and Rowe 1966:66).

These early studies of ceramics in the region create an important foundation for understanding the variety of vessel shapes, decorations and design motifs during the time periods in question. However, there are certain limitations to these studies that are important to note. For example, the majority of the vessels studied by Menzel come from mortuary contexts. This means that there are types of ceramics omitted from her typology that would have been important for the everyday life of people in the Chincha Valley, such as utilitarian wares, though some of the burials in Chincha did contain "utility" wares (Menzel 1966:80). Regardless, the sample still only includes vessels that were deposited in burials and there are likely many vessel types that were not deposited in burials, particularly larger vessel shapes. Menzel's sample from Chincha consisted of 180 vessels (Menzel 1966:127-135); this represents a relatively large number of complete artifacts, but it is a small and biased sample when it comes to documenting the way ceramics changed over a period of 400-500 years throughout a particular region.

Furthermore, none of the artifacts come from contexts that have been dated using absolute techniques. Menzel used design motifs, and vessel shapes to distinguish the different time periods, and also hypothesized that each time period had a slightly different "basic set" for burial offerings. LIP Chincha burials included "one or two high ovoid jars, one or two squat ovoid jars with shoulder handles, one flask, one cup, one complex-rim bowl; it also includes one figurine" (Menzel 1966:99). Many tombs did also contain unique artifacts such as miniature vessels.

Kroeber, Strong, and Menzel often assume that all significant variations reflect chronological change; we would not make such assumptions today. The LIP and Late Horizon were dynamic time periods and differences in decoration and design motifs could be due to a myriad of factors, including status, economic role, cultural affiliations, changes in the organization of production, and changing dynamics of communities of practice.

As has been described for the North Coast (Costin 2016), there was a process of hybridization where Inca and Chincha ceramic styles were combined. Menzel (1966:117) discusses the Chincha-Inca style, which was composed of “small bowls of smoked blackware, [that] have a paraboloid bottom, high, annular shoulder, and very shallow curved, abruptly tapering upper sides ending in a very narrow mouth.” More recent research (Morris and Santillana 2007), developed Menzel’s stylistic distinctions and discuss a broader suite of design motifs in the Chincha Inca ceramic style. They describe it as including “the use of somewhat sloppy red, black, and white lines and triangles that show Inka influence, although they do not copy standard Inka designs” (Morris and Santillana 2007:140). A description of Chincha-Inca style ceramics at the site of La Centinela has never been published, so while researchers at the site used this classification, there is no thorough description of exactly what this style of ceramic entails outside of this brief description of decorative motifs. Future research is still needed to describe exactly what Chincha-Inca vessels looked like and the implication that this hybridization of styles would have had on socio-political organization in the Late Horizon.

To build on this research, my ceramic analysis at Las Huacas set out to characterize a high degree of variability in ceramic sherds from well-stratified deposits that were linked to cooking, feasting, mortuary and ritual. The Las Huacas assemblage broadens the sample of known ceramics of the Chincha Valley, and, due to its well-developed stratigraphy and AMS dated contexts, can speak to change overtime. Furthermore, in conducting analyses of the ceramic vessels and sherds, rather than emphasizing cultural affiliation or chronology, it broadens the study of ceramics to address questions of production technology and communities of practice. In the next section I expand upon the Las Huacas collection and the methods that I used to create typologies.

Las Huacas Ceramic Collection

During two seasons of excavation at the site of Las Huacas I recovered thousands of sherds and 16 complete vessels. As described in Chapter 3, many of these sherds and vessels come from well stratified and sealed contexts. Consequently, they offer the opportunity to address changes at the site between AD 1200 and 1650. These sherds display considerable variability in surface treatment, paste color, and firing technique. During my excavations in 2016, I recovered well stratified deposits, but the sherds were all generally small in size (less than 10 square centimeters) and did not usually contain diagnostic motifs or vessel shapes; 86.6% of the sherds from the 2016 season had an undetermined cultural affiliation (Damián and Dalton 2017 n.d.). Furthermore, the earliest occupation levels in the 2017 season (Floors 2-6) did not yield a large quantity of diagnostic sherds either. As a result, I decide to direct my analysis of these levels towards characterizing the large variety in surface treatment, firing technique and fabrics. Ceramic analyses included in this dissertation were conducted by only myself and Anne Sherfield in order to maintain consistency.

Ceramic Analysis: 2016

During the 2016 excavations by PIALH, all sherds larger than 3 square centimeters were saved for analysis. We collected data from diagnostic and body sherds (3,313) from our two deep units (Trenches 1 and 2) and diagnostic sherds (704) from all other units using a ceramic coding system similar to that used by the Proyecto Arqueológico-Historico Chincha-Pisco (henceforth referred to as the Chincha-Pisco project). The Chincha-Pisco Project conducted research in the Chincha and Pisco Valleys during the 1980s and was directed by Craig Morris, Heather Lechtman, and Luis G. Lumbreras. The project was supported by the American Museum of Natural History and the coding system can be found on file in the project's archive there.

The Pisco-Chincha coding system is similar to that used at Huánuco Pampa (Morris et al. 2011). The main difference is in the description of the design motifs, since the Chincha coding system contains region specific designs. This coding system records the type of fragment, the overall texture of the paste (coarse, medium coarse, medium fine, fine), the color of the paste, exterior surface treatment, interior surface treatment, the presence of carbon/soot, and thickness. For diagnostic sherds, when possible, we recorded the vessel shape, rim form (rounded, square, flaring, "arrow-shaped" (Feltham and Eeckhout 2004), etc.), handle shape, shape of the base, painted decoration, other decoration, probable cultural affiliation (Inca, Chincha-Inca, Chincha, Colonial, and undetermined), the width of the handle, and the diameter of the vessel. Only 13.4% of the sherds could be linked to specific cultures, and as a result cultural affiliation will not be heavily emphasized in this dissertation. Instead, I concentrated on defining meaningful groups that could be used to evaluate ceramic production at the site, as well as the overall quality and types of vessels used within Complex N1 through time.

Ceramic Analysis: 2017/2018

I conducted the next stage of ceramic analyses after my excavations in 2017 and 2018 in Sectors A, C, and D. All diagnostic sherds from excavations in Room A2 (3,517 sherds) were coded. In these analyses I used broadly the same ceramic coding system used for the 2016 season with minor tweaks, the largest being the inclusion of a "cocción" (firing) category that described the relative color change produced through the firing process. The previous category of paste color had encompassed some of this variability, but for our methods it appeared useful to separate out these two different variables so we could characterize both the color of the clay itself and any discoloration from the firing process. We added new categories of paste colors, most notably reddish brown, and new decoration categories (examples included the "squiggly z step motif" and the reflected stair motif with white and black paint, see **Figure 5.1**), since many of the design elements from the Pisco-Chincha coding system were not particularly useful for our collection.

Our analyses of ceramics from the 2017/18 excavations targeted diagnostic ceramics from Room A2 found in well-preserved contexts, mainly from Level 4A to Floor 6 (3,517 sherds). Of these ceramics the most common paste colors were reddish orange (27.9%), followed by reddish brown (17.3%), and gray (16.4%). Most sherds (45.8%) had no evidence of color change along the break due to firing technique, followed by almost complete color change to grey (18.4%), then limited to the center of the break (10.6%). Of all the rim sherds recovered from the site, 26.4% were from open-rimmed wide mouth pots, 11.7% from bowls, and 9.5% from straight-necked jars. The most common exterior surface treatments were paste-colored slip (17.3%) and black burnished pottery (14.2%), followed by rough surface treatments where the surface was not regular or smooth (10.7%). Of the decorated sherds, 25.3% had black, purple, or white lines over paste-colored slip, 19.6% had black or purple lines over cream; and 5.5% displayed Chincha motifs in black over purple or cream slip.

The above data provide a general idea of the ceramics recovered in Room A2, but we then used the data from both 2016 and 2017/18 to create a ceramic classification for Las Huacas.

The data from the diagnostic ceramics from Level 4A to Floor 6 of Room A2 and the body and diagnostic sherds from Trenches 1 and 2 in Room B1 were then used for a cluster analysis to create a typology.

Classification Methods

After coding the ceramics from the 2016 and 2017/18 seasons, I conducted a cluster analysis. In conducting the analyses, I first excluded from my sample any data that had been digitized incorrectly and set aside outliers. I also excluded certain types such as Tutuma coarseware and the Aguirre orangewares[9]. These ceramics were clearly different from the bulk of our assemblage (which I describe below as the Chamorro paste recipe). My analysis then could focus on sherds whose paste colors had been coded as orange, red orange, grayish brown, and grayish orange.

I decided to separate thick and thin sherds, making my cutoff at 9 mm, since the distribution of ceramic thickness appeared to be bimodal. I made this distinction between thin and thick because thick vessels are generally associated with cooking and storage, while thin vessels were used for other activities.

My approach produced 1,869 thin sherds and 312 thick sherds from the 2017/2018 season and 2,841 thin sherds and 482 thick sherds from the 2016 season. I ran cluster analyses separately on the 2016 and the 2017/18 samples since they had been coded using slightly different systems; in addition, the 2016 data included both diagnostic and body sherds, while the 2017/18 data included only diagnostic sherds.

[9] I excluded pastes that were orange or reddish orange (Aguirre Orangeware) and had a rough exterior surface treatment, or were eroded. Tutuma coarseware were sherds with a pink paste with coarse inclusions, but it was not as well defined at this point, so likely some were still left in cluster analysis.

The majority of variables used in my analyses are categorical variables, except for thickness (which is numeric) and firing and inclusion texture (which are ordinal). In order to integrate the various classes of variables, I used a Gower Coefficient (Gower 1971) and a partition-around-medoids clustering method in the R Studio Statistical Modeling package. The Gower Coefficient has been used in other studies (Gamble et al. 2001; Mortimer 2012), and most widely in petrographic analyses (Cordell 1983). This coefficient creates a numerical value for every sherd (between 0 and 1) and creates a dissimilarity matrix where all the sherds are compared to each other.

The variables I included were paste texture, paste color, exterior surface treatment, interior surface treatment, thickness and firing (in the case of the 2017/18 data). I weighted exterior surface treatment three times as much as the other variables, and inclusion texture twice as much. I did this because I noticed that paste color could vary among sherds from the same vessel and even within a single sherd; as a result, it did not appear to be a strong variable for assigning types. Similarly, I chose not to assign as much weight to interior surface treatment, since this seemed fairly consistent across most sherds. I periodically checked the Gower coefficients that were generated to ensure that they were assigning similar values to sherds with similar characteristics; I found that indeed they were.

I then ran a pam-fit (Partitioning Around Medoids [Kaufmann and Rousseeuw 1990]) test in R which is a type of k-medoids cluster analysis. I then compared the silhouette on 2 to 15 clusters and found that for the 2016 sample 10 clusters produced the highest silhouette width for thin sherds and 4 clusters produced the highest width for thick sherds. For the 2017/18 sample, the highest silhouette widths were produced using 13 clusters for thin sherds and 9 clusters for thick sherds. Through combing the types from the two seasons (since there was some overlap in types) and the types that were apparent to the naked eye (Utilitarian Reddish-brown and Aguirre Orangeware), I settled on 15 different types of pottery and within these types there were subtypes, making a classification system with 31 distinct groups.

There are debates about ceramic typologies and how they reflect categories that the artisan themselves were conscious of, or whether they represent categories imposed by study (Hill and Evans 1972; Rouse 1960; Spaulding 1953; Whallon 1972). I follow Rice's (2015:224) definition for type as "any artifact class formed by associating two or more attributes or attribute states". The types and subtypes include attributes of paste, temper, firing temperature and surface treatment. I created a summary of each type based on the statistical analysis; I used this summary to sort body sherds. While sorting body sherds I noted diagnostic sherds of each type/subtype and then created a description of each, which is included later in this chapter.

In creating these types I also want to acknowledge that some different types could potentially be from the same vessel and represent different modes (Rouse 1960), since complete vessels found at the site of Las Huacas, described below, and in museum collections from the region do not always have a consistent surface treatment throughout the vessel. For example, one area of the vessel could be smoothed with a cream slip and the other part just smooth and regular without cream slip. Even though these two sherds would be put in different groups they contain important information on the overall production value of pots used/produced during the specific occupations. How this relates to what Rouse (1960) refers to as "procedural modes" and "conceptual modes", would necessitate a more in-depth study of complete vessels. At present, I cannot definitively say whether sherds are from the same vessel and represent modal varieties of the same type or if they belong to different vessels. Below, I describe the complete vessels recovered through excavation at the site of Las Huacas and then describe the typology. The majority of the ceramic sherds are likely of local origin as they do not have diagnostic characteristic that would associate them with a foreign culture. Some types (Type 5 and 14) do have evidence of foreign production techniques and will be described below.

Complete Vessels

In addition to our 20,000+ sherds, my excavations recovered 16 complete vessels. The list is as follows: one from Tomb 1, four from Tomb 2, two from Tomb 3, five from Tomb 4, and four from Feature 17. I will describe each vessel grouped by context. When possible, I will point out similarities to whole vessels studied by Dorothy Menzel, either from Chincha (Menzel 1966) or Ica (Menzel 1976).

Tomb 1

In Tomb 1 excavations recovered one Chamorro Cream Burnished vessel (**Figure 5.2)** (Type 4c, types are described in the following section). The vessel is a miniature bowl that was slightly closed at the rim (resembling Menzel's Ica vessels 100 and 239). There are no breaks to directly observe the paste, but it appears to have medium fine to fine inclusions, and a brown orange to brown gray paste color. The rim shape is rounded; the base is globular, but slightly flattened at the bottom. The vessel walls are roughly 6 mm thick and it has a diameter of 7 cm.

Tomb 2

In Tomb 2 excavations recovered four complete vessels. Two of these were Tutuma Coarseware; one was Chamorro with Paste-Colored Slip; the fourth was Chamorro with Cream Slip.

Vessel #1 (**Figure 5.3**) was Tutuma Coarseware (Type 15). The vessel form is a jar with an almost erect rim. The overall treatment of the vessel is rough, and the paste contains large and coarse inclusions. There is also a slip that is unevenly applied. The outside slip has more of a reddish color, while the inside slip is more purple. The base is globular. The vessel has a thickness of approximately 6.5 mm and a diameter of 12.5 cm.

Vessel # 2 (**Figure 5.4**) was also Tutuma Coarseware (Type 15). This vessel was a neckless pot with handles on the rim, a shape common in the region and used for cooking. The handles are connected directly to the rim and are flat. They are fairly uniform in shape, but still crudely formed. The vessel has a thickness of ca. 5.5 mm, the handles have a width around 7.5 mm and the diameter of the vessel is 13.5 cm.

Vessel #3 (**Figure 5.5**) contrasted sharply with Vessels 1 and 2, which were both extremely coarse and rough. Vessel 3 seems to be a local emulation of the classic Inca amphora, or *aríbalo*. Its base is slightly cone-shaped, but differs from most *aríbalos,* which have a sharp bend between the body and the base. The vessel is well made and has a paste-colored slip. The handles are flat and well formed. The vessel has a thickness of ca. 5.5 mm and the diameter of the vessel is 7 cm.

Vessel #4 (**Figure 5.6**) is a typical coastal emulation of the Inca style, with a straight neck that only slightly flares at the rim. The exterior has a burnished cream-colored slip (Type 4c). The paste looks very similar to the general Chamorro paste. The rim is a little uneven and the handles are not as symmetrical and well-formed as those of Vessel #3. The handle shape is tubular. The base is generally globular, but slightly flatter at the bottom. The vessel has a thickness of 4 mm and the diameter is 6 cm.

Tomb 3

Inside Tomb 3 excavations recovered two vessels that were both in the coastal Inca style. Vessel #1 (**Figure 5.7**) was similar to Vessels # 3 and 4 from Tomb 2 and appears to be a straight-necked flaring rim jar. However, Vessel #1 has a much longer neck than those from Tomb 2 and flares only slightly at the top. It is a Chamorro Paste-Colored Slip (Type 3b); the handles are vertical and tubular. This vessel is not as well made as Vessel #3 from Tomb 2. The base is generally globular, but slightly flatter at the bottom. The vessel has a thickness of 4.5 mm and the diameter is 11 cm.

Vessel #2 (**Figure 5.8)** is a duck plate (resembling Menzel's Ica vessel 252). The duck's bill is curved, and the ceramic type is burnished blackware (Type 5). The vessel is well made, although certain areas of the surface are brownish gray rather than consistently black throughout. The vessel has a thickness of 6 mm and the diameter is 11 cm.

Tomb 4

In Tomb 4 excavations recovered five complete vessels, three of which were miniatures (Vessels 1, 4, and 5).

Vessel #1 (**Figure 5.9**) is a miniature globular bottle with handles on the sides. It is Type 6c. The inclusions are medium fine, and the paste is brownish orange in color; the exterior and interior surface treatments are smoothed with a grayish brown slip. The vessel might be an imitation of blackware vessels, because while it did not undergo reduction firing, it has been painted to look like it. The lip is rounded, the handles are tubular, and the base is globular. Vessel thickness is about 5 mm, and the handles measure 9.5 mm. The diameter of the vessel is 4 cm. The bottle has some red pigment on the outside (including a red line on the handles). It was not highly fired, and the rim was not well preserved.

Vessel #2 (**Figure 5.10**) is a close-necked jar with an almost vertical rim. It resembles Menzel's Ica specimen (1976 specimens 116 and 141) and her Chincha specimen (1966 specimens 45 and 154). It is an unburnished blackware (Type 6b) with handles that connect the body to the neck. The paste is grayish brown and the inclusions are medium fine. The rim is slightly flared. The handles are flat, and the base is essentially globular. Vessel wall thickness is around 6 mm, and handle width is 14 mm. The diameter of the vessel is 8.5 cm. The exterior might have been burnished at one point in time, but the surface is too eroded to reveal this.

Vessel #3 (**Figure 5.11**) is a flask (resembling Menzel's Ica specimen 98 and her Chincha 51/90). The type is Chamorro Paste-Colored slip (Type 3b), and the paste color is brownish orange. The handles are flat and uniform. The body of the flask bulges more on one side and is not symmetric. The vessel has a thickness of 6 mm. The handles have a width of 15 mm; the overall diameter of the flask is 5.5 cm.

Vessel #4 (**Figure 5.12**) is a miniature bottle with a slightly flaring rim. The type is Chamorro with Red Slip (Type 3a). The paste is fine and brownish orange in color; the rim is flared. The body is globular with a flat base. The exterior is not well finished but does seem to be highly fired. The lip of the vessel is uneven. The vessel has a thickness of 4mm. The handles have a width of 6mm, and the vessel has an overall diameter of only 2.5cm.

Vessel #5 (**Figure 5.13**) is a bottle with a slightly flared rim. The type is Chamorro Paste-Colored Slip (Type 3b). The paste is medium fine to fine and brownish orange in color. The rim is rounded, and the handles are tubular. The base is cone shaped. This bottle is about 3.6 mm thick. The width of the handles is about 7 mm and the diameter of the rim is 3 cm.

Feature 17

From Feature 17 excavations recorded four complete vessels.

Vessel #1 (**Figure 5.14**) has a flaring rim (resembling Menzel's Ica (1976) specimen 21). The type seems to be a hybrid of Chamorro with Paste-Colored Slip and Cream Slip (Types 3b/3c) showing that some of the types could sometimes be due to modal variation (Rouse 1960). Inclusions are medium fine, and the paste color is reddish orange. The rim shape is square and flaring. The body is conical with a flat base. The vessel is ca. 6 mm thick, and its rim has a diameter of 8 cm. The handle has a width of 11.5 mm.

Vessel #2 (**Figure 5.15**) is globular with a straight neck. The type is Chamorro Types 3b and 3c. In this vessel these two types appear to be procedural modes (Rouse 1960), where the potter intentionally used different surface treatments for the neck and body. The paste color is brownish orange. The rim shape is rounded, and the base is globular. The handles connecting the neck to the body are neither uniform nor well-made. The thickness of the vessel is 5.5 mm; the width of the handles are ca. 12 mm. The vessel has an overall diameter of 6.5 cm. This vessel is not particularly well-made.

Vessel #3 (**Figure 5.16**) resembles Vessel 2. The type is a hybrid of Chamorro with Cream Slip and Chamorro Burnished with Paste-Colored Slip (Types 3c/4b), showing again that some of the types described below could de due to modal variation. The paste color is reddish orange, and the rim is rounded. The base is globular. Thickness is around 6 mm, and the handle width is ca. 11 mm. The overall diameter of the vessel is 7.5 cm. The cream slip was concentrated on the interior and exterior of the rim, with a few patches lower down on the vessel.

Vessel #4 (**Figure 5.17**) is the only decorated complete vessel we recovered from Las Huacas. It resembles Menzel's Ica specimen 258, which she calls "Sierra Imperial Inca dish" (Menzel 1976:Pl. 21). The shape though does not show up in classifications of typical Inca shapes for all Inca provinces (Meyer 1975). The type in this case is Chamorro Burnished with Paste-Colored Slip (Type 4b). It displays both local and possible Inca design elements. The sides of the dish bear rectangular designs made up of two cream-colored stripes, and one purplish-red stripe outlined in black. Along the dish's carination there are two black lines and one cream line. The rim has triangles and hatched triangles similar to those on Menzel's Ica Specimen 442. The paste color appears to be reddish orange, but there is no break to directly observe the paste. The vessel is 6.6 mm thick and has a diameter of 18 cm.

Typology

The pottery types listed below combine paste recipes, exterior surface treatment, and firing temperature. Firing temperature was assessed evaluating the general hardness and density of the sherd through the "clink" test. There are 6 general paste recipe groups that became apparent through analyses— Utilitarian Reddish-brown, Aguirre Orange, Tutuma Coarse, Ramos Brown, nondescript Black and the largest category, Chamorro. This last paste group encompasses a lot of diversity; paste colors could range from orange to gray, likely due to firing technique, and some of the blackware vessels could have been made from this same type of paste. Some of the blackware vessels though, did likely have a different paste recipe (mostly those included in Type 5 below). While there are differences in finishing treatment and firing temperatures, the majority of the ceramics recovered at the site could have been made on local clays and do not necessitate long-distance trade, though compositional analyses should be used to determine the provenience of raw materials used in ceramic production. Future studies could possibly find even more variety within these paste types, since they were created through visual inspection and have been summarized here to serve as a starting point for future studies. It would be particularly interesting to understand if the variety in blackware sherds (Type 5, 6a, 6b) and imitation blackware (Type 6c) is tied to clay source and if there is even more variety within the Chamorro sherds (Types 1-4 and 7-10).

The majority of our body sherds fall into the Chamorro paste recipe at 43.7%. This was followed by Utilitarian Reddish-brown at 38.9%, Aguirre Orange at 7.9%, Tutuma Coarse at 5.4%, and Nondescript blackware at 2.1%. Less than 2% remained unclassified. Below I describe the various types, starting with the thin types (<9mm), and then the thick groups. It is my hope that this typology serves as a baseline for interpreting meaningful variation in Chincha pottery collections.

Type 1. Chamorro Plain Rough (**Figure 5.18**)

This type is characterized by an irregular and rough exterior surface treatment. Interior surface treatment is usually rough, with striations. The mean thickness of sherds is 6mm and ranges from 4-8mm.

Paste. The color of the paste is generally orangish brown to brown gray (Munsell color designations 5YR 7/4, 5YR 7/6 2.5YR 7/6, and 2.5yr 6/6). Sherds were not highly fired and had few differences in coloring from the firing process (discoloration tended to be 7.5YR 6/1 or 7.5YR 3/1).

Inclusions. Inclusions are medium coarse to medium fine, with a few coarse inclusions. There was no evidence of voids in the paste from organic tempers. Most inclusions were small rocks that were not identified in analysis. The size of the inclusions ranges from <0.25-1 mm, and they are both round and angular with a density between 15 and 20%.

Type 2. Chamorro Plain

Type 2a Chamorro Plain without striations (**Figure 5.19**)

The exterior surface of this type is smooth and regular, without striations. Interior surface treatment is generally smooth, with or without striations. The mean thickness of sherds was 5.5 mm.

<u>Paste</u>. The color of the paste varies from orangish brown to grayish brown to gray (2.5YR 7/4-7/8). Generally, this type is not that highly fired, with little to no discoloration from firing (5YR 7/6), but it is more highly fired than Type 1.

<u>Inclusions</u>. The Inclusions are medium fine to medium coarse, with sizes ranging from <0.25-0.5 mm and a density around 20%. Inclusions could be both round and angular and included quartz. There was no evidence for voids from organic tempers.

Type 2b. Chamorro Plain with striations (**Figure 5.20**)

The surface treatment of this type is smooth with striations; when slip is present, it appears to be more functional than decorative, as none of these sherds ever had any type of formal decoration. This type shows some similarities to Utilitarian Reddish-brown ware types 12c/d, but there are subtle differences in the paste color. Future studies should address if this is a meaningful distinction. Sherds have a mean thickness of 6mm and range from 3.5 – 6.5 mm.

<u>Paste</u>. The paste color is generally redder than that of Type 2a, but can vary from orange red to grayish brown and gray (Munsell colors 2.5YR 5/6, 5YR 4/6, 10YR 6/3). The sherds were

similar in firing to Type 2 firing and better fired than Type 1. Some color changes (10YR 6/1) were due to firing.

Inclusions. Inclusions are medium fine to medium coarse, with sizes 0.25-1.25 mm; they are generally larger than those of Type 2a. Inclusion density is 30-35%; particles are mostly angular, but there are a few round inclusions. Inclusions were generally rocks (some likely quartz) and there were no voids from organic temper.

Type 3. Chamorro Slipped

3a. Chamorro Red Slip (**Figure 5.21**).

Exterior surface treatment of this type is smooth, with a red slip. Interior surface treatment is generally smoothed and regular with striations, but some interior surface treatments were left rough, or had red or paste-colored slip. Slip color ranged from 2.5YR 5/6 to 10R 4/6. Sherds have a mean thickness of 5 mm, ranging from 4-6 mm.

Paste. The paste color is orange red to orange brown and orange (2.5YR 7/6-7/8). Sherds are not highly fired and generally lack discoloration from the firing process.

Inclusions. Inclusions are medium fine, with sizes ranging from 0.25-.5 mm. Inclusions are small rocks and the density percentage is generally around 15%. Inclusion shape is both round and angular.

3b. Chamorro Paste-colored Slip (**Figure 5.22**)

These vessels have an exterior surface treatment that is smooth and regular, with slip the same color as the paste. Interior surface treatment is smoothed and regular, with and without striations, sometimes with a paste-colored slip. Generally, sherds are 5 mm thick and range from 3.5-6 mm.

Paste. Paste is mainly orangish red, though orangish brown and gray brown are present (2.5YR 7/6-7/8, 7.5YR 6/2, 10.5YR 6/2). Sherds vary from having no discoloration due to firing to a noticeable amount (5YR 6/1). Sherds are medium fired to well fired.

Inclusions. Inclusions are medium fine, with sizes from 0.25-1mm, and are generally small rocks (including quartz); there is no evidence for voids from organic temper. The percentage of inclusions ranges from 15-25% and inclusions are both angular and round in shape.

3c. Chamorro Cream Slip (**Figure 5.23**)

Exterior surface treatment of this type is smooth with a cream slip which generally has a chalky texture. The color of the cream slip ranges from 7.5YR 8/1 to 10YR 9.5/2. Interior surface treatment is smoothed, with or without striations; some vessels had a rough interior while others had a cream or paste colored slip on the inside. Sherd thickness is on average 5.5 mm, with a range from 4.5 to 7.5 mm.

Paste. Paste color was orange red to orange brown (2.5YR 7/6, 5YR 7/4, 7.5YR 7/6). Generally, there was no discoloration in the paste due to the firing process, and sherds were medium fired.

Inclusions. These are usually medium fine, with a size between 0.25-1 mm. Inclusions were small rocks, including quartz, and there were no voids from organic temper. The percentage of inclusions ranges from 10-30%, and the inclusions are both angular and round.

Type 4. Chamorro Burnished

4a. Chamorro General Burnished (**Figure 5.24**)

Exterior surface treatment is burnished, with paste-colored slip. Interior surface is smoothed, sometimes with slip (red/reddish purple, 10R 3.4, 7.5R 5/4). Thickness averages 5.5 mm, with a range from 4.5 to 6.5 mm.

Paste. Paste color is orange red, orange brown, or sometimes gray brown (2.5YR 6/6, 2/5YR 7/6). Sherds are generally medium to well fired, generally with no color change due to the firing process, although some sherds did have a slight discoloration (10R 7/2).

Inclusions. Inclusions are generally medium fine to very fine, with sizes ranging from 0.25-1.5 mm. The percentage of inclusions is 15-25%; they consist of small rocks (including quartz) and there are no voids from organic temper. Inclusions are generally angular.

4b. Chamorro Burnished with Paste-colored Slip (**Figure 5.25**)

Exterior surface treatment is burnished with paste-colored slip. The interior surface is smoothed, with striations or with paste-colored slip. Sherd thickness averages 6 mm, with a range of 5 to 7 mm. Within this type there were a few sherds that stood out as having been from clearly coil-made vessels (paste color 2.5YR 5.2, 5YR 7/4) (**Figure 5.26)**. These had paste-colored slip on the outside and were smoothed, with striations, on the inside. Such sherds were too rare to consider a separate type.

Paste. Paste color varies from orange red to orange, gray brown, and orange brown (2.5YR 7/3, 2.5YR 7/6, 5YR 6/6, 5YR 7/6, 7.5YR 7/4). The sherds are medium to well fired and show little or no color change due to the firing process.

Inclusions. Inclusion size is from 0.25-0.5 mm and the inclusion percentage within the paste was 15-20%. Inclusions were angular and mainly rocks. In the coil-made specimens there were some linear voids that might be due to vegetal temper.

4c. Chamorro Cream Burnished (**Figure 5.27**)

Exterior surface treatment was burnished and regular with a cream-colored slip (7.4Y 7/6, 7.5YR 8/3). Interior surface treatment is smoothed with striations, and sometimes with a cream or paste-colored slip. Thickness averaged 6 mm, with a range of 6-7 mm.

Paste. Color is usually orange red, but includes orange brown (5YR 6/6, 5YR 7/4). Sherds are medium to well fired, with some change in paste color due to the firing process (2.5Y 5/1).

Inclusions. These are generally medium fine to medium coarse, with sizes ranging from 0.25-1 mm and a density percentage of 15-25%. Inclusions are small rocks, such as quartz, both round and angular in shape, with some circular voids that could be due to vegetable temper.

Type 5. Blackware, Highly Burnished (**Figure 5.28**)

The exterior is black and highly burnished; the interior is generally the same. Sherd thickness is usually around 5mm and ranges from 4.5mm to 7.5mm. In blackwares there is no thick category, and it does not appear that blackwares were made into the same large vessel shapes as the other ceramic types. I separated out highly burnished blackware because its overall production value was much higher. I note that highly burnished blackware was common in this region during the Late Intermediate and Late Horizon; for example, the nearby Cañete Valley had Camacho Black, Highly Burnished variety (Marcus 2008:43, Fig. 3.16; Stoltman 2008:63-71) and similar pottery was reported from La Centinela (Morris and Santillana 2007). Highly burnished blackware is also common for the North Coast during the Late Horizon and preceding time periods.

Paste. Color is gray to grayish brown (2.5Y 5/1, 2.5Y 7/1, 5Y 7/1). Sherds can be highly fired with the paste color consistent all the way through, although some darker gray spots occur (2.5Y 4/1).

Inclusions. They are medium fine to fine (<0.25-0.5 mm) with an inclusion percentage of 5-20%. Inclusions are small rocks, including quartz, and both round and angular in shape.

Type 6. Blackware Plain

6a. Blackware Plain Burnished (**Figure 5.29**)

Exterior surface is burnished, and some sherds are very shiny, as in Type 5. Sherds were not included in Type 5 if they did not also have a burnished interior and the same characteristics of a highly fired sherd with fine inclusions as in Type 5. Interior surface is usually smoothed and regular, with striations. The thickness is generally around 5mm, but the range extends from 4.5 to 9mm.

Paste. Paste color is brown gray to gray (2.5Y 3/1, 5Y 7/1, 2.5Y 6/1). Sherds are medium to well fired, with some differences in color due to firing (2.5Y 3/1).

Inclusions. Inclusions are medium fine to fine. They are mainly small rocks, such as quartz, and vary between 0.25-0.75 mm in size with an inclusion percentage of 5-10%. The shape of inclusions was both round and angular, and there are some voids in the paste.

6b. Blackware Unburnished (**Figure 5.30**)

Exterior surface is smoothed and regular with a black surface; interior surface is smoothed, with and without striations. Thickness is usually around 6 mm, but can be as thick as 9 mm.

Paste. Paste color is gray brown to gray (2.5Y 8/2, 7.5Yr 7/6). The sherds are medium fired, with some discoloration due to the firing process (5Y 6/2, 7.5 YR 7/2). This type could possibly be made out of the same paste as the Chamorro types.

Inclusions. These are generally medium fine to medium coarse with a size range of 0.25-0.5 mm. Inclusions are small rocks, and there are some voids. The percentage of inclusions is 10-20% and they are mostly angular.

6c. Grayish Brown Wares (**Figure 5.31**)

Exterior surface is smoothed and usually highly burnished with a grayish brown slip (7.5R 6/1, 7.5R 4/1, 7.5R 4/1, 10R 4/2). Interior treatment is usually the same —a burnished surface with a gray brown slip.

Paste. Paste color is generally gray brown but can also be gray or orangish brown (7.5R 7/3, 5YR 7/8, 10YR 7/2). Sherds are medium to high fired. This type displays variety in paste color due to the firing process (2.5Y 6/1, 5YR 7/2), and could possibly have been made out of the same paste as the Chamorro types.

Inclusions. Inclusions are generally medium fine, but they can range from medium coarse to fine, with sizes ranging from <0.25-0.75 mm. Inclusions are generally small rocks, such as quartz, and the percentage of inclusions ranges from 5-10%. The inclusions are both round and angular in shape and there are voids, possibly from vegetable temper.

Thick Ceramic Types

Type 7. Chamorro Coarse Thick

7a. Chamorro Rough Thick without striations (**Figure 5.32**).

Exterior surface treatment is irregular and rough. Interior surface treatment is rough, both with and without striations. A few rare pieces have a paste-colored slip. Sherds range in thickness from 9 to 11.5 mm.

<u>Paste</u>. Paste color is mostly gray brown to gray and orange brown (7.5YR 7/4, 10YR 8/4). These sherds are low fired, and have little or no evidence of color change during the firing process.

<u>Inclusions</u>. These are generally medium coarse but can range from coarse to medium fine. Inclusions are rocks, including quartz, and range in size from 0.75-2 mm. Inclusion percentages range from 25 to 40%. Inclusions are mostly angular.

7b. Chamorro Rough Thick with striations (**Figure 5.32**).

Exterior surface is coarse with striations. There are some similarities between this type and Tutuma Coarseware (Type 15 which is described below), but Type 7b has fewer and smaller inclusions, similar to 7a, so I maintained it as a distinct type. Interior surface is regular and uniform, with and without striations, but remains coarse. Sherds are generally around 10.5 mm in thickness, with a range from 7 to 16 mm.

<u>Paste</u>. Paste color varies widely, from orange red, to orange brown, gray brown, and gray (2.5YR 7/3, 2.5YR 7/6). Sherds are low to medium fired and do not show much color change due to the firing process; the few that do show the latter are 7.5YR 4/1 or 7.5YR 6/1.

<u>Inclusions</u>. These are generally medium coarse to coarse, with a size range of 0.5-2 mm. Inclusions are rocks, including quartz, and the inclusion percentage ranges from 25 to 45%. Most are angular in shape.

Type 8. Chamorro Plain Thick

8a. Chamorro Well-made Thick without striations (**Figure 5.33**)

Exterior surface is smoothed and regular, without striations. Interior surface is regular and uniform, with or without striations; it also has a paste-colored slip. The typical sherd has a thickness of 12.5 mm, but it can range up to about 17 mm and is medium fired.

<u>Paste</u>. Color is usually orange brown (2.5YR 7/6, 7.5YR 7/4), but can reach orange gray.

<u>Inclusions</u>. Inclusions are mostly medium coarse, but outliers can be coarse or medium fine. Particles range from 0.5-3 mm. The inclusions are generally small rocks, including quartz, and are generally angular in shape. There are some voids, possibly from vegetal tempers.

8b. Chamorro Well-made with Striations (**Figure 5.33**)

Exterior surface treatment is regular and smooth, with striations. The interior is smoothed, with or without striations; it can also be smoothed with a paste-colored engobe. Sherd thickness ranges from 10-17 mm.

<u>Paste</u>. Paste color is usually gray brown, but gray, orange red and red brown can occur (5YR 7/8, 10 YR 6/2). Sherds usually have a little discoloration due to the firing process (2.5YR 7/2, 7.5YR 7/1), and are medium to low fired.

<u>Inclusions</u>. These are medium coarse to coarse, with sizes ranging from 1-2.5 mm. Inclusions are usually small angular rocks, including quartz. Inclusion percentage ranges from 30 to 45%.

Type 9. Chamorro Slipped Thick

9a. Chamorro Thick with Paste-Colored Slip (**Figure 5.34**)

Exterior surface is smooth and regular, with a paste-colored slip; the interior surface varies from coarse to regular and uniform and may have a paste-colored slip. Sherd thickness ranges from 9 to 19.5 mm, with most sherds in the 9-10 mm range.

Paste. Color is gray brown, orange brown, or orange red (7.5YR 7/4, 10R 7/6). The sherds are medium fired and show little evidence for discoloration from the firing process. A few show some variation in the center (10R 6/1, 2.5Y 6/1).

Inclusions. These are medium coarse to medium fine, with sizes ranging from 0.5-2 mm. Inclusions are mainly angular and there are some linear voids, possibly from vegetal temper. Inclusions are usually small rocks, including quartz, and their presence in the paste is 10-15%.

9b. Chamorro Thick with Cream Slip (**Figure 5.35**)

Exterior surface is smooth with a cream-colored chalky slip (10YR 8/1, 2.5Y 9/2). Interior surface treatment is smoothed, with or without striations. Sherd thickness is generally around 8-10 mm.

Paste. Color is orange brown to orange red (2.5YR 6/6, 3.5YR 6/6). This type is generally medium to low fired, with little to no discoloration from the firing process.

Inclusions. These are mostly medium fine, with some medium coarse; particle sizes range from 0.5-2mm and are mostly angular. A few sherds also contain voids. Inclusions are generally small rocks, such as quartz.

Type 10. Chamorro Burnished Thick

10a Chamorro Thick Burnished with Paste-Colored Slip (**Figure 5.36**)

Exterior surface is burnished, with a paste-colored slip. The interior is generally smoothed and regular, without striations; specimens are burnished, with a paste-colored slip as well. Sherd thickness ranges from 8.5 to 11 mm.

Paste. The color is usually orange red colored, but can include orange brown (10R 6/2, 10R 7/1, 5YR 6/4). Ceramics are generally medium to high fired, with some discoloration due to the firing process (7.5YR 6/1, 7.5YR 4/1, 2.5YR 5/1).

Inclusions. These are medium coarse to medium, with sizes ranging from 0.25-1 mm. They are both round and angular in shape, and there are some angular voids. Inclusions are small rocks, including mica and quartz, and the percentage of inclusions ranges from 10 to 20%.

10b. Chamorro Thick Burnished with Cream Slip (**Figure 5.37**)

Exterior surface is regular and burnished, with a cream slip (7.5YR 8/3, 10YR 8/3). Interior surface is regular and uniform, with and without striations; a few pieces are slightly coarser. Sherd thickness ranges from 9.5 to 12 mm, with the median around 10.5 mm.

Paste. Color varies from orange brown to gray brown, gray and orange red (2.5YR 6/6, 2.5YR 7/6, 7.5YR 7/4), with some discoloration from the firing process (2.5YR 5/1, 7.5YR 6/1). The pieces are generally medium to well fired.

Inclusions. These are medium coarse to medium fine, with sizes varying from 0.5-.75 mm. Particles can be both angular or round in shape, and there are some voids. Inclusion percentage ranges from 25 to 30% and are small rocks, such as quartz.

Aguirre Orangewares

11a. Aguirre Orangeware Thin (**Figure 5.38**)

This type is distinctive owing to its low firing temperature and lightly worked exterior. These sherds were also generally thin around 5 mm, but ranging from 3.5-8 mm. The exterior surface was usually rough but could be regular and uniform. Many pieces are eroded; some appear to have been covered in paint (or even decoration) that did not preserve well. This type attracts dirt and cleaning the pieces can remove the design. The interior surface may also have traces of paint.

<u>Paste</u>. Paste color is usually orange to red orange, but sometimes has a pinkish appearance (2.5Yr 7/8, 5YR 7/8). Ceramics are low fired and not dense and show no discoloration.

<u>Inclusions</u>. These range from medium coarse to fine, with inclusion sizes ranging from 0.25 to 0.5 mm. Inclusions are mainly small rocks, including quartz, and can be angular or round in shape. Inclusion percentage ranges from 7% to 15%.

11b. Aguirre Orangeware Thick (**Figure 5.39**)

Thick Aguirre Orangeware is not as numerous as the thin variety (only 2.3% of the total assemblage), but it presents many of the same characteristics. Exterior surfaces are usually coarse and eroded, but in some cases can be regular and uniform or covered in paint. The interior surface treatment varies from coarse to smooth and regular, usually lacking any slip or evidence for design. The thickness of the sherds ranges from 8 to 10 mm.

<u>Paste</u>. Color varies from orange to red orange, sometimes with a pinkish hue (2.5YR 6/8, 2.5YR 7/6, 5YR 7/6). The ceramics are not dense and were likely fired at a low temperature, with no discoloration due to the firing process.

Inclusions. These are generally coarse to medium coarse, with inclusion size ranging from 0.5-1.5 mm. Inclusion percentage ranges from 25 to 30%. Inclusions can be angular or round in shape; they are small rocks, such as quartz. Some voids are present.

Type 12. Utilitarian Reddish-brown

This pottery type was clearly distinct from the preceding types. The sherds in Type 12 all had similar paste color and texture but varied in their thickness and in interior and exterior surface treatments. This type is never decorated and was likely used for utilitarian tasks; its shapes were generally jars and pots that would be associated with storage and cooking. It is notable that the comparable utilitarian ware of the nearby Cañete Valley was also reddish brown (Marcus 2008).

12a. Utilitarian Thick Rough (**Figure 5.40**)

Exterior surface is coarse and irregular; the interior surface treatment can be rough (with and without striations), or smoothed, regular and uniform (with striations). Sherd thickness was 9 to 11 mm.

Paste. Color is reddish brown (2.5YR 4/4, 5YR 5/6). Vessels are medium to low fired but tend to be fired at a higher temperature than Type 11. There is not much discoloration due to the firing process.

Inclusions. These are coarse to medium coarse, with sizes ranging from 0.75 to 1.5 mm, and can be angular or round in shape. Inclusions are small rocks, including quartz.

12b. Utilitarian Thick Regular (**Figure 5.40**)

Exterior surface is smoothed and regular, with or without striations. Sometimes the exterior surface looks black (possibly from smoke clouds in the firing process) and has some sort of paste-colored slip. The interior surface varies from smoothed and regular, with and without striations, to coarse. Sherd thickness is 9-12 mm usually between 10-12mm.

<u>Paste</u>. The paste color is reddish brown (2.5YR 4/4, 5YR 5/6) and shows some color change due to firing.

<u>Inclusions</u>. Inclusions were coarse to medium fine, with sizes around 1-2 mm, and mostly angular in shape. Inclusion percentage is around 40% and the inclusions are small rocks, such as quartz.

12c Utilitarian Thin Rough (**Figure 5.41**)

The exterior surface was coarse and irregular, while the interior surface varied from coarse to smooth, and sometimes had a slip of some sort. Sherd thickness ranged from 3 to 9 mm with a median of 6 mm.

<u>Paste</u>. Paste color is reddish brown (5YR 5/6), with little evidence for discoloration in the firing process. Overall, this type was medium to low fired.

<u>Inclusions</u>. These are coarse to medium coarse, with sizes ranging from 0.5-0.75 mm; they can be round or angular in shape. Inclusion percentage is around 35%, and the inclusions are small rocks, such as quartz.

12d Utilitarian Thin Regular (**Figure 5.41**)

Exterior is smoothed and regular, with and without striations. This ware can be almost black in color, likely due to smoke clouds during the firing process; at times it appears to have some sort of paste-colored slip. Sherd thickness is around 6mm, with a range from 3 to 9 mm.

<u>Paste</u>. Color is reddish brown (5YR 4/6) and medium to low fired.

<u>Inclusions</u>. These are coarse to medium fine, with sizes ranging from 0.5-.75 mm. They can be round or angular in shape. Inclusion percentage is 35%, and the inclusions are small rocks, such as quartz.

Ramos Brownware

This type constituted less than 0.1% of the body sherds, but we separated it out because it is truly distinct from types 1-12 and likely has a completely different paste recipe.

13a. Ramos Brownware Thin (**Figure 5.42**)

This brown clay with very fine inclusions was used in the production of spindle whorls; other than this, it was rare at the site.

13b. Ramos Brownware Thick (**Figure 5.43**)

Exterior surface is burnished, with a paste colored slip (7/5YR 6/4); the interior surface is the same. Sherd thickness is generally around 11 mm.

<u>Paste</u>. Color is light brown (7/5yr 7/3) and the clay is medium fired and fairly dense, with some evidence of discoloration due to firing (7.5YR 5/1).

Inclusions. These are medium fine, with particle size ranging from 0.5-1 mm. Most are round in shape and there are some voids. Inclusion percentage is around 20%, and most inclusions are small rocks.

Inca influenced

Type 14 Inca or Inca-influenced. This distinction was made solely on firing technique and paste and did not include Inca design elements (since this system was used to classify non-diagnostic sherds). These sherds composed less than .1% of the Las Huacas sample.

Tutuma Coarseware

Type 15. Tutuma Coarseware (**Figure 5.44**)

This type was not revealed through cluster analysis; it is visually distinct. Its most defining characteristics are its very coarse inclusions and its overall coarse look. The exterior surface sometimes included a slip that varies between red and purple. This slip was not very consistently applied; overall, the production value of this type is not high. The thickness of sherds was also highly variable, ranging from 7 to 12 mm. Some of the sherds showed evidence of burning.

Paste. The paste color varied from orange red to orange brown and gray. It is possible that this type could have been made from the same general clay source as the Chamorro pastes, but its inclusions, surface treatment and overall quality are quite distinct.

Inclusions. Inclusion percentage varies from 20 to 30%. The inclusions are coarse, unprocessed rocks, generally angular in shape.

Summary

This typology for the 20,000+ sherds from Las Huacas should not be considered exhaustive, but rather an initial step. In some types, such as Type 4, additional work might detect more variability. In future studies I hope to compare the Las Huacas assemblage to those from other sites in the valley, such as La Centinela, Lo Demás, and Tambo de Mora.

Some Comments on Style

When it comes to design elements on the pottery from Las Huacas, my impression is that they are mostly local Chincha with some imperial Inca (Late Horizon) motifs. Las Huacas did produce examples of designs similar to what is referred to as the "Inca bird design" (**Figure 3.38**). The exact evolution of this bird motif and how it became integrated into the Inca imperial style is not well understood. We found birds in this style on two waster sherds associated with kilns at Las Huacas. We also found a possible waster sherd with a bird design that is considered local to Chincha (**Figure 5.45**). It is notable that the kilns from Room A2 measured only ca. 150-10cm by 40cm. This suggests that craft production in Room A2 was small in scale.

Due to the fact that excavations did not recover many whole vessels, I was forced to rely heavily on body sherds, which comprised 75-80% of the sherds recovered from Room A2. Focusing solely on diagnostic sherds does not give an accurate representation of the prevalence of decorated to undecorated sherds and can lead to certain types being undercounted. For example, most of the Utilitarian Reddish-brown sherds were not diagnostic, but they comprise 38.9% of the body sherds at the site by quantity. Furthermore, it was through analyzing body sherds that the Tutuma Coarseware type was defined. As will be described in Chapter 6, this type is found in specific depositional contexts and has important implications in thinking about the organization of production in the Late Horizon and Early Colonial period.

Finally, my analyses demonstrate the importance of combining intuitive and statistical techniques in defining types. While some of the types emerged from cluster analysis (mainly within the Chamorro variety) intuitive methods allowed me to define Aguirre Orangeware, Ramos Brownware, and Tutuma Coarseware. Analytical methods are limited by the classifications and variables used to create them.

Tutuma Coarseware can serve as an example. Its characteristics that were intuitively apparent would not have been picked up in a cluster analysis because the type incorporates a wide variety of surface treatments and paste colors. It sometimes has a rough exterior, sometimes is covered in a red or purple slip, and has a paste color that can range from orange to orange red, gray brown, or gray. The color of the clay used in Tutuma Coarseware is similar to the Chamorro types and is likely made from a local clay source. The variation in this type and its coarse inclusions and rough surface treatment could point to less skilled craftsmen. This could also be why there is so much variety within the attributes of each sherd. Cluster analysis would not have revealed this type, based on this variation in the recorded variables. On the other hand, statistical analyses were useful for characterizing variations in the Chamorro types, and possible modal varieties.

Changes Through Time

In Chapter 7 I will highlight aspects of the Las Huacas ceramics that changed over time. Included are type, vessel shape, production value, and the type of sherd (rim, handle, worked, disc, etc.). Some of these worked sherds and discs were likely linked to production activities. As for changing vessel shapes, I will use fifteen general categories: bottle, bowl, *escudilla*, jar (general), open jar, closed jar, straight-necked jar, pot (general), open-neck pot, closed-neck pot, plate, straight-neck vessel (general), lid, closed vessel, and other (**Figure 5.46**).

The ceramic assemblage from Las Huacas provides important information on the activities conducted within the excavation areas through time. When the data on ceramic analyses is combined with the data from other artifact categories, it has the potential to shed light on how joint rule was established and maintained in the Late Horizon. These topics will be developed more in Chapters 7 and 9.

Chapter 5 Figures

Figure 5.1. New design elements that were added to the ceramic coding system in 2018. On the left are examples of reflected stair motifs and on the right squiggly z lines.

Figure 5.2. This complete vessel from Tomb 1 is a Chamorro Burnished Cream (Type 4c) miniature bowl.

Figure 5.3. Vessel 1 from Tomb 2 is a local style pot with an almost erect rim and classified as Tutuma Coarseware (Type 15).

Figure 5.4. Vessel 2 from Tomb 2 is a Tutuma Coarseware (Type 15), it is a neckless pot with handles on the rim.

Figure 5.5. Vessel 3 from Tomb 2, possibly a local interpretation of the Inca *aríbalo*.

Figure 5.6. Vessel 4 from Tomb 2 a Chamorro Cream Burnished (Type 4c) flaring rim jar.

Figure 5.7. Vessel 1 from Tomb 3, Chamorro Paste-colored slip (Type 3b).

Figure 5.8. Vessel 2 from Tomb 3, a burnished blackware (Type 5) coastal Inca plate with a duck with a rounded bill.

Figure 5.9. Vessel 1 from Tomb 4, a Chamorro Slipped Grayish brown (Type 6c) miniature globular bottle. It is a possible imitation of blackware vessels but rather than using reduction firing, the vessel was painted to look like it had been.

Figure 5.10. Vessel 2 from Tomb 4, an Unburnished Blackware (Type 6b) jar with an almost straight neck.

Figure 5.11. Vessel 3 from Tomb 4, a Chamorro Paste-colored slip (Type 3b) flask.

Figure 5.12. Vessel 4 from Tomb 4, a Chamorro with Red Slip (Type 3a) miniature bottle with a flat base.

Figure 5.13. Vessel 5 from Tomb 4, a Chamorro Paste-colored Slip (Type 3b), a miniature bottle with a slightly flared rim.

Figure 5.14. Vessel 1 from Feature 17, a Chamorro Paste/Cream Slip (Type 3b/c) straight-necked flaring rim jar.

Figure 5.15. Vessel 2 from Feature 17, a Chamorro Paste/Cream Slip (Type 3b/c) almost straight-necked globular jar with a flaring rim.

Figure 5.16. Vessel 3 from Feature 17, a Chamorro Cream slip/burnished with paste-colored lip (Type 3c/4b) straight-neck globular jar.

Figure 5.17. Vessel 4 from Feature 17 decorated with Chincha designs. On the right are rim decorations, including a triangle motif associated with Inca presence in many regions and a large triangle hatch pattern found in the Chincha and Ica regions.

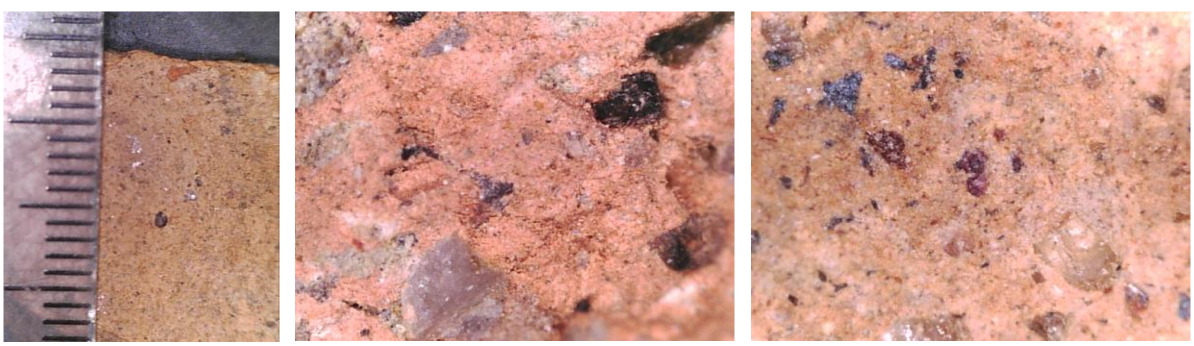

Figure 5.18. Chamorro Plain Rough (Type 1).

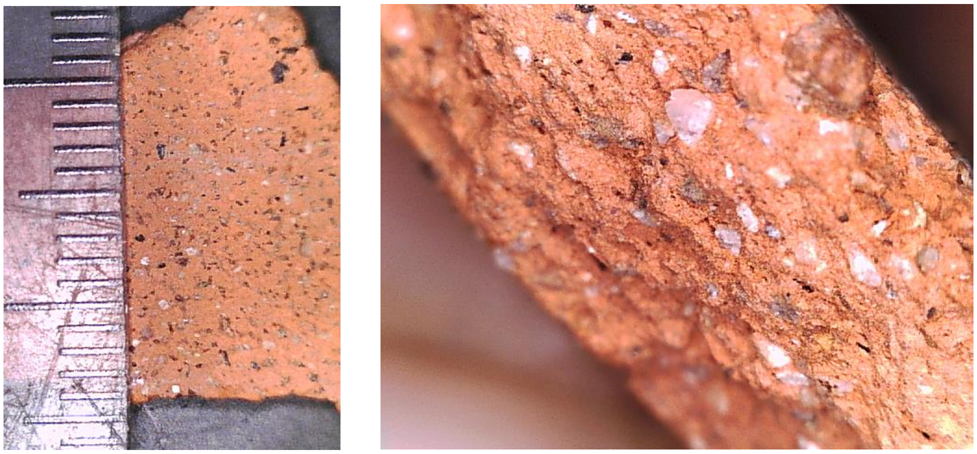

Figure 5.19. Chamorro Plain without striations (Type 2a).

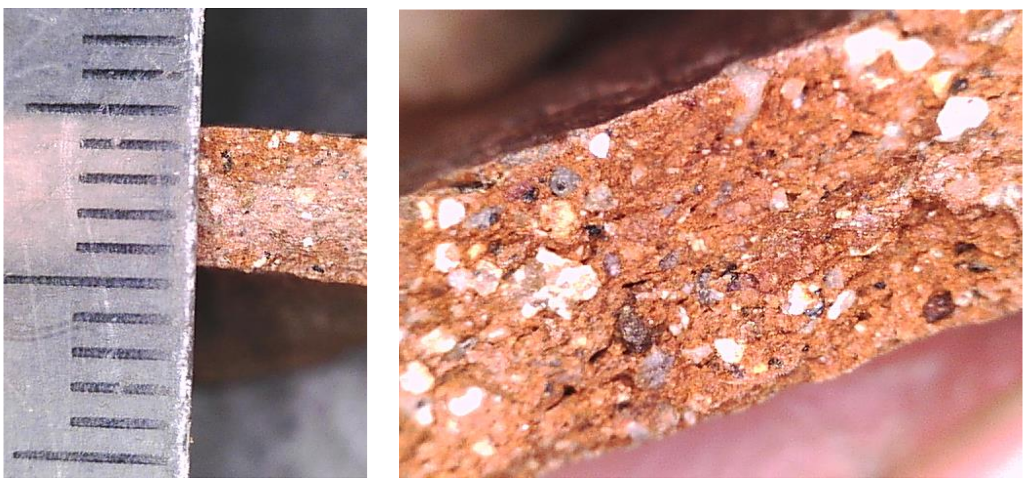

Figure 5.20. Chamorro Plain with striations (Type 2b).

Figure 5.21. Chamorro Red Slip (Type 3a).

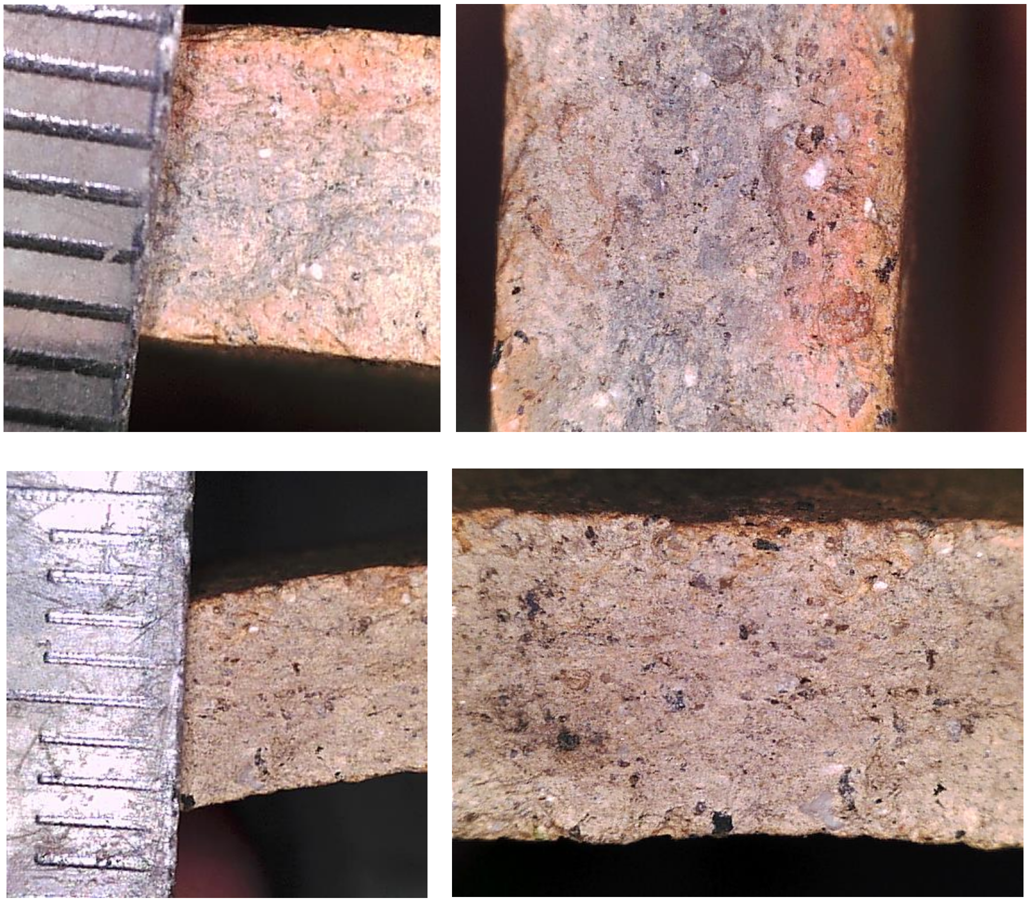

Figure 5.22. Chamorro Paste-colored Slip (Type 3b).

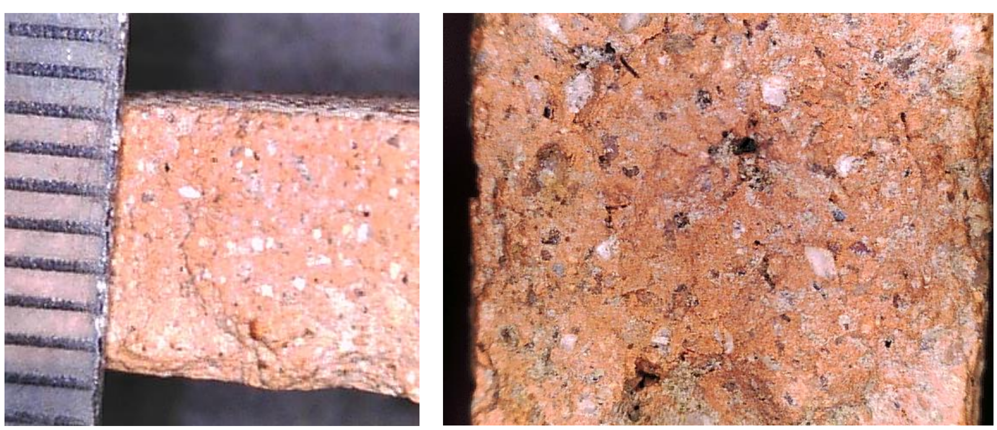

Figure 5.23. Chamorro Cream Slip (Type 3c).

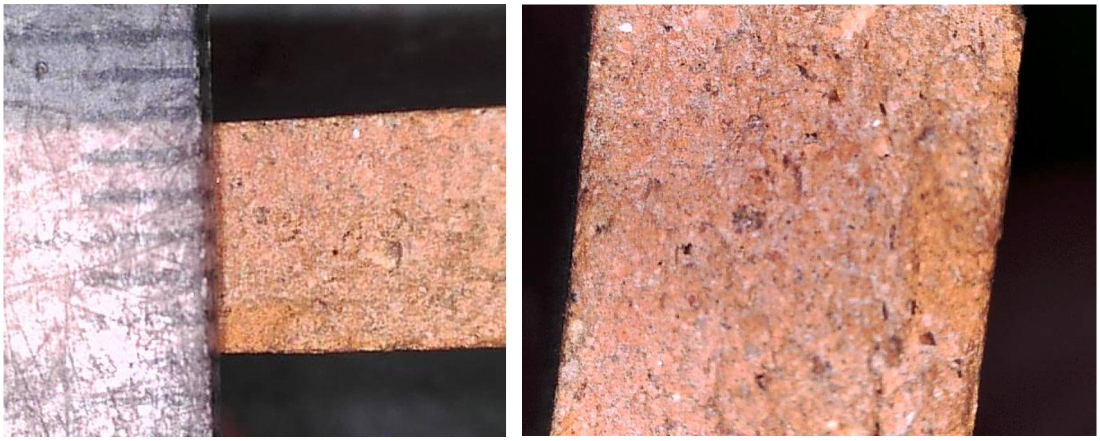

Figure 5.24. Chamorro General Burnished (Type 4a).

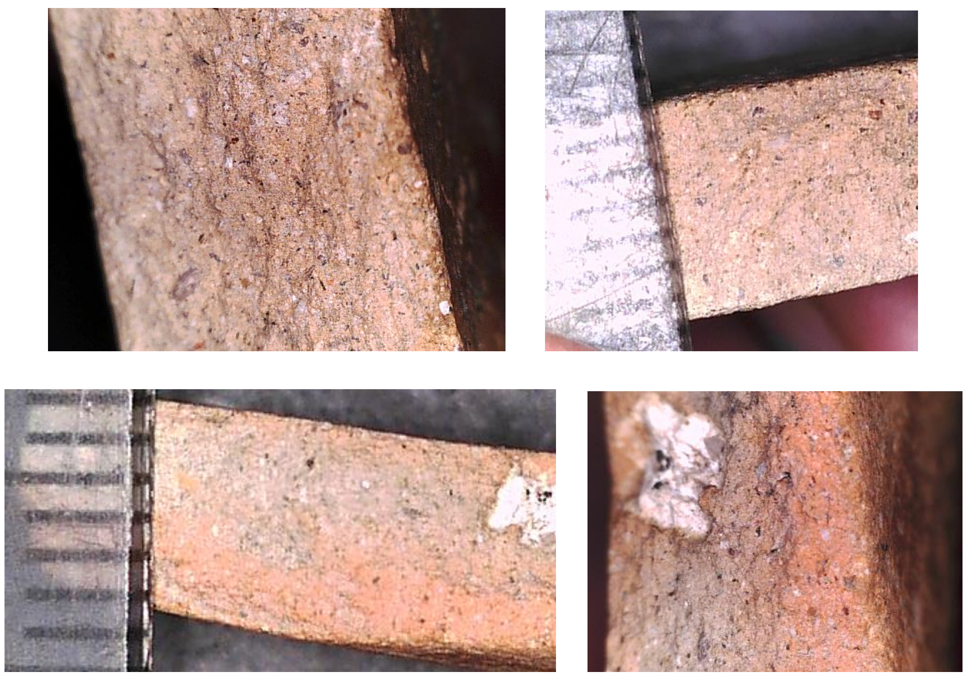

Figure 5.25. Chamorro Burnished with Paste-colored Slip (Type 4b).

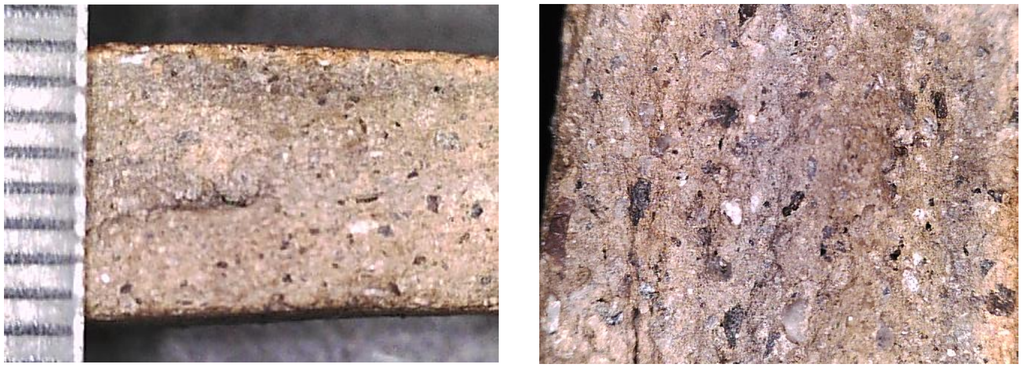

Figure 5.26. Chamorro Burnished with Paste-colored Slip, coil-made (Type 4b).

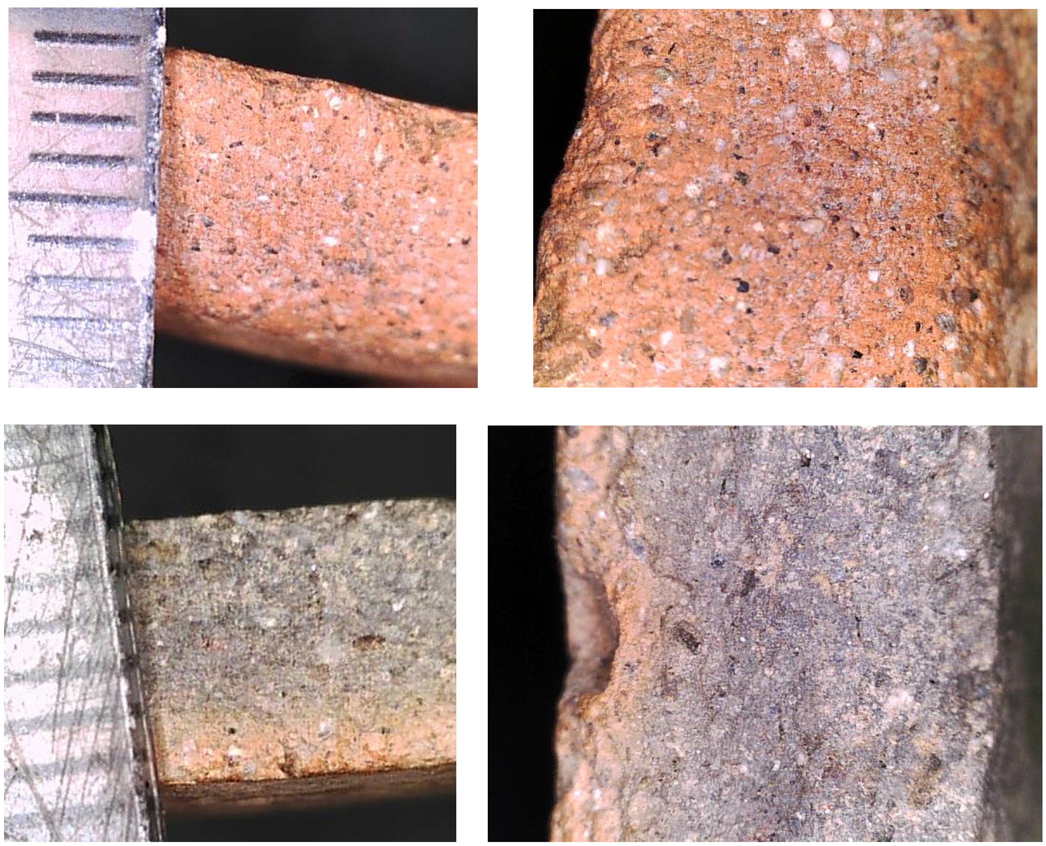

Figure 5.27. Chamorro Cream Burnished (Type 4c).

Figure 5.28. Blackware Highly Burnished (Type 5).

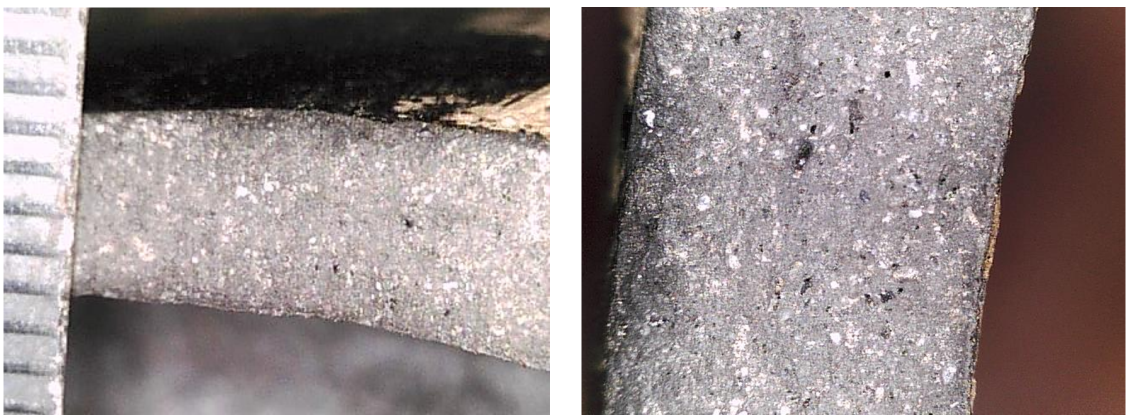

Figure 5.29. Blackware Plain Burnished (Type 6a).

Figure 5.30. Blackware Unburnished (Type 6b).

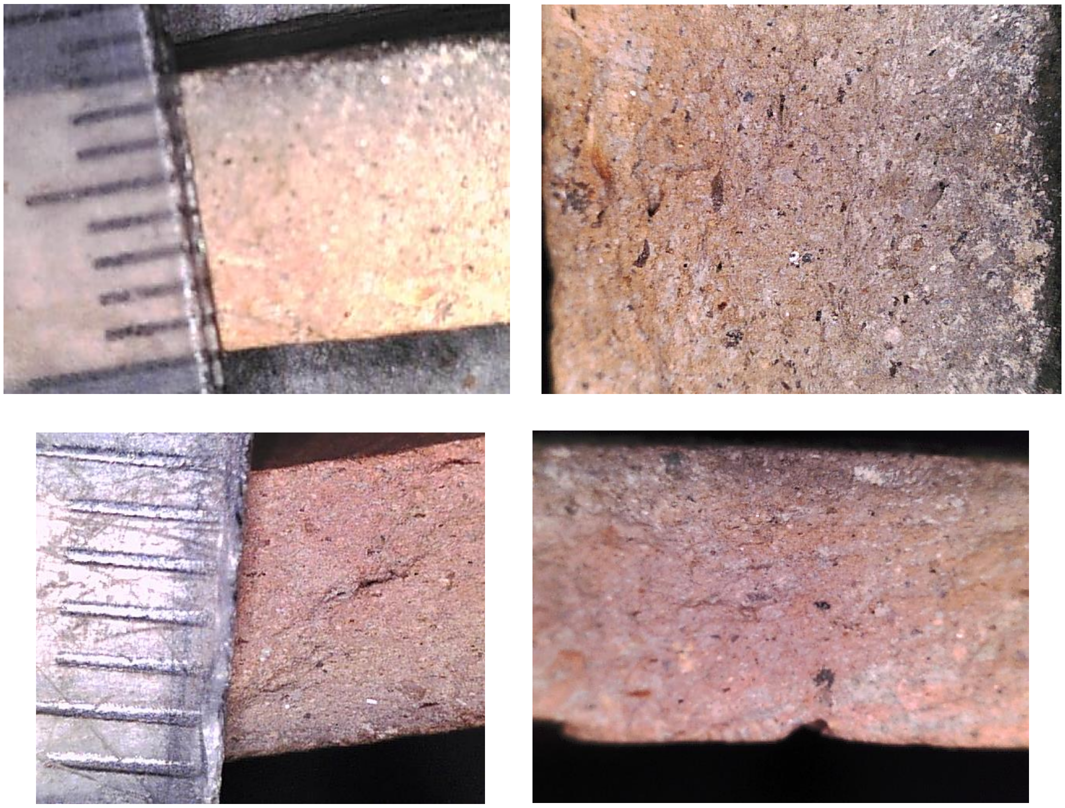

Figure 5.31. Grayish Brownware (Type 6c).

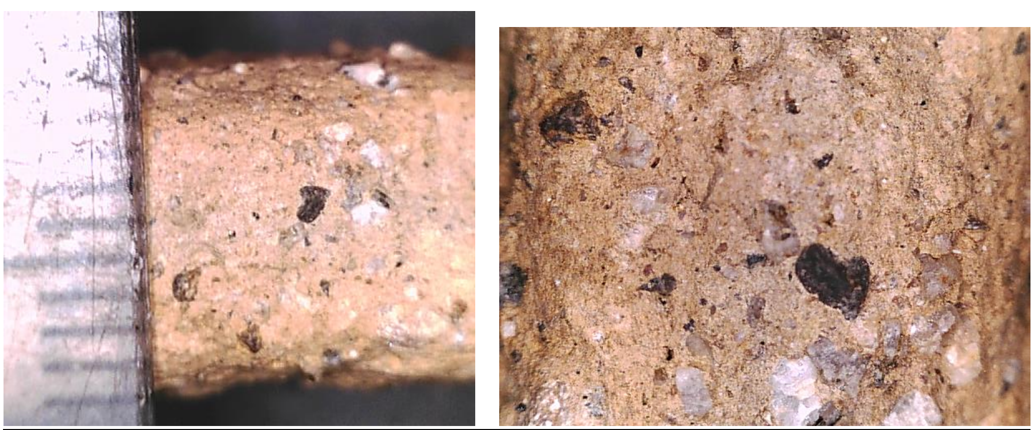

Figure 5.32. Chamorro Rough Thick with and without striations (Type 7a/b).

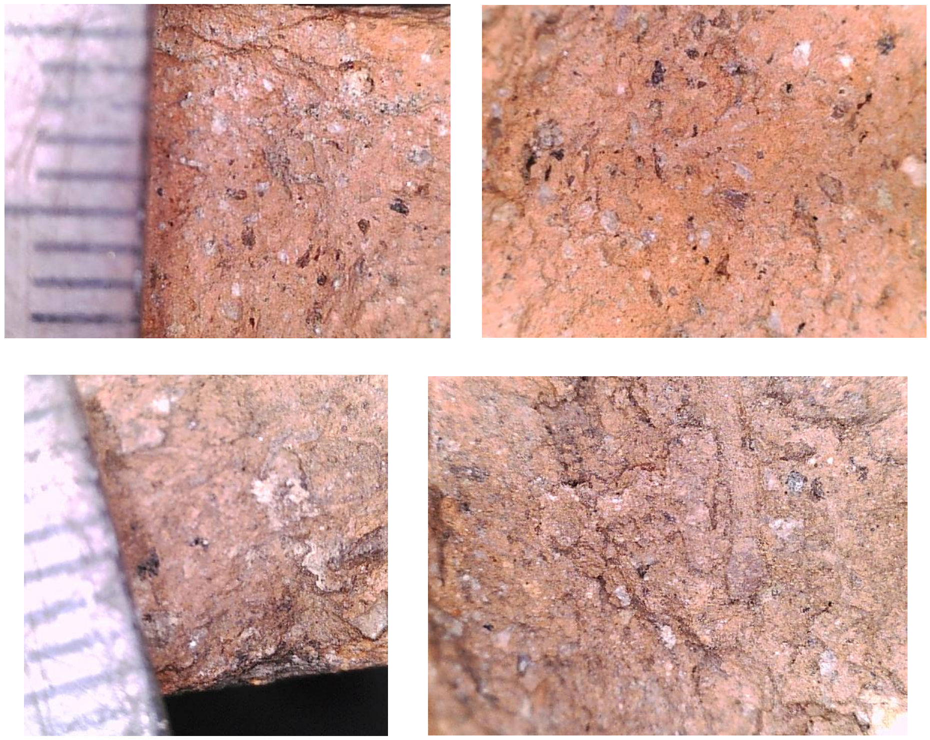

Figure 5.33. Chamorro Well-made Thick without striations (Type 8a/b).

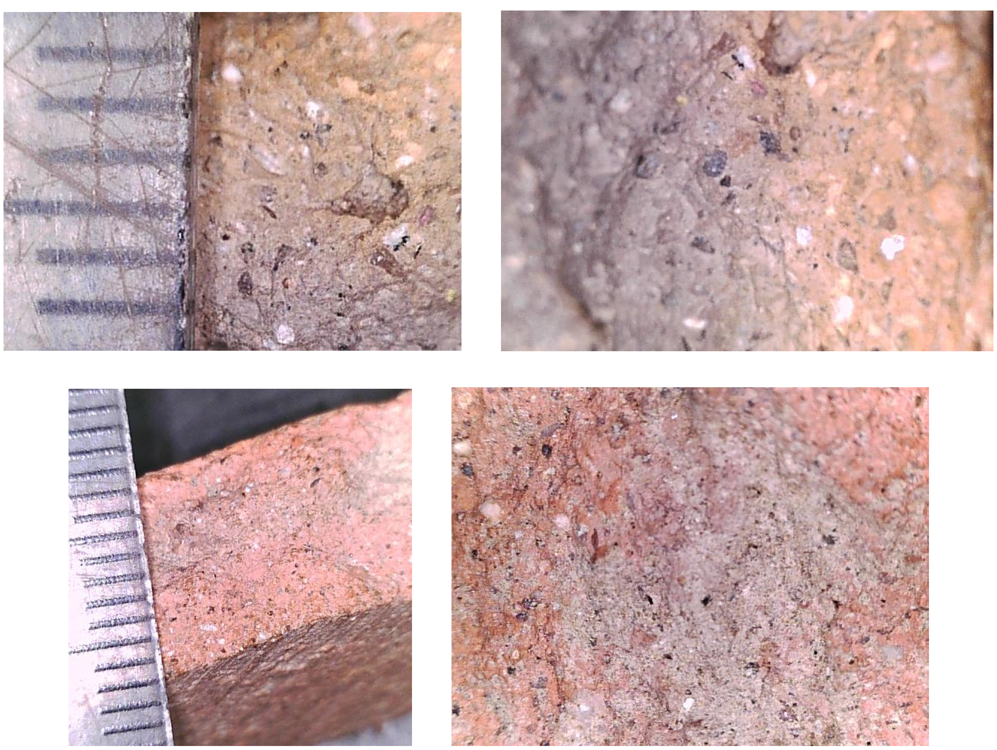

Figure 5.34. Chamorro Thick with Paste-colored Slip (Type 9a).

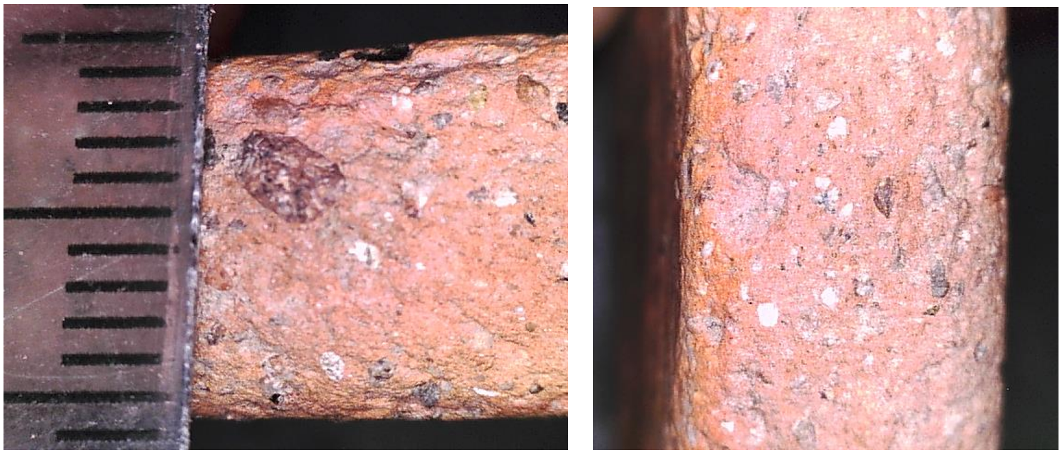

Figure 5.35. Chamorro Thick with Cream Slip (Type 9b).

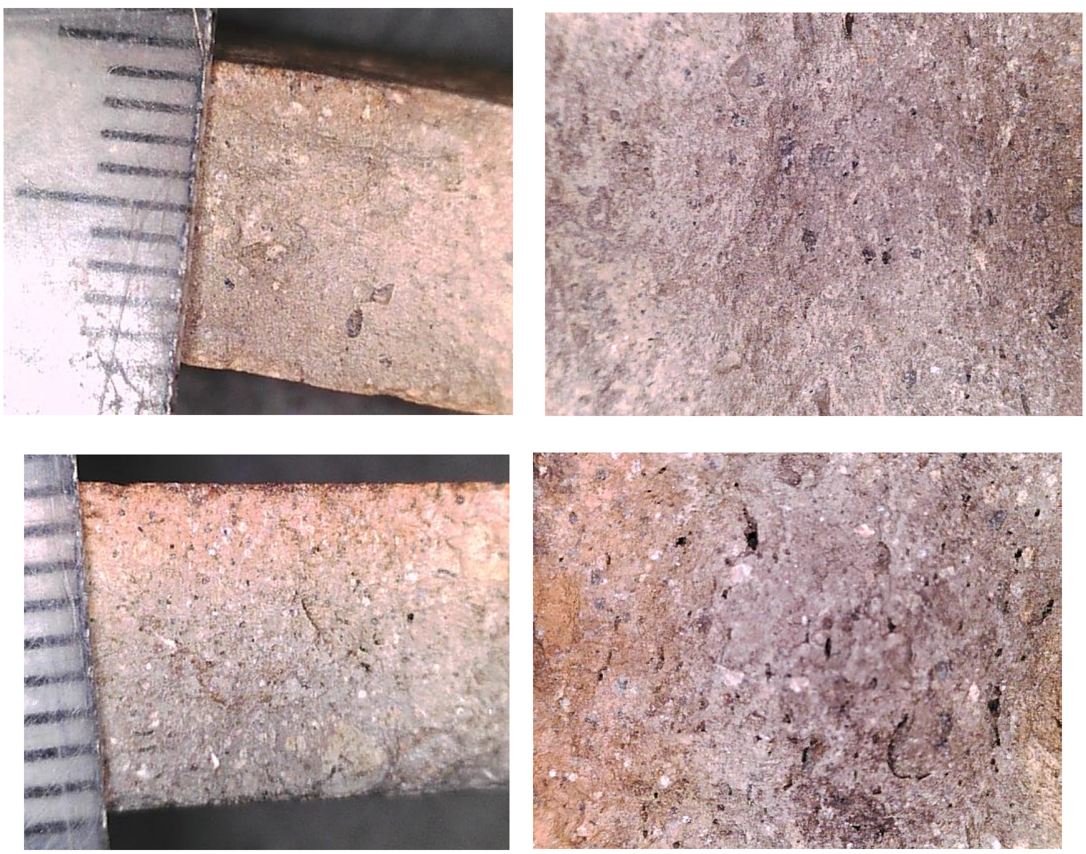

Figure 5.36. Chamorro Thick Burnished with Paste-colored Slip (Type 10a).

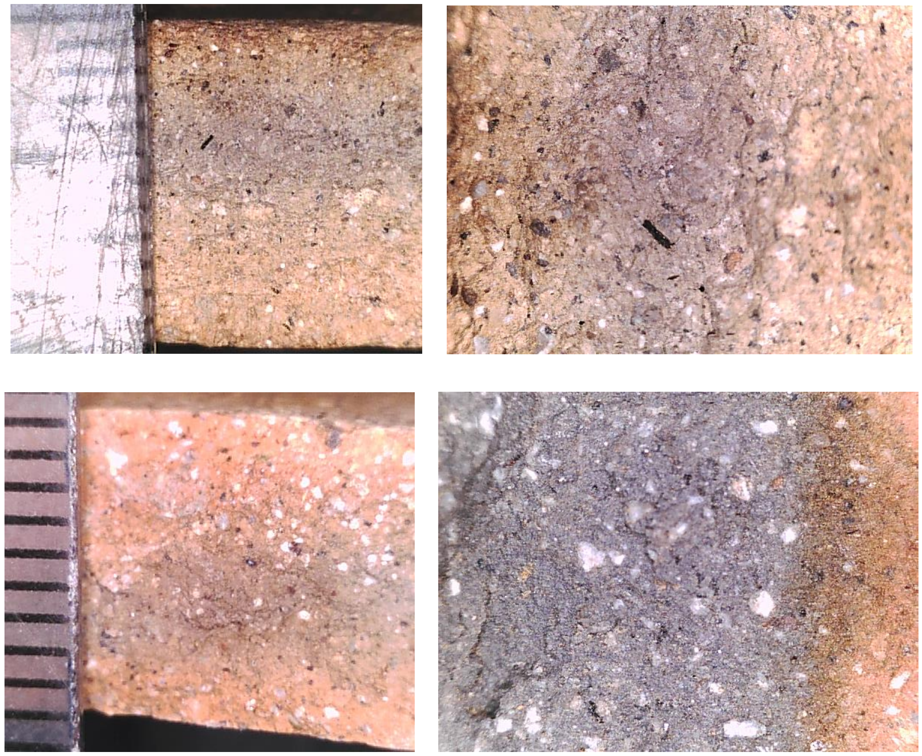

Figure 5.37. Chamorro Thick Burnished with Cream Slip (Type 10b).

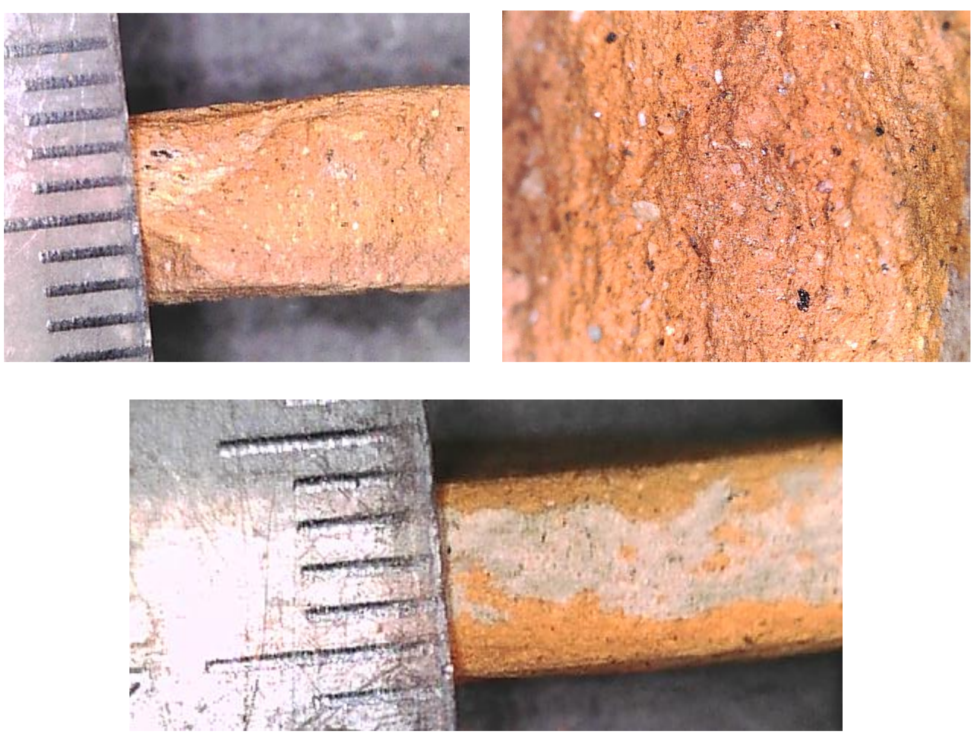

Figure 5.38. Aguirre Orangeware Thin (Type 11a), picture on the bottom shows white substance stuck to the outside of the sherd.

Figure 5.39. Aguirre Orangeware Thick (Type 11b).

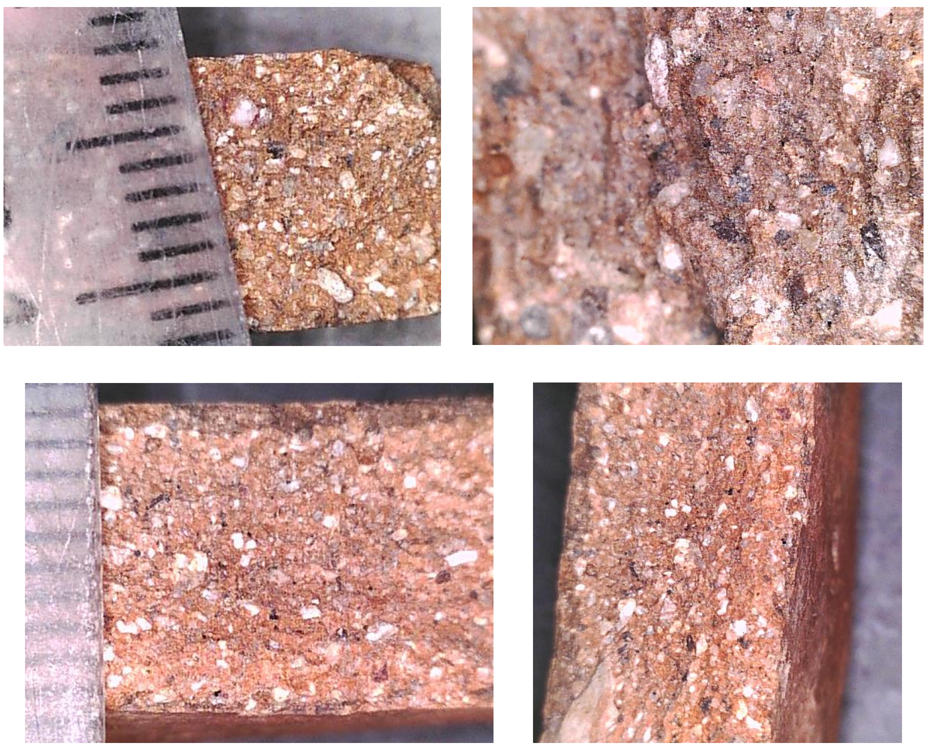

Figure 5.40. Utilitarian Thick (Type 12a and 12b).

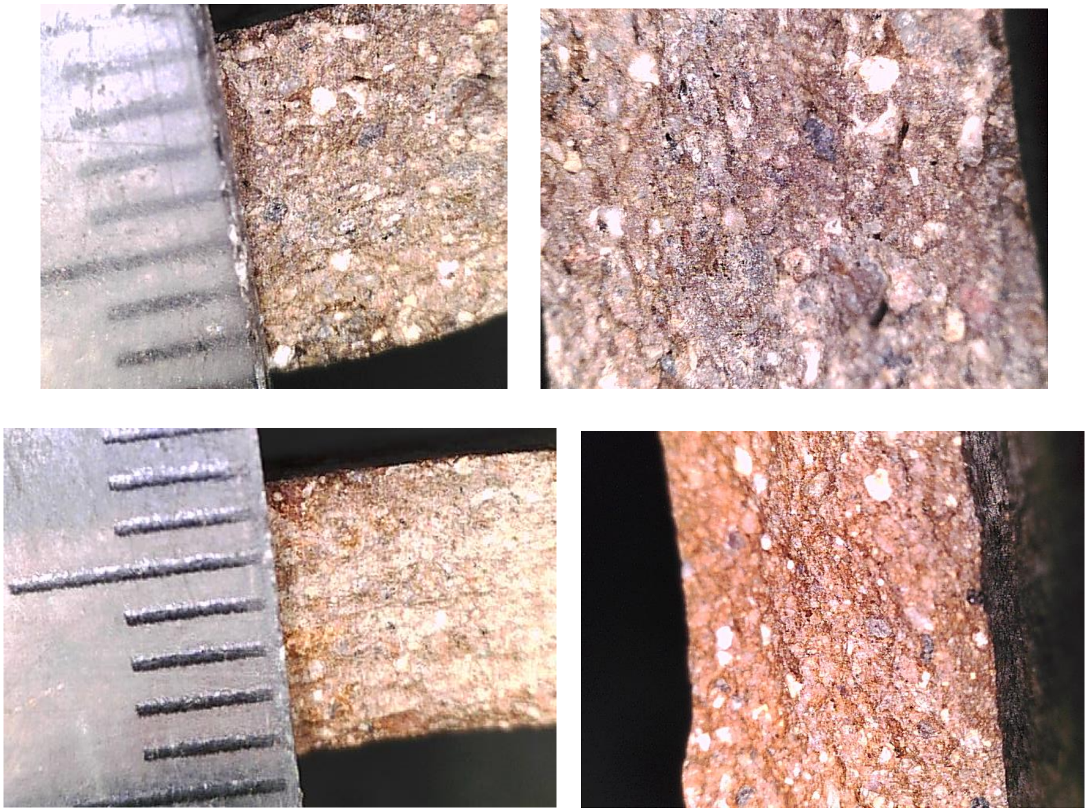

Figure 5.41. Utilitarian Thin (Type 12c and 12d).

Figure 5.42. Spindle whorls with Ramos Brownware paste (13a).

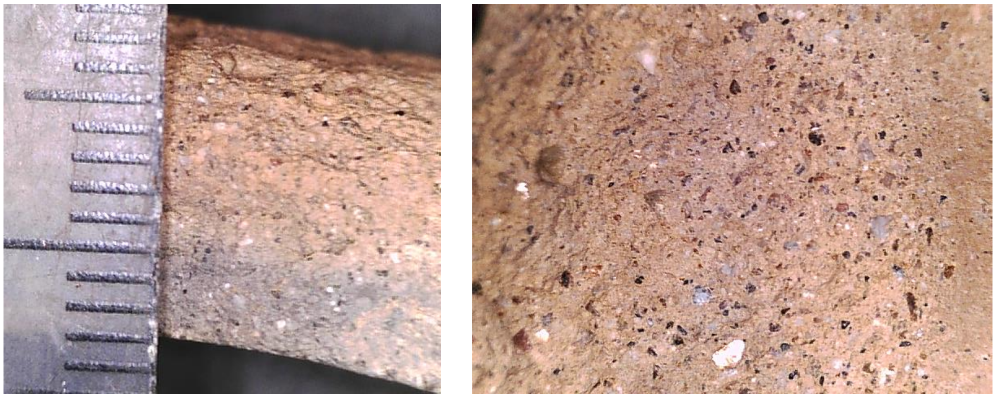

Figure 5.43. Ramos Brownware Thick (Type 13b).

Figure 5.44. Tutuma Coarseware (Type 15).

Figure 5.45. A possible waster sherd from Room A2 in Complex N1 at Las Huacas. The sherds contain a bird design typical of the south and central coast.

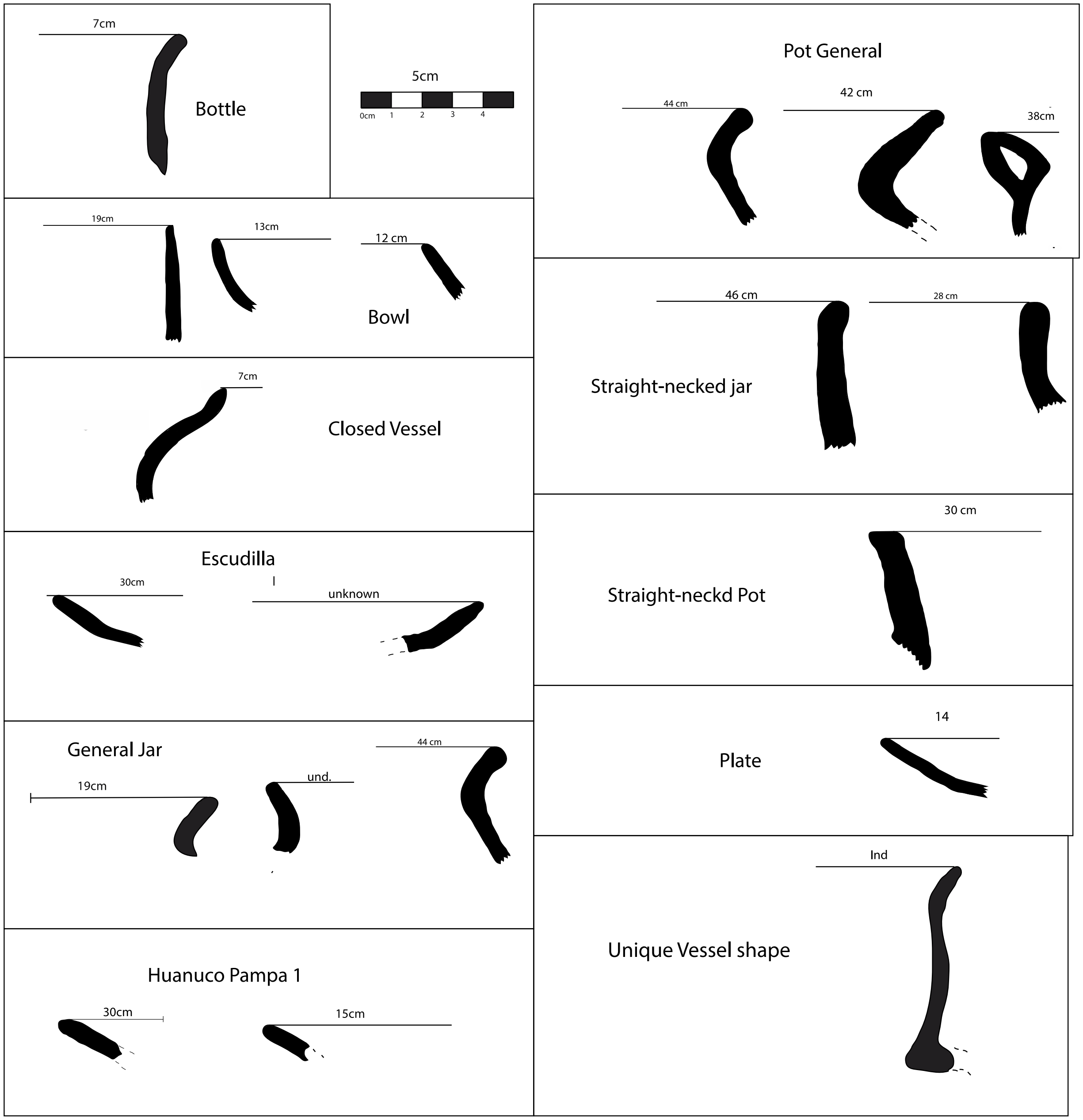

Figure 5.46. Vessel shapes used in the ceramic analysis.

Chapter 6

The Burials and Mortuary Features of Las Huacas

Mortuary rituals are practices that were not only cultural, but also political (Buikstra and Nystrom 2015). Room A2 at Las Huacas was as an important mortuary site where multiple individuals were interred sometime between AD 1450 and 1650. This time span corresponds with a period of change and upheaval in the Chincha Valley when it was both part of the Inca Empire and the Spanish Colonial system. Under the Spaniards and the Inca, burial practices were intensely political (Murphy et al. 2017). Both groups were interested in inserting themselves into the political and religious practices of the people who inhabited the coastal valleys.

In this chapter, I describe the various burial features at the site of Las Huacas and conclude by beginning to evaluate how the burials at Las Huacas might have been tied to larger political processes that occurred in the valley between AD 1450 and 1600. In Room A2 excavations found evidence for primary, multi-stage, and secondary burials. Each of these practices are connected to a complex array of decisions and processes.

Mortuary practices are an ideal way to study the construction of group identities during times of political change because they are intentional cultural practices that represent how individuals and groups were represented in death (Buikstra and Nystrom 2015; Cerezo-Román 2015; O'Shea 2008). In the Andes, mortuary practices were a particularly dynamic process of group identity construction, since remains were often used in posthumous rituals and the identity of the individuals and their relationship to the living population could be transformed in death

(Eeckhout and Owens (eds.) 2015). During times of political changes, mortuary practices can be a tool of the colonial group to institute social order and create ideological transformations and can be the product of actions by the local population (Klaus and Alvarez-Calderón 2017). Sometimes the local group adopts new traditions to establish connections with the dominant culture (Tantaleán 2006); other times mortuary practices were an active form of resistance to foreign groups (Murphy et al. 2011). In order to understand these larger sociopolitical implications, it is important to study burials from a comprehensive perspective that considers their context, material culture, and demographic data.

Mortuary practices were an important aspect of Inca expansion and the Spanish Colonial system (Bongers 2019; Buikstra and Nystrom 2015; Mackey and Nelson 2020; Murphy et al. 2017). Burial practices were in some cases a way for local people to affiliate themselves with the Inca Empire (Tantaleán 2006). Mortuary practices could also be an important way that the Inca materialized their power through transforming mortuary sites and practices (Nielsen 2008). This was the case at the site of Farfán in the Jequetepeque Valley. At this site there was a lot of variety in burial practices, but through their contexts and material culture it was clear that this complex mortuary culture was an important Inca strategy for bringing the groups of the Jequetepeque region into the Inca Empire (Mackey and Nelson 2020). In the Colonial period, the Spaniards tried to spread Christianity and began implementing Christian burial rites. Local people resisted this practice to varying degrees, trying to continue their local practices (Murphy and Klaus (eds.) 2017).

The Chincha Valley of Peru is an ideal place to study changes in mortuary practices owing to the variety of burial practices from AD 1450 to 1650 (Bongers 2019; Kroeber and Strong 1924). The wide variety of burial practices could be a product of several factors, including the presence of multiple ethnic groups, temporal differences, and distinct phases of a multi-stage burial process. Each one of these factors has profound impacts on understanding the Late Horizon and Colonial period. Currently different burial practices and traditions are not strictly pre- or post-Inca, but research in the upper and middle Valley by Bongers (2019) did associate some changes in burial practices with the Late Horizon. These shifts include the prevalence of the *chullpa* burial style, and secondary mortuary treatments including the placement of vertebrae on reed sticks. The previous research in the Chincha Valley concluded that a variety of mortuary practices were used in the Late Horizon and that this period was characterized by change and innovation, In 2016, excavations in Sector B recovered evidence of a looted burial feature and during the 2017-18 season, excavations recovered the remains of at least 89 individuals from 15 separate mortuary contexts (see **Table 6.1**).

Las Huacas Burials from Room A2

It is important to contextualize the burials from Room A2. As highlighted in Chapter 3, 100 meters northeast of Complex N1 were 8 or more *chullpas*, and there is evidence for burials in both Sectors S and E as well as Complex N1. The ancient inhabitants of Las Huacas specifically chose Room A2 within Complex N1 to bury these individuals during the Late Horizon and/or Colonial Period. As highlighted before, Complex N1 is the clearest materialization of Inca architectural planning at the site of Las Huacas.

The Las Huacas burials are summarized in **Table 6.1** and **Figure 3.36** shows the location of these burial features. In this chapter, I present their context, associated artifacts, and the osteological analysis. First, I describe the individual burial features, then the comingled features. The artifact analyses were conducted by myself (ceramics, figurines, spindle whorls, *balanzas*, weaving tools etc.), Colleen O'Shea (textiles, *balanzas*, and metals), Kylie Quave (textiles), Emma Jones (figurines), Monica Nadia Chávez (spindle whorls), and animal bone (Mary Claudia Ávila Peltroche). O'Shea is the project conservator who treated the artifacts and made notes about materials and production techniques. In regard to the metal artifacts, O'Shea concluded that they were a mix of alloys (gold, copper, and silver) and techniques (hand-formed versus cast). Future projects will work to better characterize the chemical composition and production techniques of the metal artifacts recovered from the burials.

Quave and O'Shea analyzed the textiles and recorded (when possible) the type of garment, the dimensions, weave structure, presence of selvedge, warp/weft spin and ply, colors, and materials used. Jones and Chávez both used the same ceramic coding system described in Chapter 5 to analyze the figurines and spindle whorls, respectively. Ávila's methods of faunal analysis are outlined in Chapter 7.

The bioarcheological analyses were conducted over multiple seasons by Dr. Juliana Gómez Mejia, Noemi Oncebay Pizarro, Iride Tomažič, and Emilie Cobb. In determining sex, they used multiple methods (Albanese, Eklics, and Tuck 2008; Buikstra and Ubelaker 1994; Klales, Ousley, and Vollner 2012; Lovejoy 1985; M. K. Moore et al. 2016). They also estimated age (Brooks and Suchey 1990; Buckberry and Chamberlain 2002; Calce 2012; DiGangi et al. 2009; Schaefer et al. 2009; Ubelaker 1989; Vega 2009) and stature (Pomeroy and Stock 2012). Any pathologies, traumas, or anomalies were recorded and photographed.

Gómez, with the help of Oncebay, analyzed all the individual burials. In doing so, she registered all bones present and recorded all evidence of pathologies, traumas, and anomalies. Some of these individuals were wrapped in layers of textile, often highly deteriorated. Gómez made notes of the associated textiles and any other artifacts that she recovered by unwrapping the individuals.

In the underground tombs, we completed an inventory of the bones and estimated MNIs. When possible, we estimated sex and age. Gómez and Oncebay analyzed Tombs 1 and 4. Cobb analyzed Tomb 2 under the guidance of Gómez, and Tomažič analyzed Tomb 3. Tomažič was particularly interested in evidence of musculo-skeletal markers. Since sex was generally determined by only pelvis or crania, since most of the remains were comingled, in some cases sex was hard to determine; these cases were labeled as possibly male, possibly female, or ambiguous.

Individual Burials

Individual 1

Individual 1 was found against the western wall in Level 3 buried below a reed litter (**Figure 6.1**). There was no cranium directly associated, but we found one just north of the individual that could possibly be associated with Individual 1 based on sex and age. The burial was accompanied by a *mate* near the pelvis. Other bones found near the individual did not belong to this individual. The individual was wrapped in at least two layers of plain textiles and the wrapping contained four other textile fragments and some threads (**Figure 6.2**). There were some possible bird bones found nearby.

Osteological Analysis

The bones that were present were still in anatomical position, but the outermost textiles had deteriorated where some bones were exposed to the elements (**Figure 6.3)**. Overall, the bones were in good condition. This individual was probably left above ground given the high number of insect pupa. The individual was buried in a dorsal extended position. The individual is missing the cranium, shoulders, rib cage and vertebral column. This was a male about 28 years old, ca. 152 cm tall, based on femur length. No pathologies or traumas were evident.

Not far away was a cranium from a male who, based on the maxillary wear, was about 30-35 years old. These data suggest that the cranium might belong to Individual 1. The cranium was missing part of the frontal and parietal bones; the skull appears to have suffered postmortem damage. The cranium had bilateral *cribra orbitalia* and no evidence of traumatic lesions or intentional cranial modification.

Individuals 2 and 3

These individuals were next to each other in the center of Room A2 in Level 3. Each individual was wrapped in its own textiles (**Figure 6.4**). A comb was found between the two individuals. In the area around the burials were animal bones, textile fragments, and human bone from other individuals.

Individual 2 Osteological Analysis

The textiles that wrapped this individual were quite deteriorated, but, based on different textures, there were likely two different textiles wrapped around the body. The textiles had been sewn shut. The individual was found decubitus lateral on the right (**Figure 6.5**), but the front of the cranium faced left, i.e. towards the east. Associated with this individual were: (1) a worked lúcuma pit with cotton inside (**Figure 6.6**), placed on the chest; and (2) metal "tweezers" (**Figure 6.7**). The individual's age was 10 years (+/- 2 years) (**Figure 6.8**). The individual had severe active bilateral *cribra orbitalia* and also porous lesions on other parts of the cranium. There was also porotic hyperostosis with bilateral thickening of the diploe in the parietals and occipital regions. The humeri and femora also had porosity (possibly *cribra*). There was evidence for tabular cranial modification.

Individual 3 Osteological Analysis

This individual was wrapped in three layers of cloth and was in the decubitus dorsal position, with the head looking left (east) and the chest turned towards the left (**Figure 6.9**). The textiles were slightly deteriorated. Associated with this individual were (1) a rope near the neck on the outside of the outermost textile; (2) some animal fibers deposited on the face near the mouth, eyes, and nose; (3) a lúcuma pit deposited near the thorax (**Figure 6.10**) in contact with the body; and (4) an *unku* with a V neck. Individual 3's age was estimated at 4 years (+/-1 year) (**Figure 6.11**). The individual had active bilateral severe *cribra orbitalia* and porosities in other parts of the cranium (temporal, palatine, maxilla, and frontal). The individual had a tabular cranial modification.

Individual 4

This individual was registered in Level 4B and was an intrusive feature that cut into Level 5 and Floor 1, at the base of the western wall of Room A2 (**Figure 6.12**). The textile that covered this individual is worn away in the lower portion; where the textile was not present there was evidence of carbon and burned skin on the lower extremities. The textile that covered the head was well preserved. The individual was buried in the decubitus dorsal position with the lower extremities extended and the upper extremities extended with the hands crossed over the pelvis. The cranium faced left (east). We found various items with this individual, including two spindles with spindle whorls, thread, and cotton, and two balls of thread (**Figure 6.13**). These items were found on the left side of the head. Next to these spinning tools we found a pacay seed. Around the hand bones we found a thread with four circular *Spondylus* shell beads (**Figure 6.14**). On top of the hair, we found pacay leaves (**Figure 6.15**). Covering the face was a gauze-like textile. After removing this textile, we noticed that the skin on the left side of the face was well preserved with red pigment on the cheek (**Figure 6.16**).

Osteological Analyses

This was a female ca. 30 years old with a height of ca.144 cm (**Figure 6.17**). There was evidence for a tabular cranial modification. There are anomalies in the vertebral column, especially in the cervical and lumbar vertebrae. The axis had fused to C3 and there is an extra vertebral segment between T12 and L1, with two extensions of the transverse process. On the left side this extension was fused, and on the right it was unfused. In L4, there were osteophytes and complete bilateral spondylolysis of the spinous process. L5 had also become fused to the sacrum. On the pubic bone there were marks, possibly from childbirth, these included deep round grooves in the coxae and pre-auricular grooves. In the tarsals and metatarsals there were marked articular facets, especially at the base of MT T1. This was also marked in the fibula head. While this was bilateral, it was much more prominent on the right side.

Individual 5

This individual was found in Tomb 1 and will be described later with the rest of the materials and human remains recovered from this context.

Individual 6

This was a subadult evidently in the seated flexed position. There was no evidence that this individual had been wrapped in a textile (**Figure 6.18**). The individual was found beneath the northern extension of a cist burial (Feature 33), which will be described later in the chapter. A thin-walled *mate* and a regular *mate* vessel were found near the individual's head and are the only obvious burial offerings. Near the individual we found a black spindle whorl, a spindle whorl with a spindle, and animal bone. Since this individual was underneath another burial feature, it is not certain that these materials were directly related to this individual.

Osteological Analysis

This child had deciduous and permanent molars. Since the individual is 8 years (+/- 2yrs), it was not possible to determine sex (**Figure 6.19**). The individual had light active bilateral *cribra orbtialia*, but no other porosities in the cranium. There was evidence for tabular cranial modification.

Individual 7

This subadult was found at the base of the interior hallway wall, on the west side of the room (**Figure 6.20**). They were in the decubitus dorsal position with their head in the north facing left (east). This individual's hair had gray/white pigment in it. To the north was a delicate thin walled *mate* and llama remains, including the premaxilla with teeth, the distal epiphysis of the femur, and three ribs (2 of which were complete). We recovered a lúcuma pit that had been placed on the chest and another in the offerings to the north of the individual. A metal artifact was found near the throat above the right shoulder (**Figure 6.21**), this artifact is similar to tweezers described by Uhle (1924). We recovered plain textile fragments, and due to fragments of textiles recovered from the hair, its face was likely covered by a textile. Other human bones were found nearby (teeth, vertebrae and phalanges) but they were not directly associated. We did not find many insect casings, so this individual was probably buried and not left out in the open air.

Osteological Analysis

It was not possible to determine the sex and age was estimated at 4 (+/-1yr) (**Figure 6.22**). The individual had dental caries and evidence of trauma in the tibia. The individual also had evidence of a tabular erect cranial modification.

Individual 8

This burial was found at the base of the western wall of Room A2 in a depression in the floor (**Figure 6.23**). The depression had been intentionally covered with a piece of wall fall. The child was not wrapped in cloth. Offerings included a *mate* near the left side of the individual's head and a fragment of metal above the right shoulder (**Figure 6.24**). The metal artifact was a triangle 5 x 3.8 cm with a jagged appearance around the edges and contains silver and copper alloys. Other than the *mate* and metal, there were no other offerings recovered with this burial.

The individual was dorsal decubitus with the head facing left (east), as was the case for other individuals (except for Individuals 1 and 6).

Osteological Analysis

We were not able to distinguish sex since the individual was a subadult at 6yrs (+/-1 year) (**Figure 6.25**). The individual had dental caries and there was evidence of *cribra orbitalia* and occipital porosity. The vertebrae were also porous. The individual had a tabular erect cranial modification that was asymmetric on the right.

Feature 17

Feature 17 was a large communal ossuary in the middle of the hallway in the eastern portion of Room A2. This location in the hallway had been sealed off by *tapia* blocks to the north and south. The *tapia* block to the south (ca. 2m) was taller than the one to the north (ca. 1.5m) and I suggest that bones and offerings were placed over this northern block, since the artifacts are concentrated at the northern end of Feature 17 (**Figure 6.26**). In order to create the feature, the inhabitants cleared away the ash from the burn event of Level 4B, which led to a higher accumulation of ash in the northern and southern ends of the hallway outside of Feature 17. Above Floor 1, but below Feature 17, we found no ash in this section of the hallway, leading to the interpretation that it had been cleared away during the creation of Feature 17. Other than human bone, textiles were the most numerous artifacts with more than 184 fragments weighing 28,379 grams. We were not able to analyze all textiles included in this feature so the descriptions of textiles below should not be viewed as an exhaustive description.

We saved the artifacts and human remains in different natural and arbitrary levels (3B, 3C, etc.) with distinct loci. The natural levels were layers of textiles that separated offerings from the human remains. We used arbitrary distinctions when removing the human bone; the bones that were near the top were saved as Level 3F and the ones at the bottom were saved as Level 3I (with 3G and 3H in between). We also numbered every cranium and drew some of the long bones in our drawings. In this way we were able to register where specific crania were found and, using the distinction of 3F to 3I, the general association of the other human remains. We saved crania fragments and postcranial fragments separately. We saved any bones associated with each other together, such as: (1) a sub-adult lower limb with desiccated skin, (2) a rib inserted into two vertebrae, and (3) a reed inserted in a sacrum and two vertebrae.

Before recording the feature, we found *balanzas*, a comb, a miniature figurine, figurine fragments, a broken blackware vessel, and a metal disc (a silver and gold alloy). We initially created the label "Feature 17" in Level 3B after we found a concentration of artifacts on top of textiles (**Figure 6.27**). Included in these deposits were Feature 17 Vessels 3 and 4, (described in Chapter 5), a complete *mate*, cotton, and corn. We also found a weaving basket that contained cotton, two spindles with spindle whorls, and a piece of corn (**Figure 6.28**). This basket was not nearly as full as the weaving baskets that Marcus (2015; 2016) found at the site of Cerro Azul in the Cañete Valley.

The shells that were associated with Feature 17 Level 3B were *Donax peruvianus* and *Semimytilus algosus*. There was also an offering of human hair and large mammal bones, likely camelids. We found bones of a neonate on top of the textile and long thin rolled textiles that had black dye and a metal pendant mixed in with the textiles. Some textiles were plain, some were plaid, others contained pink dye, or had lines and a blue border.

Underneath these offerings was a layer of textiles. Below these textiles we found another group of offerings, which we grouped as Level 3C. In Level 3C (**Figure 6.27**) we found another group of offerings that included part of a trunk of wood (likely Pacay), textiles with black dye, human hair, *Aulacomya atra* with red pigment, cotton, corn and an almost complete mate. We sampled the corncob and cotton from this level for dating (**Table 3.1, Figures 3.61** and **3.63**), since it was a ritual deposit associated with the placement of remains in the hallway and it was protected from intrusive artifacts given that it was below the layers of textiles in Level 3B.

Below the offerings was Level 3C, where we found a large number of textiles. Due to their comingled nature and our limited angles of interventions (given the wall to the east and *tapia* blocks to the north and south), we took the textiles out as a group and later separated them in the lab.

Most of the artifacts associated with Level 3D are textiles, but we did find a fragment of a basket, cotton with threads, *mate* fragments, caña (reed or cane), wood, and corn. There was also human hair and some small fragments of human bone. In Level 3D, we found at least 94 textile fragments weighing 18,601 grams. We were not able to analyze all the textile fragments, but we recovered mantas, wrapping cloths, a bag, a child's *unku*, an adult-sized *unku*, and loin cloths. The majority of these were 2/1 plain weaves. Most of the colors were natural and the result of using cotton of different colors, but artificial; yellow, blue, and red yarn was also present. Of the 53 fragments that we analyzed from Level 3D, only five contained wool and the wool yarns were only part of supplementary wefts or stitching. Textiles contained decorations, such as lines, plaid, red and blue embellishments, bird designs, and one contained repeating geometric and anthropomorphic figures with a variety of colors.

The textile with repeating geometric and anthropomorphic figures was found cut in half (**Figure 6.29**). One fragment was part of Level 3D and the other was found in Level 3E (the last layer of textiles above the human remains). The piece was cut down the middle through the three central design squares. Its original extent would have been 220 x 165 cm. It is composed of three separate panels stitched together. There are nine repeating figures that have a step-wave motif around the edge and then a human-like figure holding an animal and a fish in the top right corner. There is one panel of the nine that does not contain an animal in the hand of the figure, but rather two fish (**Figure 6.30**). While the textile contains an impressive design, the base textile is just a plain weave, and in creating the design weavers used "floaters" where they skipped a few threads in weaving. So, while it is a unique and colorful textile, it is not highly crafted.

Level 3E contained six textile fragments, half of the decorated textile described in the previous paragraph, one large plain textile and other smaller fragments decorated with lines. Below these layers of textiles were the human remains (**Figure 6.31**). There were artifacts mixed in with the human remains. These included two complete vessels at the southern end (described in Chapter 5) and a complete *balanza* (**Figure 6.32**) and fragments of *balanzas* (discussed in Chapter 8). Mixed in with the human remains, we recovered yarn, wood, corn cobs, caña, wood, *mate* fragments, cotton, *Spondylus* beads, a needle, four lúcuma pits, human hair, two miniature figurines, and an oval pendant made from silver and copper alloy.

Osteological analysis

The remains in this feature belong to individuals of both sexes and all ages (see **Table 6.2**). Due to time constraints, only the 38 crania were analyzed (68.4% were adults and 31.6%

were juveniles). Of the adults 53.8% were male, and 46.2% were female. Most were in the 35-50 age group.

Fifty two percent of the individuals had *cribra orbitalia*, 31.5% had TMJ osteoarthritis, 29% caries, 26.3% dental abscesses, 21% antemortem tooth loss, and 10.5% had cases of possible syphilis (**Figure 6.33**). There were seven individuals with evidence of trauma (15.7%), six perimortem (four males and two juveniles) and one antemortem (adult female).

There was evidence for cranial deformation in 33 individuals, all tabular erect. In the remaining five cases it was not possible to determine if there were modifications since the crania were too fragmented.

We found evidence for postmortem rituals, such as a rib inserted into a vertebra and a sacrum with a reed and vertebrae. We also found red pigment on 32 of the 38 crania (**Figure 6.34**). This pigment was applied both to bone and the skin (when present) (**Figure 6.35**). The individuals that did not have pigment were all subadults, and when subadults did have pigment they did not have very much. The crania also had evidence for textile and leaves imprints (**Figure 6.35**). There was evidence for postmortem cuts (**Figure 6.36**) and post-mortem manipulation where a reed had been inserted through two vertebrae and a sacrum (**Figure 6.37**), this is similar to what Bongers (2019) observed in the middle and upper Chincha Valley mortuary sites.

Feature 17 was a complex mortuary feature and the above description has only begun to scratch the surface. The deposition of the remains in the hallway was likely accompanied by mortuary rituals, that likely included the application of red pigment to crania and the manipulation of human remains using vertebrae on reeds. Some of the crania have evidence for multiple applications of red pigment, leading to the conclusion that they had likely been involved in multiple rituals prior to being deposited in Feature 17. The location of this feature within Room A2 is also likely intentional, as the individuals would have known its former use as a location of craft production that was likely ceremonially closed prior to these burials. Future studies of this feature can build on previous work in the region to better understand the mortuary practices of the Chincha Valley and the complex interactions between the living and the dead during the Late Horizon and early Colonial Period.

Subterranean Tombs

The entrances to the subterranean tombs were all located along the eastern edge of the main room. While all the other tombs extended under the interior hallway wall to the east, Tomb 3 extends under the northern wall. Below I give the dimensions of each tomb in the following order: north-south, east-west, and height. Three of the four tombs were sealed or blocked with river cobbles, wall fall, and stones. The only tomb not sealed was Tomb 4. The stones used in sealing Tombs 1, 2, and 3 would have had to have been brought to the site, since they contain jagged edges that differ from the rounded river cobbles (*cantos rodados*) that occur on the alluvial plain that surrounds Las Huacas (**Figure 6.38**). The stone that blocked Tomb 4 is rounded. Stones that block the entrances were likely placed there intentionally. Stones have significant meaning and are considered animate by Andean people (Ogburn 2004); they figure prominently in Inca origin stories (Bauer 1991) and in the Huarochirí manuscript (Salomon and Urioste 1991).

Excavation Methods

Excavation of the tombs presented many challenges. First, especially in Tombs 1 and 2, it was not possible to enter the tomb prior to removing artifacts. Second, the constricted space made photography difficult. Third, given that the tombs were humid, artifacts and bones were much more fragile than in other features. Based on these constraints, I was not able to utilize standard techniques such as taking depths and our drawings were not as precise as we wished. Another major obstacle was how to bring order to the comingled remains.

Given that we had already excavated Feature 17, we were able to transfer some of those lessons learned. We assigned each cranium a number, starting with 39 (since there were 38 crania in Feature 17) and drew in the long bones.

Tomb 1 (**Figure 6.39**) was the first tomb discovered during excavations. In analyzing the spatial relationship between artifacts and human remains in the tomb, it was apparent that there were three general concentrations of artifacts and human remains in the tomb. One was the extended body (Individual 5) and associated offerings located in the northern part of the tomb. Next, was a concentration of bone (including crania) towards the middle of the tomb on the eastern edge. The third was a concentration of smaller bones and bone fragments at the southern end. To preserve these groups, I assigned a separate label so that when analyzing the bones, we could know the general area from which the bones had come.

Once we began excavating, we wrapped each cranium in tissue paper and kept any associated cranium and mandible together. We stored any unassociated mandibles with other fragments of mandibles and crania. The other bones were stored together based on size (large, medium, and small), so that the large bones would not crush the smaller bones. Due to the summer heat, bones were extracted and then put into tissue-paper-lined boxes that were kept out of the sun. We quickly learned that any bones placed in plastic bags would release moisture; to increase the chances we could get DNA results; we kept the bones as dry as possible.

After removing all the bones, we excavated the soil below and screened it through fine mesh. Material from these levels were saved as the “level” with a B, and another unique locus was assigned to each of the distinct areas of the tomb. We took samples of this soil for future micro-botanical or phytolith analyses. Either Level 8 or 9 was assigned to the tomb, based on how many fill levels were recovered in the holes in the floor that created the entrances to the subterranean tombs. Tombs 2 and 3 were recovered in Level 8; Tomb 1 and 4 in Level 9, this does not necessarily mean that these tombs predate Tombs 2 and 3, just that the fill included a more heterogeneous mix of soil types.

There was no evidence for formal floors in the tombs, except in the center of Tomb 2 where there was a small patch of prepared floor ca. 20 x 30cm. Outside of the seals on the entrance (or in the case of Tomb 4, blocking), we were not able to detect any formal constructions. There was no evidence of plaster or stones. We could not explain how these tombs maintained their cave-like structure. While there is evidence of small stones that fell from the ceilings and part of the roof of Tomb 4 had caved in, the tombs somehow maintained their structure with no evidence of formal construction. Furthermore, the soil was not particularly clay like, and was moist river sand and river rocks. We did find some fragment of caña (reeds) in all the tombs and it is possible that organic materials were used in tomb construction that did not preserve well.

Tomb 1

Tomb 1 was 205 x 90 x 80 cm (**Figure 6.39** and **6.40**). The tomb contained offerings, including one miniature bowl (described in Chapter 5) and one smashed miniature straight-necked jar. There were five *mate* vessels, two of which were pyro engraved (**Figure 6.41**). Next to these were camelid ribs and phalanges. To the south was a reed cane. All these offerings were associated with Individual 5. We also recovered a black spindle whorl, poorly preserved fragments of corn, caña, and 2 metal artifacts (one ear spool and one tweezer). The earspool likely a copper/silver mix was found just below the cranium of Individual 5. The ear spool is a silver and copper alloy and the tweezers are a gold and copper alloy. In the tomb we found evidence for red pigment on the smashed blackware vessel and a small fragment of loose red pigment in the tomb itself.

Osteological Analysis

Individual 5

In Tomb 1 we found one male placed extended on his back. The hands were crossed over the pelvis. The individual had a metal artifact in his mouth, and he faced left (east). The textile wrapping was not preserved in the humid conditions of the underground tomb. From the photos it appears the individual was wrapped in two layers of textiles — a coarse outer wrap and a fine plain weave inner layer. The individual was about 30-40 years old with a height of 157cm (**Figure 6.42**). He had osteophytes on the cervical and lumbar vertebrae, and schmorl nodules on T6, T7, T8, and T9. In the fibula there was an antemortem traumatic lesion in the diaphysis and a healed periostitis. On the base of the left MTT3 there was evidence of arthropathy. There was an antemortem fracture in the left maxilla near the zygomatic arch. The individual also had a tabular cranial modification.

Comingled Remains

Outside of Individual 5, this tomb also included 3 crania, based on analysis one male 35-45 yrs., one female 35-45yrs, and another female 25-35yrs. All of the crania had evidence of cranial modifications and no evidence of pigment applied to the crania. Overall, the individuals were relatively healthy; one cranium had evidence of an abscess and another had occlusal caries. The tomb also contained 4 mandibles (1 possibly female and the others undetermined). Based on the other human remains present in the tomb there is an MNI of 8, 1 male, 2 female and 5 subadults. This brings the total MNI for the tomb up to 9, including Individual 5.

Tomb 2

Tomb 2 differed from the other three tombs in that it was too cramped to place the deceased fully extended (**Figure 6.43**). The tomb measures 220 x 110 x 70 cm and it was nearly full (**Figure 6.44**). We used the same excavation methods as we did with the other subterranean tombs. In this tomb the discrete loci were not as apparent as the other tombs. The locus to the south and the area around the offerings in the northwest were distinct, but the remains in the middle of the tomb were split into two nearly equal groups. We found evidence for postmortem manipulation, i.e. we found one sacrum that had a reed inserted into it.

We recovered four ceramic vessels in the northwestern part of the tomb. These are described in Chapter 5. Two were local vessel shapes in the Tutuma Coarseware ceramic type and two were straight-necked jars with flaring rims. Vessel #2 was a neckless olla (Tutuma

Coarseware) and inside was a camelid foot, corn, and other undetermined goods. Based on insect larvae around the mouth of a flaring rim jar (Vessel #3), there would have been an offering inside this vessel as well. We found three spindle whorls, one with a spindle, and other fragments of spindle whorls. Excavations also recovered blue stone beads (cylindrical in various sizes), and fragments of a bone *balanza* decorated in concentric circles. We also found fragments of poorly preserved metal artifacts that contained silver and copper alloys. One fragment was probably part of a headpiece (**Figure 6.45**).

Osteological Analysis

In Tomb 2 the analyses were carried out by Cobb under the guidance of Gómez. There was a total of 12 crania registered for the context (4 male, 4 female, 1 ambiguous, 3 undetermined) (**Table 6.3**). The individuals were relatively healthy but there was evidence of antemortem tooth loss, osteoarthritis and *cribra orbitalia*. There was evidence for cranial modification and pigment present on both the crania and some other bones.

Tomb 3

Tomb 3 was analyzed by Iride Tomažič. This tomb was the only one located beneath the northern wall (**Figure 6.46**). It was the largest with dimensions of 190 x 180 x 85 cm (**Figure 6.47**). For this tomb we used the same excavation strategy as the other tombs, but also used two loci for the concentration of bone on the eastern side of the tomb. We divided the upper and lower parts of the pile in two. There was another concentration of bones and artifacts in the northwestern part of the tomb, and another in the southwestern. Though, the majority of bones and artifacts were concentrated on the east side of the tomb.

This tomb contained two vessels in coastal Inca or Late Horizon style (see Chapter 5). It also contained a complete figurine in local style that had red squares on its face and four spindle whorls, two of which were unfired. In this tomb we recovered a large number of metal artifacts that reveal different production techniques. One of the most interesting artifacts was a reed flute that had been wrapped in a silver/copper foil and had cord attachments made from wool (**Figure 6.48**). Other than the fragments of this flute, we found twelve artifacts or fragments of metal. We also found two large copper pieces right next to each other that are likely part of a headpiece (**Figure 6.49**). One piece was a large rectangle (15 x 7.2 cm); the other piece was a large strip of metal with a width of ca. 2-4 cm. This piece was cut down the middle. We also found a curved copper/silver piece that could have been the back part of the head piece. The tomb also included a metal artifact in the shape of a four-point istoxal star, an ear spool and some pieces that appeared to be mold-made, including "beads". We also found a metal disc that likely incorporated a gold alloy, and silver copper tweezers. There were also nondescript fragments of metal.

In terms of perishable items, we found fragments of caña, wood, and two mate vessels. We found spindles associated with the spindle whorls, and fragments of bone *balanzas.* The fragments correspond to at least two separate pieces, one that is in the shape of human figures, and another that has ridges on it. These will be discussed in Chapter 8. Many of these artifacts were concentrated on the east side of the tomb, which coincides with the area that had the most human remains.

Osteological analysis.

The MNI for this tomb was 12 (based on comparing long bones, pelves, and calcanea), there were a total of 11 crania recovered from this context. In the age demographics, there is 1 juvenile 10 years old, four young adults (20-25yrs), four adults (30-49yrs) and three older adults (50+ years). There were six females, two possible females, two males, and one possible male.

In this tomb we saw both gracile and robust individuals. The robust individuals had bony ridges and large muscle attachments, particularly on their hands and legs. The division between gracile and robust did not seem to be due to sexual dimorphism, since the robust bones were shorter than the gracile ones. Most of the crania had some red pigment, though not in large quantities. There was only one individual that did not have red pigment present on the cranium (Cranium #62). Individuals contained evidence for cranial modifications that were likely tabular.

Tomb 4

Tomb 4 was located in the southeast corner of Room A2 and measures 140 x 120 x 85 cm (not including the entrance) (**Figure6.50** and **6.51**). It was blocked with wall fall and one rock (see photo), but not sealed as the other three other tombs had been. To the west of Tomb 4 in Levels 3 and 4 we found Feature 13 which was composed of river cobbles, textiles, and pacay leaves. This feature appears to be associated with the construction of Tomb 4, where the digging of Tomb 4 created the stones of Feature 13. Tomb 4 only contained two individuals and the roof caved in, so it appears that Tomb 4 might have been abandoned mid-use.

Associated with this tomb we found five vessels; see Chapter 5. Along with these five ceramic vessels, we found two miniature figurines in the local style and two spindle whorls, one that was red and one that was black. We also found some associated reed or plant material. This sample was sent to Woodshole Oceanographic Institute, but it did not react correctly to the pretreatment and is likely not an organic substance even though it did look like a reed. It may be apatite.

Osteological Analysis

From the tomb we recovered two crania; we were able to identify 69 bones, all from adults. The MNI for the tomb is two. The two crania were originally registered as Cranium # 64 and #65, but since there was already a Cranium # 64 from Tomb 3, the Cranium #64 was renumbered as Cranium #66. Cranium #66 was possibly female and ca. 20-24 years old, based on the mandibular wear. There was also articular wear on the mandibular condyle and no traumatic lesions were observed. There was evidence for tabular cranial modifications. Cranium #65 was also recorded as possibly female and based on the maxilla wear was classified as 30-35 years old. The individual has severe articular wear with a flattening in the articulation of the temporal mandibular. There were no traumatic lesions observed and the individual had a tabular erect cranial modification. This cranium had evidence of red pigment that was applied directly to the frontal parietal, maxilla, and mandible.

Cist Burials

In Level 4 we recorded burial features (registered as features 33 and 34) at the base of the interior hallway wall (**Figure 3.36)**. These were similar to the stone-lined cists described by Bongers (2019). One (Feature 33, ca. 190cm x 60cm) was lined with wall fall, small river-worn cobblestones, and a fragment of Inca-style adobe (**Figure 6.52**).

To the north of this cist tomb (Feature 33) was a smaller one (Feature 34) (**Figure 6.53**). Feature 34 was 198cm x 70 cm, but the area with the concentration of organic matter and textiles is around one meter. While Feature 34 was associated with rocks, an Inca adobe, and wall fall, the perimeter of the cist burial was not as well defined as Feature 33. Just to the south of Features 33 and 34 is Feature 30, which was a concentration of textiles, human hair, human teeth and other unidentified bones. Feature 30 is located just above the entrance to Tomb 4. From features 30, 33 and 34 the textiles that we analyzed were all made out of cotton except one where the yellow supplementary wefts contained wool in a stepped pattern.

Both Features 33 and 34 had *mates* in the north end. In Feature 30, we found cotton, a complete *mate*, fragments of mate, human teeth, cords, a polished stone, corn cobs, worked chalk, and human hair. The feature has the shape and length of a mummy bundle (**Figure 6.54**).

In Feature 33, we found a thin-walled *mate* at the northern end, corn cobs, cotton, mate fragments, wood fragments, and unidentified plant matter. Within Feature 33, we recovered a complete weaving sword, fragments of undiagnostic sherds, a white bead of an unknown material. We found two metal artifacts — one is a copper earspool and the other a copper fragment. There was also human hair present and llama remains including phalanges, vertebrae, fragments of long bones, ribs, pelvis, scapulae, and an incisor. The textiles and textile fragments in this feature were mostly plain; a few were decorated with lines and had checkerboard designs at the edge of cloths. Textiles included a pouch, mantas, wrapping cloths, and an *unku*.

In Feature 34 we found fragments of three nearly complete *mates*, one thin-walled *mate* vessel, cotton, animal fiber, wood, caña, pacay pods and leaves, and unidentified sticks. We recovered fragments of a basket and two spindles (one without decoration and one with). Excavations recovered 40 ceramic sherds, human hair, chalk, a human coprolite, and llama bones. The llama bones present include vertebrae, femora, phalanges, ribs, a sacrum, a radius, and a humerus. Noticeably absent from the faunal assemblage were llama crania, mandibles, and teeth. We recovered various textile fragments, some decorated with stripes and some had patches of red stains. Textiles included wrapping cloths.

Burials Associated with Reed or Cane Litters

These burials were heavily disturbed. We found six litters, one of which covered Individual 1. The rest of the litters were found on top of each other and mixed in with wall fall (**Figure 6.55**). There were few human bones in this feature (Feature 10), except for small bones such as phalanges and teeth. Similar to the cist burials, this feature contained evidence that there had once been human remains. There were stains on the textiles, insect larvae, and human hair. In addition, the types of artifacts in this feature are common mortuary offerings, such as a weaving basket and a reed mat.

The small reed mat made out of *junco* is similar to that found in burials in the middle Chincha Valley (Bongers, personal communication). Excavations also recovered mate fragments, corn, and a weaving basket that only contained a corn cob. We also recovered spindles, fragments of weaving tools such as weaving swords, a basket, 45 sherds, and two metal artifacts (one of which was possibly made out of silver). Excavations recovered human hair, skin, chalk, and multiple textiles (mantas and bundle wrappings/cloths, and weaving belts [**Figure 6.56**]).

There were other artifacts scattered throughout the room that were likely associated with these burials, but due to the disturbance of this burial feature we cannot say with certainty. We also found human bone concentrated in the western units near these litters and there is a concentration of bones in the doorway (**Figure 3.4**). It appears that the occupants of the compound were moving the bones and mummy bundles, a common practice in the Andes, where multistage mortuary rituals have been documented (Eeckhout and Owens 2015 (eds.)). Due to time constraints, the human remains associated with the litters and in the doorway were not analyzed.

Feature 86

This mortuary feature was composed of a single cranium without a mandible that was placed in a small window/doorway in the northern wall of (see **Figure 6.57**). This type of small doorway is seen in mortuary features throughout the Andes, but its exact function is not known. The cranium was at the northern edge of the doorway facing away from Room A2, and it was not found with any obvious offerings. Though, in the surrounding area excavations recovered Pacay leaves and seed casings, which are commonly associated with mortuary rituals and offerings.

Osteological Analysis

Analyses determined the cranium was possibly a male between the ages of 35-45. The individual had dental caries, antemortem tooth loss, enamel hypoplasia, osteoarthritis in the precondylar region of the occipital, and porosities in the cranium. There was evidence for tabular erect cranial modification and no evidence for post-mortem manipulation of the crania (such as cut marks or the application of pigment).

Conclusion

The burial features at Las Huacas display significant variability in placement, treatment, composition, and types of grave offerings. All this variability is connected to a complex mortuary tradition that includes primary burials, a multi-stage burial process and secondary burials. The individual burials are primary interments. From the empty cists and from the discarded textiles and litters, we know that not all individuals remained in their original location. Feature 30, for example, is located above the entrance to Tomb 4 and this feature appears to be the discarded cloth wrapping of a mummy bundle. It is likely that these textiles were associated with an individual that was originally laid to rest in Feature 33 and then deposited into Tomb 4. In Tombs 1 and 3 there is evidence that individuals were wrapped in textiles and placed in the decubitus dorsal position with their heads in the north. Tombs 1, 3, and 4 could have been the location of primary burials and/or multi-stage burial processes. It is not clear that Tomb 2 was used in this same way since there was no place for an individual to be laid out (**Figure 6.44**). Furthermore, this tomb contains evidence of secondary mortuary treatments, through red pigment on the crania and a reed inserted in a sacrum. Secondary rituals could have been conducted where the remains of previously buried individuals became part of new rituals, where they likely took on new significance. Secondary burial features at the site include Tomb 2 and Feature 17.

Feature 17 is a unique feature and the brief explanation in this chapter does not do justice to the wealth of data in it. It is clearly a secondary feature associated with an elaborate mortuary ritual that likely occurred in Room A2, based on the presence of the shell with red pigment and crania that seem to have been painted with this same red pigment. Furthermore, we recovered one sacrum with a reed inserted into it that Bongers (2019:365-366) associated with Late Horizon secondary mortuary rituals.

The opening of this chapter noted that burials are social and political. Based on stratigraphy and AMS dates, the burials date to sometime between AD 1450 to 1650, a time period of massive changes on the Peruvian coast. The types of mortuary rituals observed in Room A2 at Las Huacas are similar to those observed in the middle Chincha Valley (Bongers 2019). Bongers associates red pigment and post-mortem manipulation of human remains with Inca presence in the region and argues that mortuary rituals were important places where the relations between the local people and the Inca were created. The inclusion of these features at Las Huacas demonstrate that burials and ideas about the afterlife were changing. These changes are supported by the architectural transformations and activities that took place in Complex N1 between AD 1200 and 1650. While there are no diagnostically Colonial artifacts, it is possible that some, or all, of the burials were reburied and moved during the Colonial era. Future analyses of the artifacts will work to refine the chronology and place the burials in their temporal context. At present, they appear to be in the century just before the arrival of the Spaniards and incorporate practices known for the coastal region (Eeckhout and Owens (eds.) 2015).

Chapter 6 Tables and Figures

Burial features in Room A2 in Complex N1 at Las Huacas

Context	Description
Tomb 1	**MNI = 9** of various ages. A subterranean tomb, with 1 individual supine extended and wrapped in a textile with its head in the north. The other associated crania (3) and bones were also likely wrapped in textiles.
Tomb 2	**MNI = 17** of various ages. A subterranean tomb with evidence for secondary mortuary treatments. This includes reeds inserted into a sacrum and the presence of red pigment on crania. Excavations recovered few mandibles, teeth, and small bones, which is consistent with a secondary interment.
Tomb 3	**MNI = 13** of various ages. A subterranean tomb. Appears to be a primary interment where individuals were buried in the supine extended position with their heads in the north and wrapped in textiles.
Tomb 4	**MNI = 2**, ages 25-35. A subterranean communal tomb where 2 individuals were buried. Burial position is hard to define since the roof of the tomb caved in; they were likely buried on their side in a flexed position.
Feature 17	**MNI = 42** of various ages. A large communal ossuary with evidence for secondary mortuary treatment. Individuals had red pigment on their crania and there is evidence for postmortem manipulation with vertebrae on a reed and evidence of postmortem cut marks on the crania.
Subadult extended	**4 burials** ages 4-12. All were buried individually, 2 of the subadults wrapped in textiles and 2 were not. All were buried supine extended with their head in the north.
Subadult flexed	**1 burial**. Buried beneath the cist. A single subadult in the seated flexed position facing south.
Cist burial	No MNI estimated. 2 burial features where individuals had been removed. Based on the associated material culture they would have been used for individuals buried supine extended with their heads in the north and wrapped in textiles. Individuals were likely removed as part of a multi-stage burial process.
Adult extended	**1 burial**. A single adult female wrapped in textiles in the supine extended position, with her head in the north and associated with weaving tools.
Litter burials	No MNI estimated. These contexts were heavily disturbed. Associated radiocarbon dates from reeds used to make the litters date the burials to AD 1498-1623. The remains of most of the individuals appear to have been removed from the feature, but one mostly complete individual was recovered. Six litters were recovered during excavations.

Table 6.1. Summary of the burial features in Room A2 in Complex N1 at the site of Las Huacas.

	Feature 17 Health Profile			
	Females (n= 12)	**Males (n= 14)**	**Juveniles (n= 12)**	**Total cases (n= 38)**
Cribra orbitalia	50%	35.70%	0%	20
TMJ Osteoarthritis	41.70%	50%	41.70%	12
Caries	16.70%	28.60%	0%	11
Dental abscess	50%	28.60%	0%	10
Antemortem tooth loss	60%	21.40%	0%	8
Possible syphilis	0%	28.60%	0%	4

Table 6.2. Health data on crania from Feature 17.

Crania from Tomb 2

Elemento	Inventario	Sexo	Edad	Patologías	Modificación Cráneo	Pigmento
Cráneo #42	Cráneo y mandíbula	Masculino	35-50	Porosidad craneana, ATMTL, desgaste dental,	Presente	Ausente
Cráneo #43	Cráneo fragmentado y dientes. Mandíbula ausente	Posible femenino	Juvenil 16-20	*Cribra orbitalia*	Presente	Leve
Cráneo #44	Cráneo fragmentado. Mandíbula ausente	N.D	Adulto	ATMTL	No observable	Ausente
Cráneo #45	Cráneo completo. Dientes y mandíbula ausente	Posible femenino	35-50	ATMTL	Presente	Presente
Cráneo #46	Cráneo completo fragmentado. Mandíbula ausente	N.D	Juvenil 12-20	*Cribra orbitalia*	No observable	Presente
Cráneo #47	Cráneo completo. Dientes y mandíbula ausente	Ambiguo	35-50	ATMTL, robusticidad palatina	Presente	Presente
Cráneo #48	Cráneo fragmentado. Mandíbula y dientes ausentes	Masculino	Adulto	*Cribra orbitalia*	No observable	Presente
Cráneo #49	Cráneo completo. Dientes y mandíbula ausente	Posible femenino	35-50	*Cribra orbitalia,* ATMTL	Presente	Presente
Cráneo #50	Cráneo fragmentado. Mandíbula ausente	N.D	Juvenil 12-20	*Cribra orbitalia*	Presente	Ausente
Cráneo #51	Cráneo fragmentado. Mandíbula incompleta presente	Posible Masculino	20-35	Ausente	Ausente	Presente
Cráneo #52	Cráneo fragmentado y mandíbula asociada	Femenino	Adulto Joven 16-22	ATMTL	Presente	Leve
Cráneo #53	Cráneo fragmentado. Mandíbula ausente	Posible Masculino	Adulto	Ausente	Presente	Presente

Table 6.3. Information on crania recovered from Tomb 2 (table from Gómez 2019).

Figure 6.1. Individual 1 in situ. The individual was found below the reed litter in the photo on the left.

Figure 6.2. Textile associated with Individual 1 (photo by Dr. Juliana Gómez Mejía).

Figure 6.3. Skeletal elements present for Individual 1 (photo by Dr. Juliana Gómez Mejía).

Figure 6.4. Individuals 2 and 3 buried next to each other in the middle of Room A2. Individual 2 is in the east and Individual 3 in the west.

Figure 6.5. Individual 2 burial position after being unwrapped (photo by Dr. Juliana Gómez Mejía).

Figure 6.6. Lúcuma pit stuffed with cotton associated with Individual 2 (photo by Dr. Juliana Gómez Mejía).

Figure 6.7. Metal "tweezers" associated with Individual 2 (photo by Dr. Juliana Gómez Mejía).

Figure 6.8. Skeletal elements for Individual 2 (photo by Dr. Juliana Gómez Mejía).

Figure 6.9. Burial position of Individual 3 (photo by Dr. Juliana Gómez Mejía).

Figure 6.10. Lúcuma pit within the burial wrappings of Individual 3 (photo by Dr. Juliana Gómez Mejía).

Figure 6.11. Skeletal elements of Individual 3 (photo by Dr. Juliana Gómez Mejía).

Figure 6.12. Individual 4 in situ. The textiles around the legs were highly deteriorated and the skin was carbonized, possibly due to a burning event associated with the burial. A lúcuma pit was found on the right chest and a mate vessel on the left side of the head.

Figure 6.13. Weaving tools found in the hair of Individual 4, spindles with spindle whorls, thread and cotton (photo by Dr. Juliana Gómez Mejía).

Figure 6.14. Bracelet with four *Spondylus* shell beads associated with Individual 4 (photo by Dr. Juliana Gómez Mejía).

Figure 6.15. Individual 4 with a thin gauze-like textile that covered the face and pacay leaves in the individual's hair (photo by Dr. Juliana Gómez Mejía).

Figure 6.16. The face of Individual 4 with red pigment on the cheek (photo by Dr. Juliana Gómez Mejía).

Figure 6.17. Skeletal elements of Individual 4 (photo by Dr. Juliana Gómez Mejía).

Figure 6.18. Individual 6 in situ.

Figure 6.19. Skeletal elements of Individual 6 (photo by Dr. Juliana Gómez Mejía).

Figure 6.20. Individual 7 in situ.

Figure 6.21. Metal artifact associated with Individual 7 (photo by Colleen O'Shea).

Figure 6.22. Skeletal elements of Individual 7 (photo by Dr. Juliana Gómez Mejía).

Figure 6.23. Individual 8 in situ.

Figure 6.24. Metal associated with Individual 8 (photo by Colleen O'Shea).

Figure 6.25. Skeletal elements of Individual 8 (photo by Dr. Juliana Gómez Mejía).

Figure 6.26. The human remains of Feature 17 in Room A2 in Complex N1 at Las Huacas. The concentration of bones at the northern led us to conclude that the remains had been deposited over the tapia block to the north.

Figure 6.27. The different levels of Feature 17: (top left) Level 3B; (top right) Level 3E; (bottom) Level 3C.

Figure 6.28. Weaving basket found in Level 3B of Feature 17. Inside the basket were spindles with spindle whorls and cotton.

Figure 6.29. Decorated textile cut in half and deposited on top of the human remains of Feature 17 (photo by Colleen O’Shea).

Figure 6.30. Human like figures on the large textile that covered human remains in Feature 17. (left) A more typical design where the individual is holding something in their left hand and there is a fish in the top right corner. (right) The one figure that had nothing in their left hand and instead had two fish on the right side of the design. There are other differences between the panels from the large textile, but the panel on the right differed the most from the other 8 panels.

Figure 6.31. The human remains found in Feature 17 in Room A2 in Complex N1 of Las Huacas.

Figure 6.32. Almost complete *balanza* from Feature 17. *Balanza V* was found with the hanging cords wrapped around the central beam, and then a cord with a single *Spondylus* shell bead was wrapped around it.

Figure 6.33. Cases of possible syphilis recovered from the site of Las Huacas (photo by Dr. Juliana Gómez Mejía).

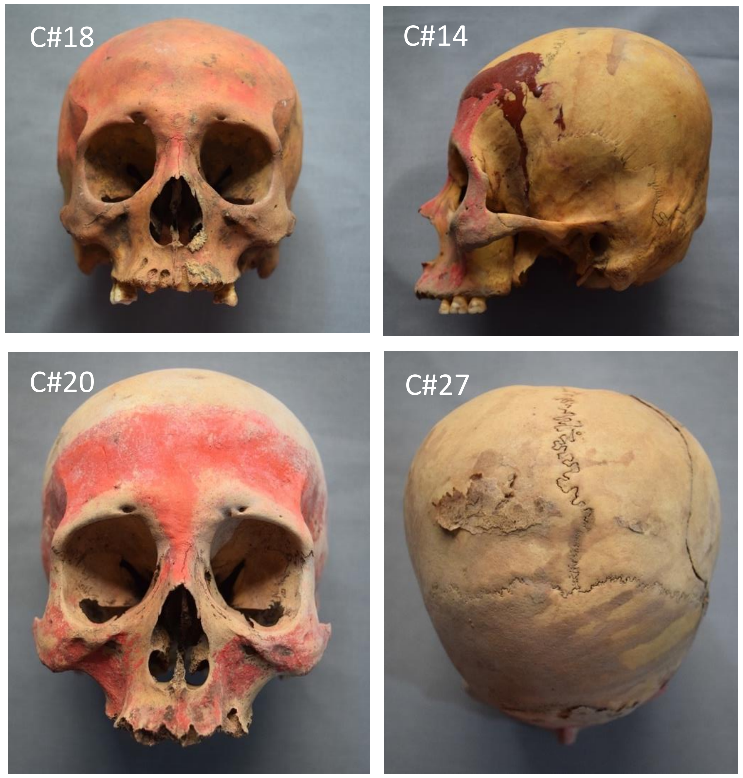

Figure 6.34. Crania with pigment from Feature 17. Cranium#14 has both light and dark red pigment, while crania #18 and #20 have light red. Cranium #27 has a brownish red pigment (photos by Dr. Juliana Gómez Mejía).

Figure 6.35. Red pigment applied directly to the cranium (top left) and skin (top right), some pigment had imprints of leaves (bottom left and center right) and some had imprints of textiles (bottom right) (photo by Dr. Juliana Gómez Mejía).

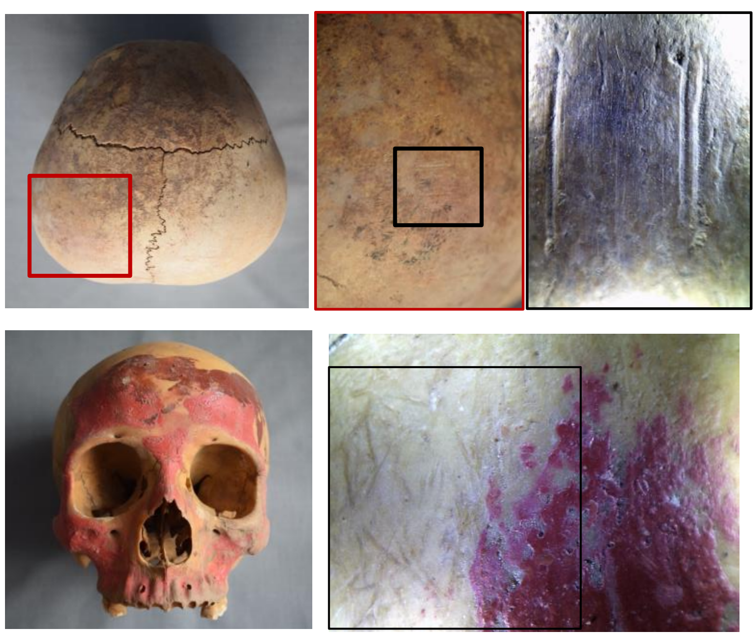

Figure 6.36. Evidence of postmortem cuts (photo by Dr. Juliana Gómez Mejía).

Figure 6.37. Postmortem manipulation of the human remains involved inserting a reed into two vertebrae and a sacrum (photo by Dr. Juliana Gómez Mejía). Remains recovered from Feature 17 in Room A2 in Complex N1 at the site of Las Huacas.

Figure 6.38. The stones that blocked some of the tombs: (left) Tomb 2; (center) Tomb 3; (right) Tomb 4, stone is indicated by the red arrow.

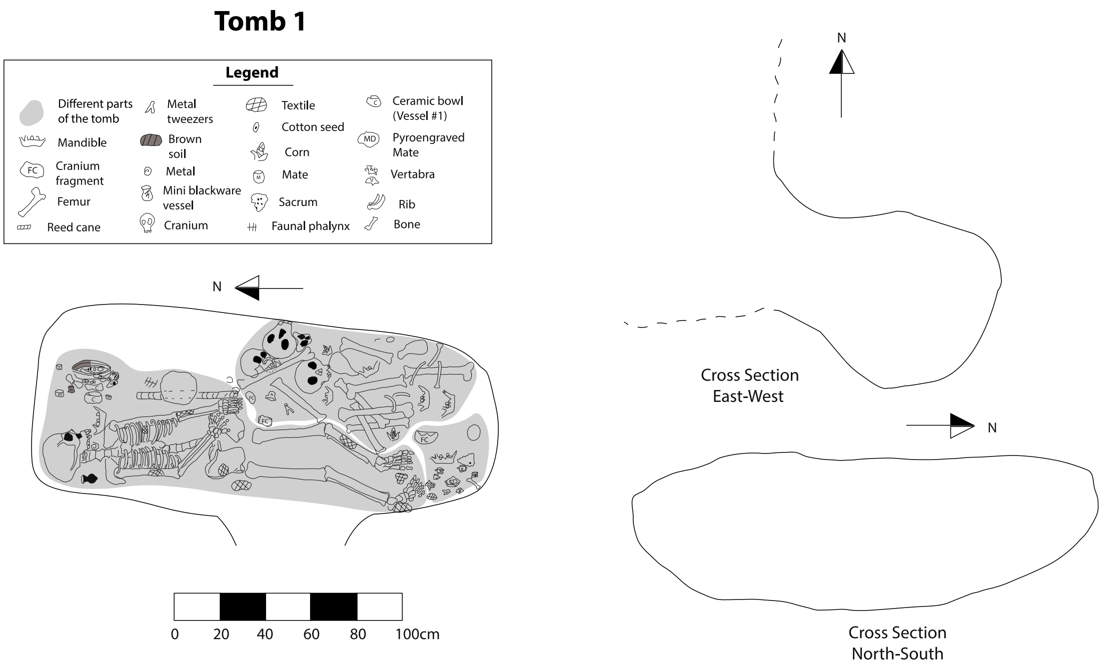

Figure 6.39. Drawing of Tomb 1, a subterranean tomb in Room A2 of Complex N1 at the site of Las Huacas. Tomb 1 contained the remains of one individual (Individual 5) who was found extended on their back, accompanied by comingled remains in the eastern and southern part of the tomb.

Figure 6.40. (top left) Photo of Individual 5 from Tomb 1 with associated offerings, (top right) the associated comingled remains in the southern part of the tomb, (bottom left) eastern part of the tomb, (bottom right) the sealed entrance to Tomb 1.

Figure 6.41. Pyro engraved gourd (*mate*) vessels associated with Individual 5 from Tomb 1.

Figure 6.42. Skeletal elements of Individual 5 from Tomb 1 (photo by Dr. Juliana Gómez Mejía).

Figure 6.43. Photos from Tomb 2: (top left) human remains in Tomb 2 which did not have space for individuals to be laid out (as some were in Tombs 1, 3 and possibly 4); (top right) the four ceramic vessels associated with Tomb 2 in situ; (bottom left) the sealed entrance to Tomb 2, which was adjacent to the entrance to Tomb 3; (bottom right) reed found in Tomb 2, designated by the red arrow.

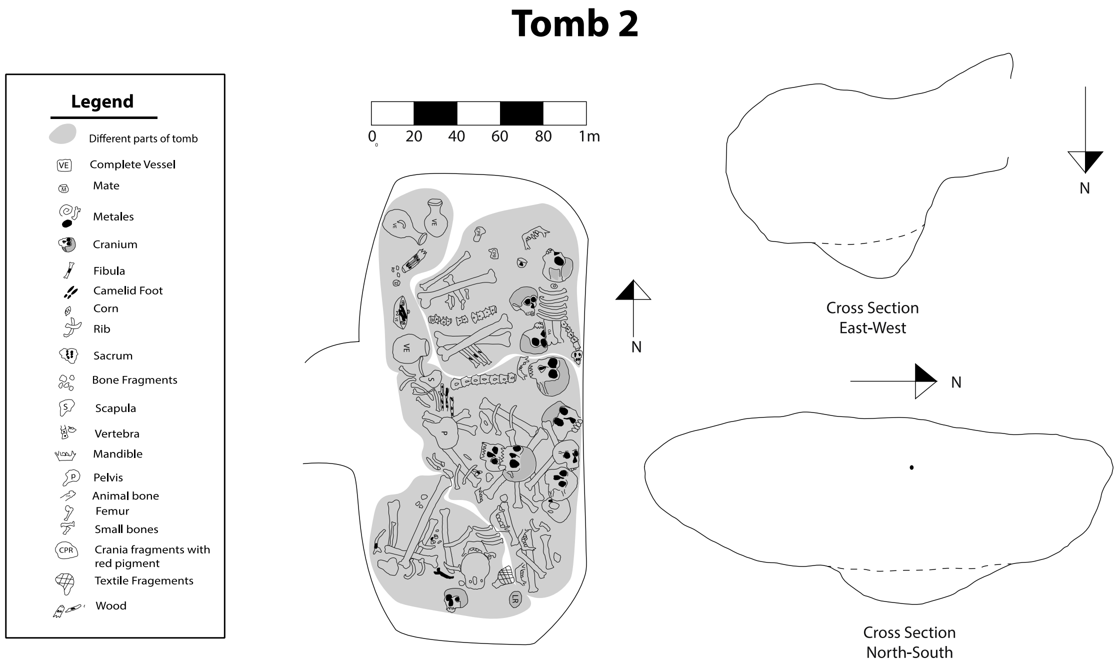

Figure 6.44. Drawing of Tomb 2 in Room A2 in Complex N1 at the site of Las Huacas. Tomb 2 was likely a secondary feature and was full of comingled human remains and offerings. Tomb 2 lacked an area were individuals could have been laid out like Tombs 1, 2, and 3.

Figure 6.45. Possible metal headpiece found in Tomb 2 (photo by Collee O'Shea).

Figure 6.46. Photos of Tomb 3: (top left) concentration of human remains on the East side of the tomb, this pile was given two loci to differentiate the bones that were found closer to the top and those found closer to the bottom; (top right) Individual in the eastern part of the tomb that appears to have been pushed aside to make room to bury more individuals in the tomb; (bottom left) crania on the western part of the tomb; (bottom right) the sealed entrance to Tomb 3 (center), located to the left of the entrance to Tomb 2 (right).

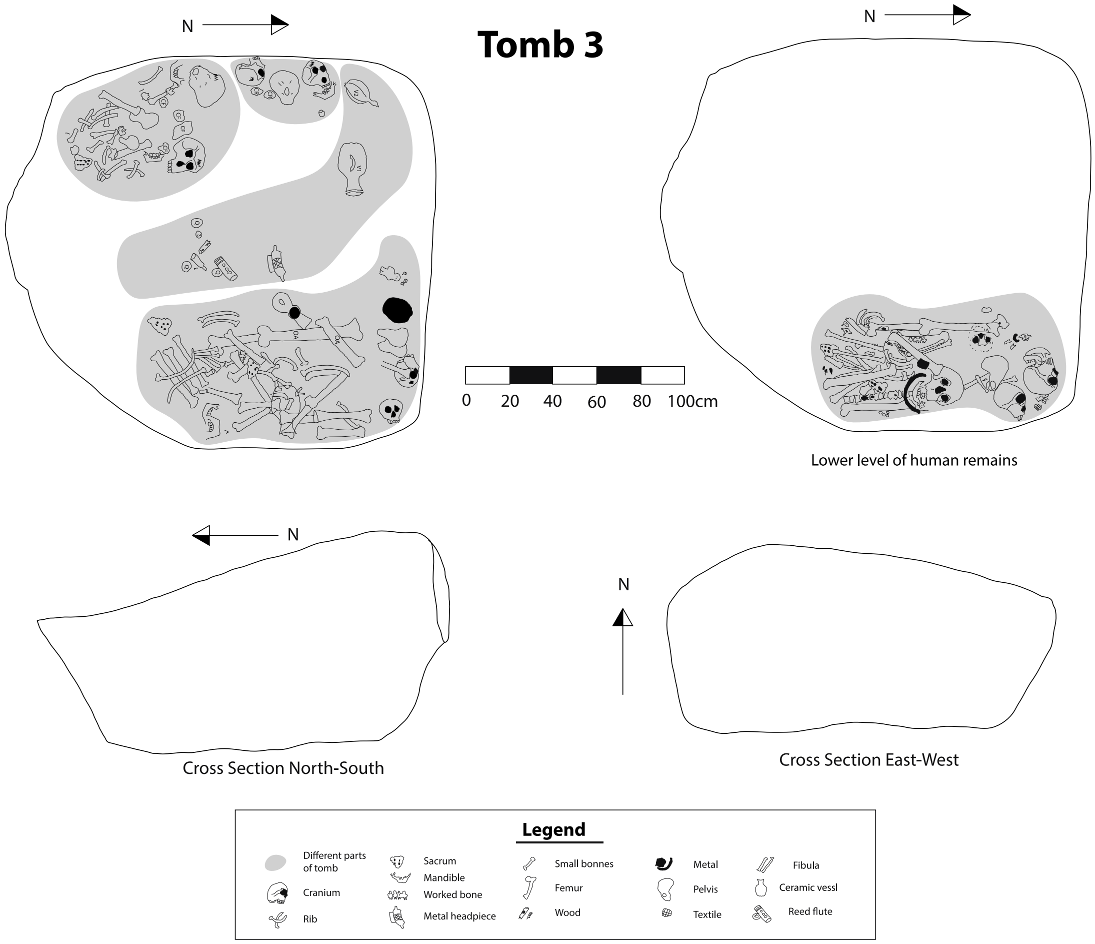

Figure 6.47. Drawing of Tomb 3 in Room A2 of Complex N1 at Las Huacas. There was a space in the center of the tomb where an individual could have been laid at. There was a large concentration of bone on the eastern side of the tomb that was likely from individuals being pushed aside when new individuals were added.

Figure 6.48. Reed flute with silver copper foil found in Tomb 3.

Figure 6.49. Possible metal headpiece recovered from Tomb 3.

Figure 6.50. Pictures of Tomb 4: (top left) vessels recovered from Tomb 4, the photo also shows how part of the roof of the tomb had caved in; (top right) picture of Tomb 4 showing how the roof had caved in; (bottom left) rock and wall fall that were blocking the entrance to Tomb 4; (bottom right) human remains found underneath the fallen roof of Tomb 4.

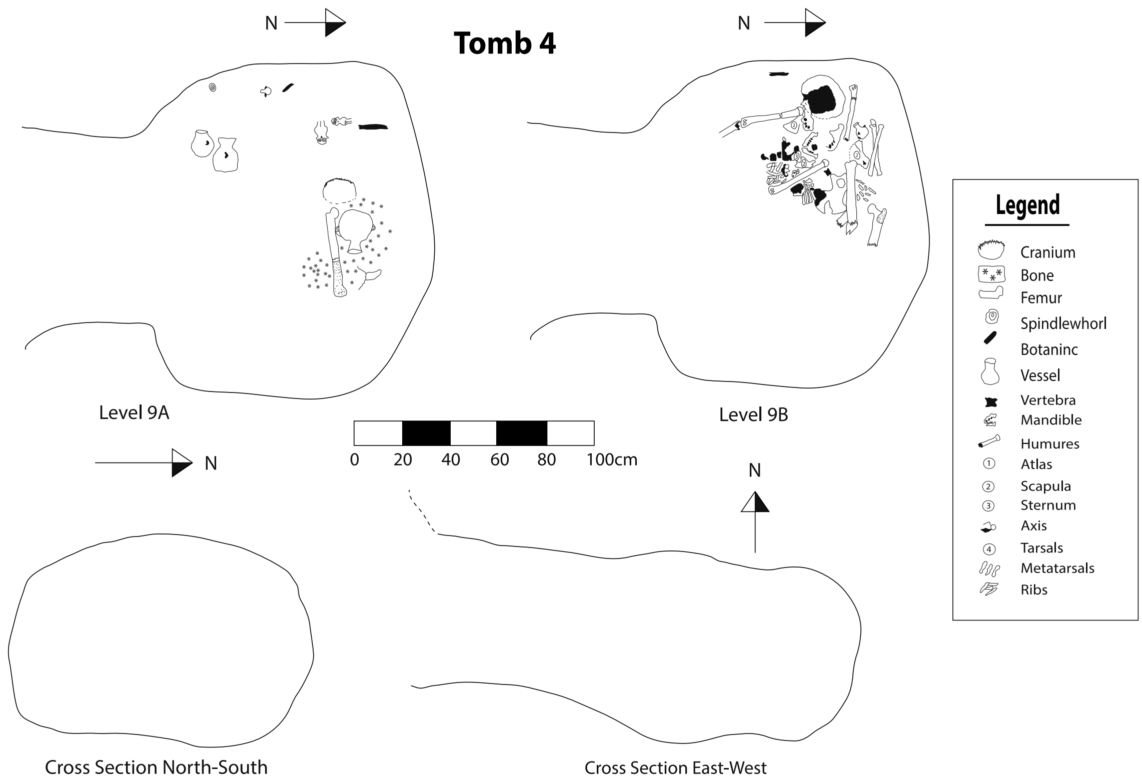

Figure 6.51 Drawing of Tomb 4. The human remains were concentrated in the north eastern part of the tomb.

Figure 6.52. Feature 33, a cist burial similar to that described by Bongers (2019). The feature contained few human bones and was likely part of a multi-stage burial process.

Figure 6.53. Feature 34 located north of Feature 33. It also appears to have been an open-air burial feature that was part of a multi-stage burial process. Even though there were few human remains, there was evidence for burials through human hair and stained textiles.

Figure 6.54. Feature 30, a concentration of textiles in the shape of a mummy. Likely associated with the rewrapping of a mummy removed from Feature 33 and deposited in Tomb 4. Entrance to Tomb 4 designated by the red oval.

Figure 6.55. Discarded reed litters that were part of Feature 10. On the top left is the reed that covered Individual 1.

Figure 6.56. Weaving belt that was recovered near Feature 10 in Level 2 in Room A2 of Complex N1 at the site of Las Huacas.

Figure 6.57. Pictures of Feature 86. (left) A picture of the northern wall, the red square indicates the location of Feature 86, (right) cranium in situ, facing north away from Room A2.

Chapter 7

The Transformations of Activities within Complex N1

The organization of Complex N1 was transformed from AD1200-1650. The transformations to the architecture was described in Chapter 3, and broadly these changes reflect a shift from more open to enclosed spaces. Alongside transformations to the use of space through time the activities conducted within Room A2 also changed. In this chapter I present data from ceramics, shell, faunal remains, plant material, chalk and spindle whorls recovered from Las Huacas and explore how they vary across the different unique depositional contexts in Room A2 at Las Huacas. These contexts reflect distinct phases with different architectural plans and associated features, which were associated with shifts in the use of space from AD 1200-1650 (see **Table 3.2**). In the table, architectural arrangements are referred to as A-F. The table also describes the different behaviors that are associated with each architectural plan. The light grey cells of the table highlight major construction or destruction events.

The analyses in this chapter will evaluate how the types and concentration of ceramics, shell, faunal remains, plant material, chalk, and spindle whorls changed across various depositional contexts. These depositional contexts group artifacts based on vertical stratigraphy, and unique types of features (see **Table 7.1**). The various transformations of Room A2 described in Chapter 3 happened over a relatively short period of time (~300-450 years), and it is significant that a space that was used for feasting, was then used for craft production and possibly rituals, then to corral camelids and finally for burials and mortuary rituals. Due to the continuous sequence of activities in the room, there would have been community memory around this space and the previous roles that it fulfilled. Complex N1 was an elite administrative structure that served various functions and it is through these shifting strategies that elites and Inca officials were able to develop their authority during the LIP, Late Horizon and early Colonial Period.

Depositional Contexts

The excavation of these contexts was described in Chapter 3, but here I will highlight the different features, floors and levels that are referred to as distinct depositional contexts for the remainder of this chapter. For the purpose of this analysis we encountered 14 noticeably distinct types of depositional contexts (see **Table 7.1**). Analyses mostly focus on the successive occupations (Floors 2-6 to Level 4A) and the midden, rectangular cuts, and kiln features in Floor 1, since they are associated with the largest number of artifacts. Some of the depositional contexts did not include a large amount of archaeological material, such as the "Offering" context, which includes features that were subfloor offerings. Consequently, this context was not the focus of these analyses. Artifacts from Disturbed contexts are also not discussed at length. Disturbed contexts include the artifacts found within the features created when ancient people dug down through the floors to create the subterranean tombs described in Chapter 6.

The depositional context of "Other" includes artifacts from the surface level to Level 3B that were not directly associated with burial features, which were discussed in Chapter 6. As described in Chapter 3, the surface level to Level 3B was a mix of loose sand with a large number of artifacts, some of these artifacts were likely associated with burial features and the removal of human remains, or with looting. Though, the contexts are too disturbed to securely associate them with a specific event or activity. Due to the insecure stratigraphy of these units, the majority of the analyses in this chapter focus on Level 4A to Floor 6, but special finds from the surface level to Level 3B were analyzed, such as spondylus shell beads, and weaving tools such as weaving swords, spindles, spindle whorls, and weaving belts (**Figure 6.56**).

The first secure depositional context that excavations encountered outside of burial features is level 4A, which was the level below the hallway wall that had fallen over. The wall falling over sealed many of the contexts. This level was associated with loose soil, inclusions of river rocks, and a diverse array of cultural material. It is during the formation of this level that many of the mortuary features were created, including at least some of the subterranean tombs and the cist burials (described in Chapter 6). The features in this level have been divided between Level 4A and those directly associated with mortuary features (**Figure 3.36)**. The stratigraphy in the hallway differed from the main room. In the hallway Level 4A was characterized by a large amount of ash. In this regard Level 4 Hallway is more similar to Level 4B in the main room. Below this level in the hallway was an extremely compact *apisonado* on top of Floor 1, which will later be referred to as Level 5 Hallway.

Below Level 4A in the main room was a burn layer, Level 4B, which is associated with ash, *apisonados*, and river rock. Level 4B was not necessarily present across all the units, when the cist burial features were deposited, the ash was cleaned away, and then the burial features were created. In the main room, Level 5 was composed of two subtypes A and B. 5A was a level of loose sand and 5B was a level of compact soil with camelid coprolites directly atop Floor 1. Level 5A was a very thin level (1-3 cm) of fine sand with some inclusions of cultural material. 5B was a semi-compact layer directly on top of the floor with a thickness between 1-8 cm.

In Floor 1, there were various intrusive features. For the purpose of this analysis, these features are split into general categories, (1) the contents of the rectangular cuts, (2) the two kilns, (3) the midden in the south west corner, and (4) all other features. In this way, the distinct depositional histories for the different features are preserved, as it appears that the rectangular cuts were intentionally filled and differed from other features.

Below Floor 1, excavations exposed 5 successive floors. Associated with these floors are various features such as rectangular cuts that could have been the base for walls, postholes, and cooking trenches that were filled with ash. Many of the features associated with Floor 3-6 are oriented about 5 degrees off the orientation of the walls of Room A2, indicating some sort of consistency between these floors and a clear difference from Floor 1. Unfortunately, few artifacts were recovered associated with each individual floor (Floors 2-6). Consequently, in order to create an adequate sample size and due to the similarity in the orientation of the features, Floors 2-6 were combined for these analyses.

This chapter looks at the artifacts (fauna, shell, ceramics, chalk and other associated artifacts) to understand the transformations of Complex N1. On a broad scale, from the architecture we have evidence for a transition where an open space is originally likely used for food preparation for feasting, then, in the end, is an enclosed space where elites are buried. In this transition, it was used for craft production, possibly a ritual space, and a camelid corral. The carbon dates developed in Chapter 3 (**Table 3.1**) and the material culture associate stages B-F with Inca presence in the region. This would also mean that the 5-degree difference in the orientation of features associated with Floor 1, as compared to Floors 3-6, is associated with the start of the Late Horizon and Inca influence in the region. It is also important at this point to highlight that it is likely that the occupations associated with the formal floors (Floor 1 and

Floors 2-6) were likely cleaned, while the latter occupations (Level 5, Level 4B and Level 4A) were not. These depositional histories would have influenced some of the patterns observed. Regardless, analyses encountered some interesting patterns in the data that could reflect elite strategies and the organization of craft production. First, I explain the methods of analyses for the various types of artifacts, and then I expand on data from analyses and interesting patterns from specific stratigraphic levels, floors and features.

Methods

Chapter 5 described the various methods used in ceramics analysis. This chapter will also include data on animal bones, plant remains, and malacological material. The faunal remains were analyzed by Mary Claudia Ávila Peltroche. In the analysis Ms. Ávila was able to identify 907 specimens out of a total of 4,290 pieces of animal bone recovered from the site of Las Huacas. In the analysis she specified at the species level when possible, but some specimen she was only able to identify to level of family (such as mammal). She also recorded, when possible, the anatomical element, age, and evidence of taphonomic or anthropomorphic activities. Taphonomic processes included exposure to the sun for natural processes, and evidence for cutting or burning for anthropomorphic processes. The botanic remains were analyzed by licenciado Bryan Núñez Aparcana. The analyses identified the species as well as the part of the plant. The malacological material was analyzed by Ceshia Montoya Jalixta and Irving Aragonez Sarmiento. The analysis recorded species, MNI, and evidence for anthropomorphic manipulation (such as burning or the presence of pigment). The incredible preservation of artifacts at the site of Las Huacas and the unique stratigraphy creates the opportunity to explore diverse materials.

First, I develop differences in ceramic sherds from the different contexts and then I address patterns in the distribution of shell, faunal remains, plant material, chalk, and spindle whorls.

Ceramics

The methods for ceramic analysis were highlighted in Chapter 5. I will first look at how vessel shape and rim diameter varied across distinct depositional contexts, and then discuss what the body sherds can tell us about how activities and overall production value changed throughout the occupation of Complex N1. Production Value refers to the overall quality of the ceramics, including paste texture, firing temperature and finishing treatments. For the analyses, I created an ordinal scale of the types discussed in Chapter 5, see **Table 7.2**.

From the stratigraphic sequence in the main room (Level 4A, Level 4B, Level 5, Floor 1 [including all features], and Floors 2-6) we recovered 997 diagnostic rim fragments. In looking at the distribution of rim diameter across the different occupations, the distribution curves generally have a similar shape with a peak between 15-20cm and a long tail towards 60cm (**Figure 7.1**). The most noticeable difference is Floors 2-6 (the green line), which has a double peak around 15cm, and 22cm. Floor 1 also has a small peak around 58cm (the purple line) and Level 4B around 43cm (the blue line). These small differences in overall rim diameter distribution are hard to associate with specific behaviors. As described in Chapter 4, studies at Ak’Awillay found a shift from larger communal vessels to smaller vessels through time (Bélisle 2015), I had hoped to find noticeable difference that could be linked with socio-political strategies, as was demonstrated at the site of Ak’Awillay, but the patterns in the diameter of vessels at Las Huacas is not as strong.

In order to add to this study of rim diameter, I also explored how the vessel shape changed across occupations. For profiles of the different vessel shapes see **Figure 5.46**. In initially looking across the contexts there is a mix of vessel types across all occupations (**Figure 7.2**) which could speak to the multicomponent nature of all the occupational floors and levels. In looking at the relative frequency of vessels within specific depositional contexts, the mortuary context stands out due to the prevalence of bottles and bowls (**Figure 7.3**). Bottles were a common vessel type that Menzel (1966, 1976) highlighted for both Ica and Chincha tombs. Bowls were commonly made out of the Aguirre Orangeware paste. In Floors 2-6 bowls are about 7% of the occupation's assemblage, then go up to about 10% for Floor 1, but in Level 5 and 4B only compasses about 2-3%. In Level 4A it rises again to around 5%. The Floor 1 midden contained a relatively large portion of straight-necked jars. It is also interesting to look at how the prevalence of bowls changed across various occupations.

In order to complement this data on the diagnostic sherds, I also analyzed body sherds across these same occupations. As described in Chapter 5, these sherds were grouped into Types on the basis of paste color, surface treatment, inclusions texture, and firing technique. For the purpose of this analysis, 4 different general types will be highlighted: (1) Aguirre Orangeware, (2) Tutuma coarseware, (3) Utilitarian Reddish-brown, and (4) General Chamorro categories. I will also look at the production value of Chamorro sherds through time. First, I looked at the general pattern of these types across all the different unique depositional contexts (**Figure 7.4**). Within these contexts the presence of the Tutuma Coarseware was mainly restricted to Level 5 and above (with only 4 fragments recovered from one of the Floor 1 Rectangular Cuts).

Between levels 4A, 4B, 5 and the features of Floor 1, the contexts were not sealed so it is possible that some later deposits could have intruded into Level 5 and features in Floor 1. From

Level 5 to Level 4A Tutuma Coarseware raises in its percentage of the overall percentage to approximately 13% (**Figure 7.5**). This type is particularly interesting because it likely corresponded with a completely different *chaîne opératoire*. Its coarse inclusions and rough exterior surface treatment lead to the interpretation that it was likely created by non-specialists who did not have access to the same resources as the traditional potters, and were not part of the same communities of practice as those who worked with the wider spread Chamorro type.

As can be seen in **Figure 7.5**, Tutuma coarseware did not completely replace other types, since other types of ceramics are still present and indeed more numerous, but it could represent a hole in production that the local Chincha elites needed to fill to meet their needs. Furthermore, even though the Tutuma Coarseware is roughly made and is not a very appealing looking type, it was included in the offerings of Tomb 2 and was sometimes covered in a red or purple slip. The rise in Tutuma Coarseware is associated with the contexts above Floor 1; Floor 1 was associated with the kilns. The fact that the rise in Tutuma Coarseware coincides with the likely abandonment of the kilns could point to a change in the organization of craft production for the region. As Alcalde et al. (2010) hypothesize, during the Late Horizon the Inca could have moved craft production to centers under direct control of the Inca. This could have been to another site in the valley or possibly even to another region such as Cañete or Cusco (Rostworowski 1978-1980:166, 1977:234; Sandweiss 1992:6).

If this is the case, local elites likely would not have had the same access to supply chains of craft production. Possibly, after this shift, the elites at the site of Las Huacas had to supplement their usual supply chain with a more informal one that utilized less skilled laborers. Based on AMS dates associated with occupations, this changed occurred sometime between approximately AD 1450-1650 (**Table 3.1,** and **Figures 3.60-3.64)**. In this range it is possible that the introduction of Tutuma Coarseware occurred under Inca expansion or during the early Colonial Period. If this style is associated with the Late Horizon, then it could mean that the elites at Las Huacas had trouble meeting their needs in the Late Horizon due to Inca control of craft production. On the other hand, if it dates to the early Colonial Period then it could mean that in the midst and wake of the Spanish Conquest local elites had to utilize different supply chains.

The prevalence of the Utilitarian Reddish-brown ceramics was also notable (**Figure 7.6**). In the kiln and midden, the Utilitarian Reddish-brown body sherds make up between 60 and 70%, while in Level 4A it composes less than 20%, and in Floors 2-6 just over 25%. Floor 1 contained about 30%. The Utilitarian Reddish-brown utilitarian wares would be associated with domestic and production activities. The lower prevalence of these types in Floors 2-6, and Level 4A could associate these occupations with less domestic or storage activities.

In Floors 2-6 the low percentage of Utilitarian Reddish-brown is counter-intuitive since Floors 2-6 were associated with cooking features, but, depending on how the food was prepared, the cooking of the food might not have necessitated utilitarian wares or possibly that the Chamorro type was used in food production in this level. In looking at the thick sherds we can see this difference clearly (**Figure 7.6**). In Floors 2-6, utilitarian sherds make up only about 10% of the thick sherds, while in Level 4B and 5 it makes up 60-65%. In this regard, the trajectory of Room A2 could have gone from a food preparation area in Floors 2-6, then to a more productive center with the kilns and the midden in Floor 1. Level 5 also contains a higher percentage of Utilitarian Reddish-brown similar to Floor 1. Finally, the structure was burned and then used for mortuary rituals in Level 4A.

In looking towards the Aguirre Orangeware, there are also some subtle differences across the different depositional contexts. This type is more prevalent in Floors 2-6 and Level 4A (**Figure 7.5**). As described in Chapter 3, Aguirre Orangeware was found in the earliest occupation level in Sector B, and consequently seems to be an earlier more “local” type that predates Inca expansion into the region. The prevalence of this type in Floors 2-6 and its resurgence in Level 4A could point to some sort of “relocalization” of the site, either at the end of the Late Horizon or in the early Colonial Period. In this process possibly during the end of the Late Horizon or early colonial period, the Inca or Spanish had less influence at the site, and local people returned to using and making the types of ceramics that they used prior to their incorporation into the Inca Empire.

It is interesting to look at this change in the type of ceramics with changes in the overall production value of the Chamorro paste type (**Figure 7.7**). From Floor 1 to Level 4A there is a general decline in the quality of the Chamorro ceramic sherds. In creating the ordinal scale of Production Value (**Table 7.2**), all ceramic sherd types were grouped from A thru F based on their production value. B thru F included Chamorro sherds, with B as Chamorro sherds with a rough exterior surface treatment (Type 1), E as sherds that were well fired and burnished with slip, and F as likely local blackware vessels (Type 6) that would have been associated with reduction firing (**Table 7.2**). Overtime the data show a decrease in sherds that were well-formed, burnished and covered with slip, and an increase in plain sherds with no slip. This change in the production and finishing treatments of the Chamorro sherds paired with the increase in Tutuma Coarseware, could point to the fact that a site that was once an important center in the Chincha Valley, occupied a less central role under the Inca and did not have access to the same sort of skilled labor force or the same production materials.

There was also an interesting distribution pattern in worked sherds across the different contexts (**Figure 7.8**). Across most contexts the types of fragments that were recovered (rim, base, worked and etc.) was consistent except for Level 4 Hallway. This is mostly due to specifically Unit 32, which was located at the southern end of the hallway (**Figure 3.36**). Many of these sherds were also decorated (see **Figure 7.9**) and are some sort of scraping tool or an *alisador*. This level was associated with a heavy concertation of ash, from the burn event of Level 4B in the main room and then likely displaced when Feature 17 was deposited. The high concentration of worked sherds could be in relation to activities within the hallway itself or possibly also the platform above.

The analyses of ceramics across the different depositional contexts present interesting information. To some degree there is some continuity in size and shape across the different contexts, with differences most notable in Floors 2-6 with the double peak in the distribution of rim diameters around 15 and 22cm. Floor 1 also had a second peak around 58cm. In regard to vessel shape, there were also general consistencies across the different occupations, with the most noticeable difference being the higher percentage of bottles and bowls in the mortuary occupations. The diagnostic sherds provide some general data on the character of the occupations, and the body sherds provide insight into ceramic production and activities in the room.

Broadly, the middle occupations (Floor 1 to Level 4B) were associated with a higher percentage of Utilitarian Reddish-brown wares and kilns. In these occupations Room A2 would have been a productive center likely associated with craft production. The earliest occupation Floors 2-6 and the later occupation of Level 4A contain fewer utilitarian wares and were likely used for ritual. Specifically, Floors 2-6 in ritual feasts and Level 4A in mortuary rituals. From

Floor 1 to Level 4A we see a steady decline in the general quality of non-utilitarian ceramics, most noticeably with the introduction of the Tutuma Coarseware. While the ceramic style is not well-made, as described in Chapter 5, it is not a utilitarian plainware sherd, based on its sometimes slipped exterior and inclusion in burial offerings. Similarly, the general quality of the production value of the Chamorro paste type also decreased over this time, with proportionally fewer highly fired, slipped, and burnished ceramics included in later deposits. This decline could suggest that under Inca occupation the importance of the site of Las Huacas steadily declined and the elites had to access different networks to manufacture and obtain ceramic wares.

Shell

We recovered a total of 7,099 shell fragments in Room A2 Levels 4A to Floor 6 (**Figure 7.10**). The most came from Level 4A with 2,426 fragments. Next was level 5 with 1,426 identified, then Level 4B with 1,063 identified specimens, and finally Level 4 hallway at 627. All other depositional contexts had less than 500 identified specimens.

At the site of Las Huacas, the most common species was *Donax Peruvianus*. Out of the 7,099 identified shell species at the site of Las Huacas. 89.6% were *Donax peruvianus*. This is likely partially due to preservation, since *Donax peruvianus* is a robust shell that preserves well as compared to more fragile shells such as *Semimytlus algosus*. Of the other shell types the only types that composed more than 1% were *Semimytlus algosus* (3.6%), *Xanthidae* (1.0%), and *Concholepas concholepas* (1.3%). Though, not notable in quantity, the species *Aulacomya atra* was found containing red pigment in a large burial feature which will be described in Chapter 6. These species were not numerous throughout deposits (.1% of the total assemblage), but fragments were found in the Floors 2-6, Floor 1, Level 4B and Level 5. With the most numerous (20 NISP) in level 4A, which is associated with mortuary rituals and activities.

The general lack of diversity in shell species appears to be similar to other sites in the region and in Sector B of Complex N1 (Damián and Dalton n.d.). For example, sites such as Huaca Soto during the earlier formative period and EIP contained a wider variety of shell species than LIP, Inca and Colonial Period occupations (Nigra 2017). In these later periods the overwhelming majority of shell fragments are *Donax perivuanus*. Excavations from 2016 in Room B1 of Las Huacas also contained mostly *Donax peruvianus,* except in a couple levels where *Semimtylus algosus* was the most numerous (Damián and Dalton n.d.). These levels generally contained ash and might have been connected to ceremonial reconstruction events.

In Sector A, the two depositional contexts that contained the highest percentage of *Semimytlus algosus* are Level 4 Hallway and Floors 2-6, which both have deposits with approximately 25% *Semimytlus algosus* (**Figure 7.11**). *Semimytylus algosus* is a common shell species found in feasting contexts, particularly in the earlier Paracas period. This coincides with the interpretation of the Floors 2-6 as a feasting context, and its presence in the hallway in Level 4 could indicate that when the building was burned it was accompanied by a feast. It is a common practice in the Andes that important structures were burned and ceremonially closed (Moseley et al. 2005). The lack of *Semimtylus algosus* in the main room in Level 4B, the burn layer, could be due to the mortuary activity that followed the burn event. *Semimtylus algosus* is a fragile shell that likely would have been trampled in the subsequent mortuary activities in the main room.

The Floor 1 midden also differed from the general distribution of shell species with a higher percentage of *Concholepas concholepas*. *Concholepas concholepas* comes from a marine gastropod and at Las Huacas we found many with evidence of purple pigment on the inside. *Concholepas concholepas* are edible mollusks with a size of about 15cm. The pigment on the shells do not appear to be for decoration, but rather from holding pigment that could have been used in craft production (see **Figure 7.12**). This is based on the presence of purple pigment on the inside and a lack of perforated holes. The color purple is prevalent in many Chincha Valley decorative motifs and used in decoration for both textiles and ceramics. Concholepas, though most prevalent in the midden and various features of Floor 1, was also present in Level 4A, 4B, 5, and the Floor 1 kilns (**Figure 7.11)**. Concholepas is noticeably absent from the Floors 2-6, which likely means that in these earlier occupations the shell was not used, and possibly that formal craft production was not conducted within this area of Complex N1.

In conclusion, from the malacological material we have data that is comparable to other contemporaneous sites in the region with an emphasis on *Donax peruvianus*, which shows some degree of economic specialization. In the earlier Paracas period there is a much wider variety in the types of shell species present. We also have evidence for craft production through the presence of *Concholepas concholepas*, which was likely used to hold purple pigment used in ceramic or textile production. The presence of concholepas across contexts could point towards craft production or crafting occurring in the room from Floor 1 to Level 4A (AD1400-1650) at varying intensities. With the highest intensity during Floor 1, when we also have evidence for production through molds, clay and kilns. Also, the presence of a large number of *Semimtylus algosus*, an edible shell species commonly consumed in feasts during the Paracas period, in the ash of Level 4 Hallway could mean the burning of the structure was accompanied by a feast.

Faunal Remains

The animal bones were analyzed by Mary Claudia Ávila Peltroche. In the analysis Ms. Ávila was able to identify 907 specimens out of a total of 4,290 pieces of animal bone recovered from the site of Las Huacas (**Figure 7.13**). For the faunal analysis I will be using NISP rather than MNI, since the analysis focuses on the presence and absence of certain species and not the overall percentage of a particular species. Below I discuss the minimum number of individuals when it is pertinent to the topic. The context with the largest number of faunal remains was Level 4A with 213 identified specimens, followed by Level 4B (192 NISP), then Level 5 (129 NISP). The rest of the contexts had less than 75 identified specimens.

The species with the largest presence at the site was llama with 85.73%, Ms. Ávila was not able to designate whether these were llamas or alpacas due to the elements present and the state of preservation. The next most present species was *cavia*, or Guinea Pig with 6.02%. After that it was *Canis lupus familares*, Dog, with 1.45%. Excavations recovered few species that were not mammals with birds and fish bones less than 1% of the total assemblage.

The lack of fish bone is surprising due to the importance of fishing within the ancient Chincha society. Similarly, the excavations of Room B1 in 2016 recovered more fish bone, which made up 77% of the identified faunal remains. Excavations in Room A2 were not designed towards the recovery of fish bone (where ¼" screens were used), but when arriving at and characterizing a new level or feature multiple buckets were sifted through fine mesh to look for the presence of fish bones. These test sifts came back with generally no fish bone. So, while it is entirely possible that there were more fish bones that were not recovered through excavation, I feel comfortable asserting that they were a small portion of overall assemblage from Room A2 at Las Huacas. Especially given the stark contrast to the deposits excavated in 2016 from Room B1.

Across the different depositional contexts, the composition of the faunal assemblage differed (**Figure 7.14**). First, the midden context from Floor 1 contained exclusively camelid remains. Based on femurs present in this feature the MNI for total number of camelids is 6, with 4 subadults and 2 adults. The general Floor 1 feature category was also mainly composed of camelid bones, with only a single bird bone. The other mammal found at the site was canine. Canine remains were found in the Floor 1 Rectangular Cuts, Floors 2-6, Level 4A, Level 4B and Level 5. Outside of mammals, guinea pigs were found across different occupations. Guinea pigs are an animal that in the Andes has been associated with feasting and ritual (Osborn 2019; Sandweiss and Wing 1997). Guinea Pig remains were found in Level 4A, Level 4B, Level 5, Mortuary features, Floor 1 Rectangular Cuts, Floors 2-6, and the disturbed/other contexts. The prevalence of guinea pigs in Levels 4A and 4B, could point to important ritual significance, which is supported by the burial of individuals in Level 4A and the burn event in level 4B. Similarly, the bones make up a larger percentage of the Floor 2-6 deposit, but this is only 4 of 29 identified specimens, so it could be due to the small sample size.

Plant Material

Excavations at Las Huacas recovered a wide variety of macrobotanical remains which included a total of 21 different species (**Table 7.3**). All the botanic remains that were recovered can be grown in a coastal environment, so it is likely that they were mostly locally acquired. Botanic resources that could be consumed can be seen in (**Table 7.4).** The most numerous of these are corn (MNI 987), lucuma (MNI 45), pacay (MNI 42), and frejol (MNI 99). In regard to more industrial plants, we recovered pacay twigs, espino, caña brava, carrizo, and huarango. The majority of these were parts of the Pacay tree, which is not generally used for construction (Núñez 2019).

We also recovered a large number of mate fragments (see **Figure 7.15**), especially in Level 4A. We found 1,132 fragments of mate which included the epicarp and stem, but mate seeds were noticeably absent, indicating that Room A2 was not used for the initial processing of *mates*. A few fragments/complete mates had been pyro engraved (**Figure 7.16**) and we found a few fragments with holes and strings attached. The mate fragments with strings attached could be related to their use with *balanzas* or scales, which will be discussed in Chapter 8.

In regard to cotton, we recovered 250.1 grams (**Figure 7.17**) of cotton in various colors, including, cream, light brown, dark brown, and reddish brown. 98% of the fragments had been deseeded, pointing towards some sort of pre-processing (**Figure 7.18**). Most of the cotton came from mortuary contexts (175gr), followed by Level 4A (63gr), then Level 4B with significantly less at 5.7gr.

Level 4A contained the most Pacay fragments; by weight, the majority of the fragments were twigs, but we did also find leaves, especially in Level 4A (377 fragments) (**Figure 7.19**). Pacay is associated with burials at Las Huacas and on the central and south coast. The burial of a single adult female (Individual 4), which was described in Chapter 6, contained pacay leaves that were placed in the female's hair. The prevalence of Pacay leaves could be associated with mortuary rituals and burials in Level 4A.

Level 4A also contained the most corn by weight (1,499.82 gr). There was also a large amount of corn in Level 4B (1,359gr), and Level 5 (734gr) (**Figure 7.20**). The small amount of corn in Floors 2-6 is likely due to preservation, as can be seen across the other botanic and organic material that did not preserve well in these superimposed floor contexts.

Chalk

We also recorded chalk across the different contexts. The most came from Mortuary features (220.55 gr), then Level 4A(172.63 gr), then followed by disturbed context (116.47 gr) (**Figure 7.21**). Chalk is commonly a mortuary offering, so this explains its abundance in mortuary features and Level 4A, where the associated mortuary rituals and processing occurred. It is notable that there was 46.20 gr associated with Floors 2-6, since not many artifacts were found in these contexts, likely chalk was something important in these contexts, possibly for weaving. Modern weavers in Peru use chalk on their hands while they weave, and chalk is commonly found in weaving baskets from mortuary features (Marcus 2015). The chalk in Floor 2-6 could be associated with weaving activities. Weaving and spinning yarn are activities that could have occurred throughout a settlement and not necessarily only in formal craft production zones

Spindle whorls

A wide variety of spindle whorls were recovered through excavations. Many of the spindle whorls were found outside of their original contexts in the fill levels from the surface to Level 3B. We classified the shapes, and we can broadly see differences across the occupations. In Floors 2-6 all the spindle whorls recovered were ovate or semi-ovate in shape, as we go up the different floors, we see more circular spindle whorls (**Figure 7.22**). The change in shape could be tied to the types of yarn that people were spinning, future research should go more into detail on this.

Conclusion

Overall, across the different artifact types (ceramics, shell, faunal remains, plant material, chalk and spindle whorls) most of the resources do not have any clear foreign ties. Las Huacas is not located along any of the known prehispanic roads in the Chincha Valley; it is probable that Las Huacas was a not a major force in the exchange and distribution of resources throughout the Inca Empire, and was more centered around local production and exchange. This is not to say that activities at Las Huacas were not influenced by Inca demands and strategies in the region, but it was not a strategic center for the economic expansion of the Inca Empire. Below, I summarize each occupation and what the artifacts can tell us about the transformation of Las Huacas.

Floors 2-6

The earliest floors (2-6) from Room A2 are associated with an architectural arrangement with large cooking trenches at the base of a platform. The most numerous type of artifact recovered from these occupations were ceramic body sherds. From the ceramic body sherds, Floors 2-6 contains generally few Utilitarian Reddish-brown sherds and more Aguirre Orangeware than other contexts. The lack of Utilitarian Reddish-brown sherds is particularly noticeable when looking at the thick sherds. This lack of thick Utilitarian sherds associated with these floors could be tied to the ritual nature of the food production, and that the cooking features were not designed for everyday consumption. The location of four cooking trenches with lengths of 2+ meters would signify that a rather large quantity of food was produced.

In Floors 2-6, excavations also recovered relatively large amounts of *Semimytuls algosus* and chalk. *Semimytlus algosus* is broadly associated with feasting activities in the region, and the chalk could have been connected with weaving activities. Weaving is an activity that happens throughout settlements in both the modern day and the past. We also found spindle whorls within the occupation. In conclusion, in this occupation the area that became Room A2 was likely used for food production for ritual feasts and could have been the location of informal weaving activities.

Floor 1

In Floor 1, there were significant changes to the organization of Complex N1, with the construction of the northern, western, southern, and interior hallway wall at some point. This floor also coincides with the introduction of new features such as kilns, a midden and rectangular cuts. These features are oriented 5 degrees off features from the previous Floors 2-6 and Floor 1 is currently associated with the Late Horizon based on the material culture. We also encountered more Concholepas shells/fragments in features associated with this level, which is likely associated with craft production. Many Concholepas fragments were recovered with traces of purple pigment, and the shells likely held pigment or dye used in craft production. This floor is also associated with an increase in utilitarian wares. Floor 1 is associated with a transition towards a more productive center that was involved in the small-scale production and decoration of craft goods. Ongoing analyses are determining whether it was multi-crafting as seen at the site of Tambo de Mora (Alcalde et al. 2010).

Level 5

Atop Floor 1, Level 5 corresponds with an occupation where the rectangular cuts of Floor 1 were intentionally filled in and camelids used the room. In Floor 5 Tutuma Coarseware is introduced into the assemblage and there is a slight decrease in the overall quality of Chamorro sherds. In this level there is still a high percentage of Utilitarian Reddish-brown wares, so Room A2 at Las Huacas was likely still associated with productive activities.

Level 4B

After Level 5, during Level 4B the room was burned. This level has similarities in the types of artifacts included to both Level 5 and Level 4A, this is likely because it was not a sealed context so artifacts from both levels could have been mixed together.

Level 4A

Level 4A is associated with multiple burials, which are described in Chapter 6. This level contained the densest number of artifacts. This included Pacay, cotton, spindle whorls, and chalk, which are all associated with burials on the south and central coast. In this level excavations also recovered a significant amount of Tutuma Coarseware fragments. This type while coarse and rough in overall appearance, is painted and found in burial contexts along with luxury goods, so while it is not a particularly pretty ceramic style, it is likely not utilitarian.

This increase in Tutuma Coarseware along with the continuing decrease in the quality of the Chamorro fragments from Floor 1 to Level 4A, and the lack of kilns in Levels 5, 4B, and 4A, is likely tied to the reorganization of ceramic production during the Inca Empire or early

Colonial Period. This mirrors what occurred at the site of Tambo de Mora (Alcalde et al. 2010), where a room that was originally used for metal and ceramic craft production became a midden. In this reorganization, the elites of Las Huacas had to procure their ceramics through different channels and utilize a less skilled labor force. This is similar to what was seen in the Chachapoyas region, where at the site of Purun Llaqta, there was a decrease in fiber tempers from the LIP to the Inca/Colonial period (Rivas-Tello 2019). Researchers postulate that this could be due to stricter Inca controls of pastoral activities in high altitude grasslands where fiber tempers such as *Ichu* grass could be found, but more research is needed.

There transformations of Complex N1 demonstrate how an elite center that was originally focused on food production for feasts was turned into a more productive center where craft production occurred. The same space was then was used to corral camelids and then it was burned, and the ancient inhabitants of Las Huacas reused this space for burials. Within this transformation there is immense continuity across many of the artifacts and a general prevalence of local resources. Similarly, the decorations while showing some Inca influence, also reflect a strong local character. There are also broad similarities across the ceramics in all the occupations, but there are some differences in overall quality, and the prevalence of Tutuma Coarseware that could indicate that during the Late Horizon the Inca reorganized craft production and elites had to access new supply chains to get the goods that they needed.

Chapter 7 Tables and Figures

General Stratigraphic Group	Depositional Context
Level 4A	Level 4A
Level 4B/Burn Event	Level 4 Hallway
	Level 4B
Level 5	Level 5
	Level 5 Hallway
Floor 1	Floor 1
	Floor 1 Midden
	Floor 1 Rectangular
	Floor 1 Features
	Floor 1 Kiln
Floors 2-6	Floors 2-6
Mortuary	Mortuary
Offering	Offering
Disturbed	Disturbed
Other	Other

Table 7.1 The different depositional contexts that are discussed in the chapter (right column). On the left is the general stratigraphic context from latest occupation (Level 4A) to earliest (Floors 2-6). The four at the bottom (mortuary, offering, disturbed, and other) belonging to various groups that are not associated with one specific stratigraphic level.

Production Value Ceramic Sherds

Production Value Group	Type
A	Type 11a, 11b
B	Type 1, Type 7
C	Type 2, Type 8
D	Type 3, Type 9
E	Type 4, Type 10
F	Type 5, Type 6, Type 14
Other	Type 15, Type 12

Table 7.2. Production Value groups of the different types used in ceramic analysis. Groupings consider firing temperature, inclusions, density and finish treatments.

Especies Identificadas						
Uso	Tipo	Especies = 21	Familias	Tipo	Nombre Común	Altitud (ref.)
Consumo	Granos	Zea mays	Poaceae	t,h,f,s	Maiz	0-800 m.s.n.m.
		Cucurbita moschata	Cucurbitaceae	t, s	Zapallo loche	0-2500 m.s.n.m.
		Cucurbita maxima		s	Zapallo macre	0-2500 m.s.n.m.
		Psidium guajava	Myrtaceae	f	Guayaba	0-1500 m.s.n.m.
		Pouteria lucuma	Sapotaceae	s	Lúcuma	0-3000 m.s.n.m.
	Legumbres	Arachis hypogaea	Fabaceae	f	Maní	0-1000 m.s.n.m.
		Inga feuilleei		f,s	Pacay	0-3000 m.s.n.m.
		Canavalia sp.		f,s	Pallar de los gentiles	0-900 m.s.n.m.
		Phaseolus lunatus		f	Pallar	0-2500 m.s.n.m.
		Phaseolus vulgaris		f	Frejol	0-2500 m.s.n.m.
	Raíz	Canna edulis	Cannaceae	h	Achira	0-3000 m.s.n.m.
Industrial	Tallos	Gynerium sagittatum	Poaceae	t	Caña brava	0-2400 m.s.n.m.
		Phragmites australis		t	Carrizo	0-1000 m.s.n.m.
		Prosopis sp.	Fabaceae	t,f	Algarrobo	0-500 m.s.n.m.
		Inga feuilleei		t,h,f	Pacay	0-3000 m.s.n.m.
		Acacia sp. (macracantha)		t,f	Espino	0-800 m.s.n.m.
	Fibras	Gossypium barbadense	Malvaceae	t,f,s	Algodón	0-1500 m.s.n.m.
		sf. Juncus sp.	Typhaceae	t,h	Junco	0-1500 m.s.n.m.
	Frutos	Sapindus saponaria	Sapindaceae	s	Choloque/Jaboncillo	0-1300 m.s.n.m.
		Lagenaria siceraria	Cucurbitaceae	f	Mate	0-??? m.s.n.m.
Otros	Algas	sf. Chondracanthus chamissoi	Gigartinaceae	h	Cochayuyo	Marino

*t=tallo, h=hoja,f=fruto, s=semilla, r=raiz.

Table 7.3. Plant species in Room A2 of Complex N1 at Las Huacas (Núñez 2019).

Proporción de especies identificadas				
Uso	Tipo	Nombre Común	MNI	Hojas
Consumo	Granos	Maíz	987	
	Frutos	Zapallo loche	4	
		Zapallo macre	2	
		Lúcuma	45	
		Guayaba	2	
	Legumbres	Maní	5	
		Pacay	42	982
		Pallar de los gentiles	7	
		Pallar	16	
		Frejol	99	
	Raíz	Achira	6	
		Total	1215	

Table 7.4. Edible plant species from Room A2 of Complex N1 (Núñez 2019).

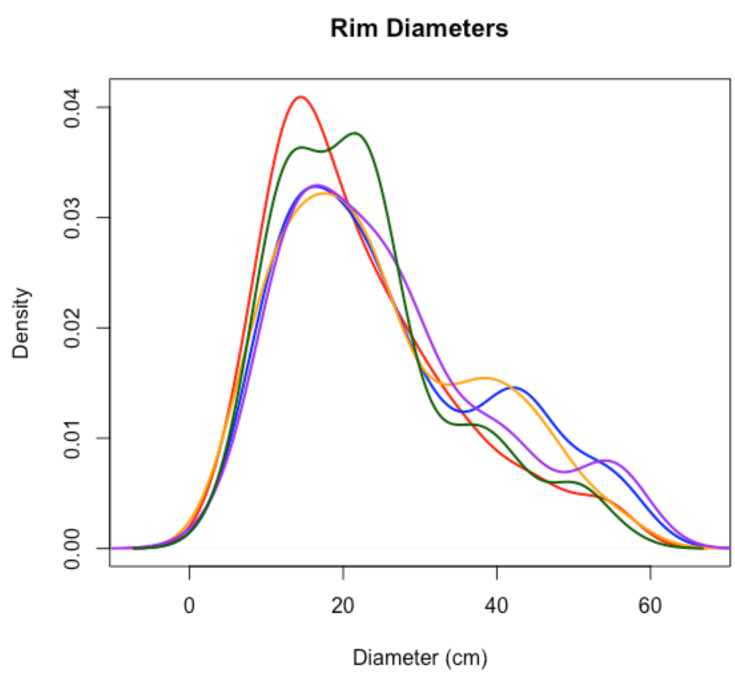

Figure 7.1. The distribution of rim diameters for Level 4A (red), Level 4B (blue), Level 5 (orange), Floor 1 (purple), and Floors 2-6 (green).

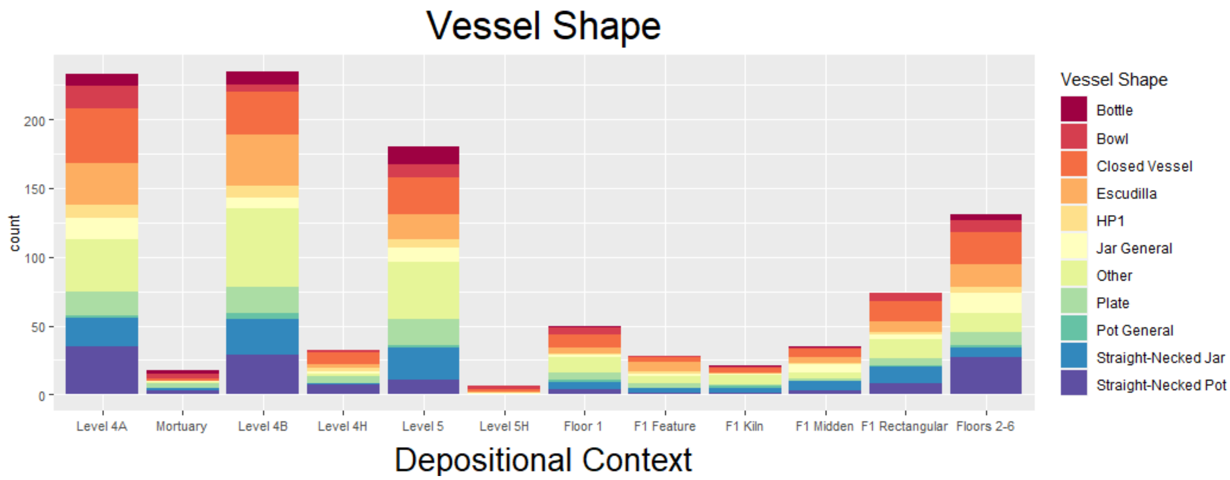

Figure 7.2. Graph of vessel shape across the different contexts. The largest amount of rim fragments was found in Levels 4A and 4B, followed by Level 5 and then Floors 2-6.

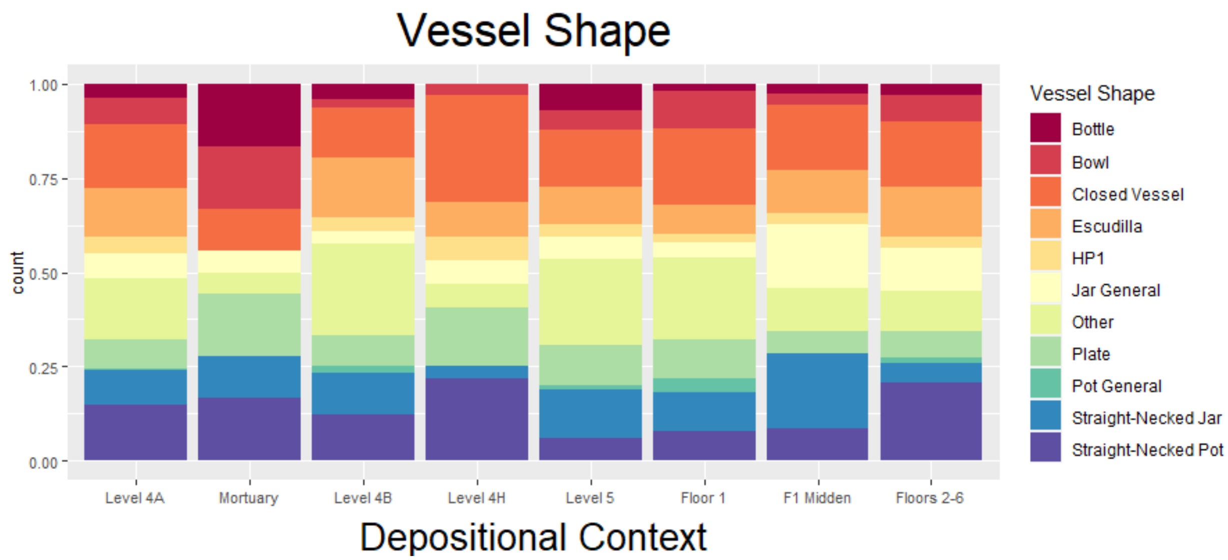

Figure 7.3. Distribution of vessel shapes across the different depositional contexts. There are broad similarities across the contexts but there are more bowls and bottles in the mortuary contexts.

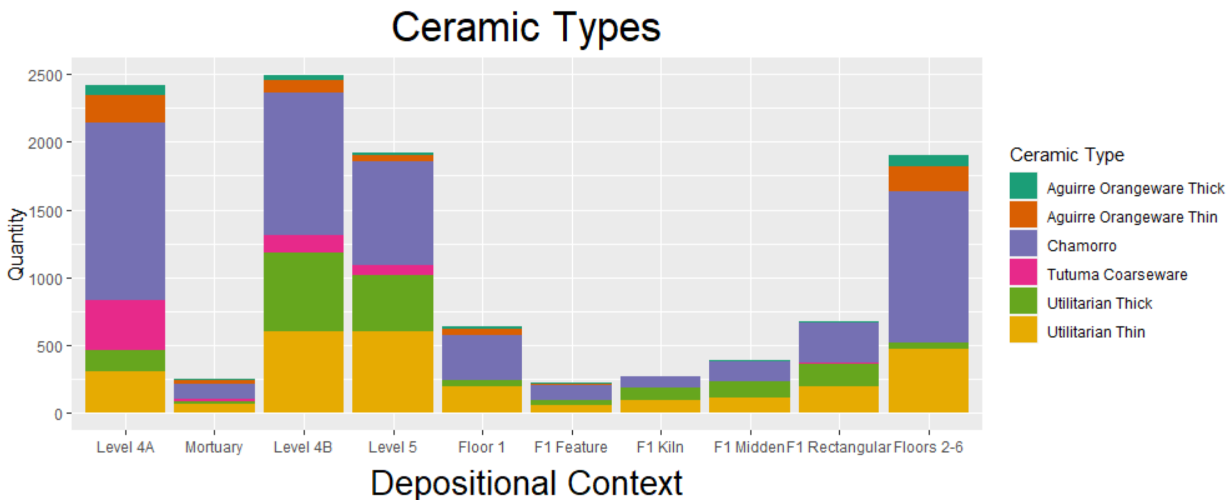

Figure 7.4. Distribution of ceramic types across the different depositional contexts. The most sherds were recovered in Levels 4A and 4B, followed by Level 5 and Floors 2-6.

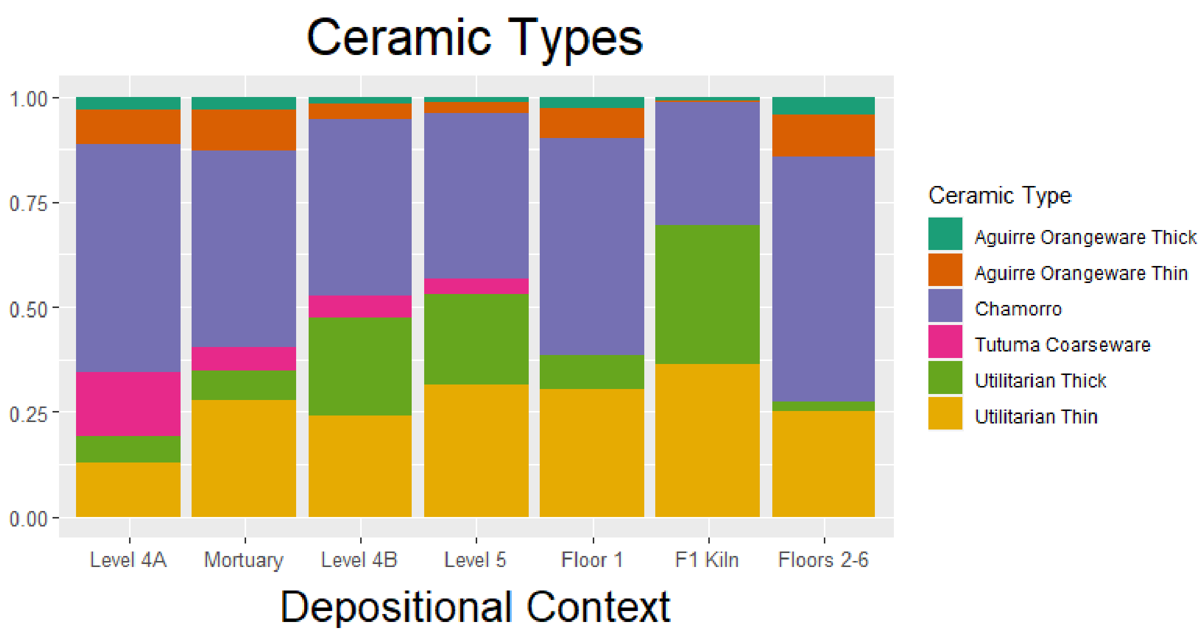

Figure 7.5. Frequency of Ceramic Types across various contexts. The Tutuma Coarseware is found only in Level 5 and above in secure contexts.

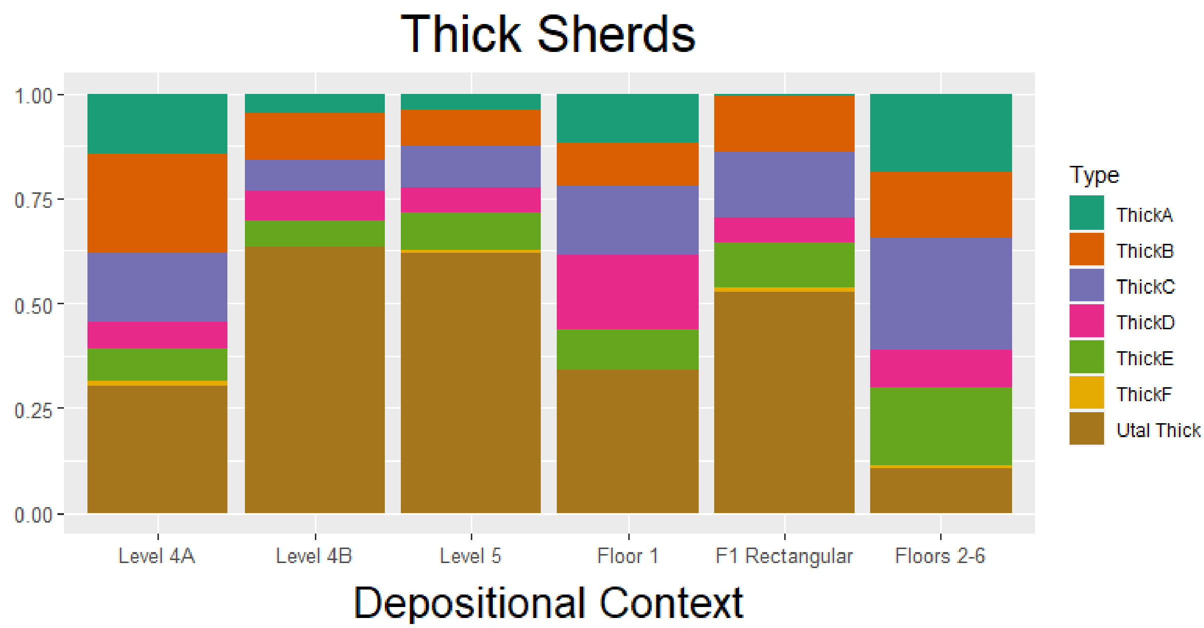

Figure 7.6. The frequency of different types of thick sherds across the contexts. Floors 2-6 have very few Utilitarian Reddish-brown thick sherds as compared to the other depositional contexts.

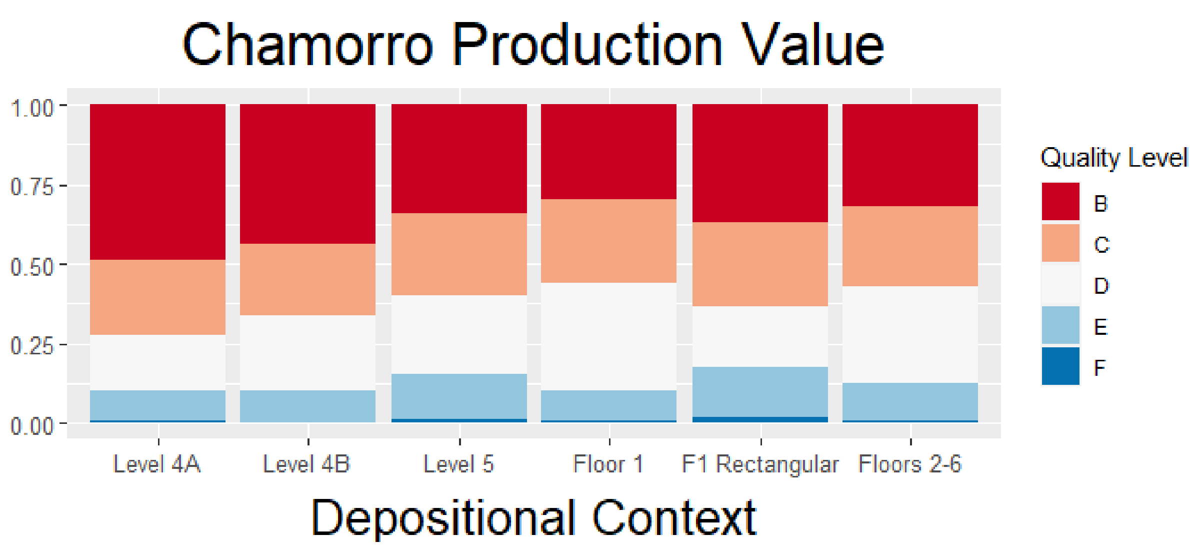

Figure 7.7. The frequency of the Chamorro paste type across the different contexts. Through time, Type B (Chamorro Rough) becomes more numerous possibly indicating that during the Late Horizon the quality of the ceramics that elites had access to decreased.

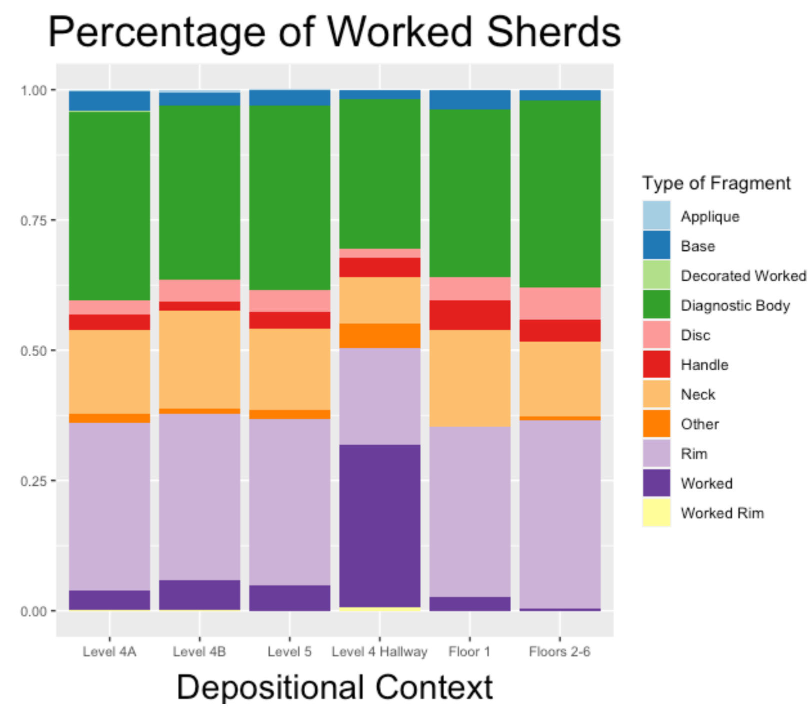

Figure 7.8. A bar chart of the presence of sherd type across the different depositional contexts. Level 4 Hallway has a large amount of worked sherds (dark purple) as compared to the other contexts.

Figure 7.9. Decorated worked sherds found in the Level 4 Hallway of Room A2. (top right) is a Chincha-Inca sherd, that incorporate Chincha motifs into a complex geometric pattern.

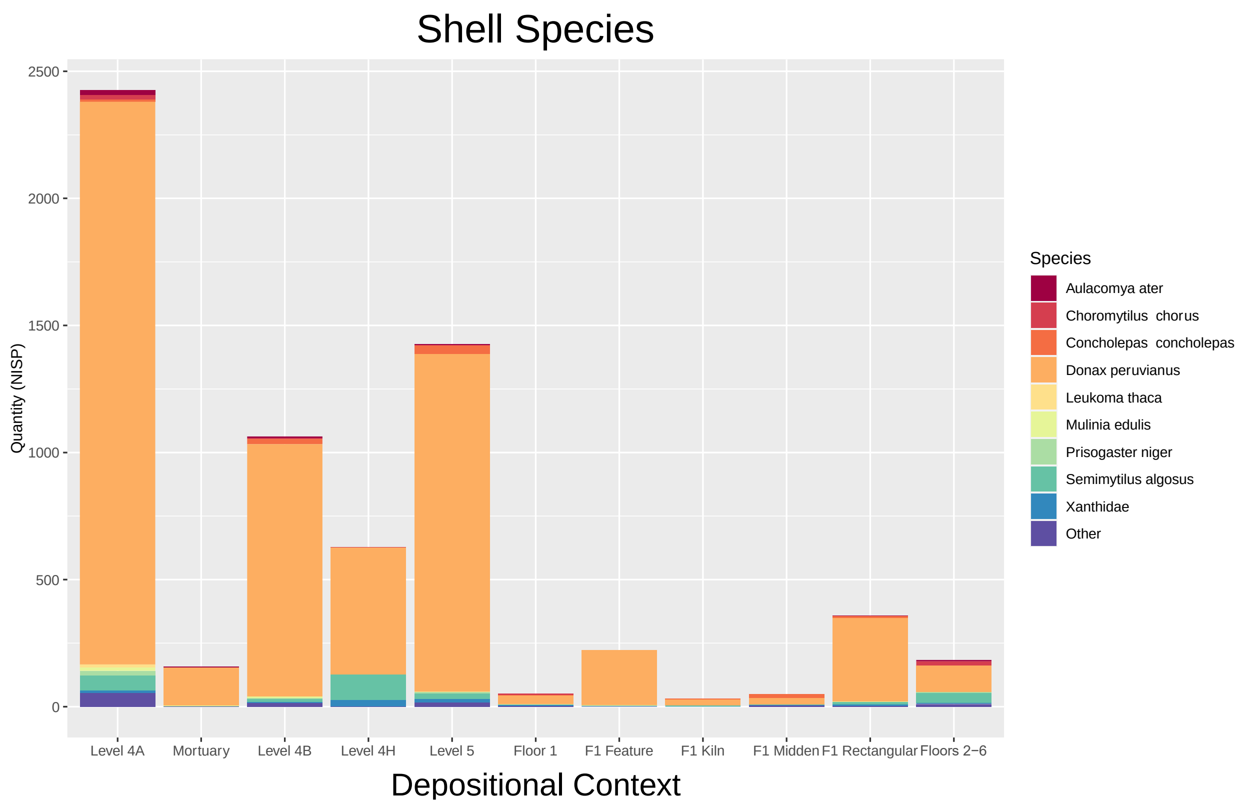

Figure 7.10. Shell species present across the various depositional contexts. The most common species was *Donax peruvianus* indicated by light orange. The most shell fragments were recovered in Level 4A and Level 5.

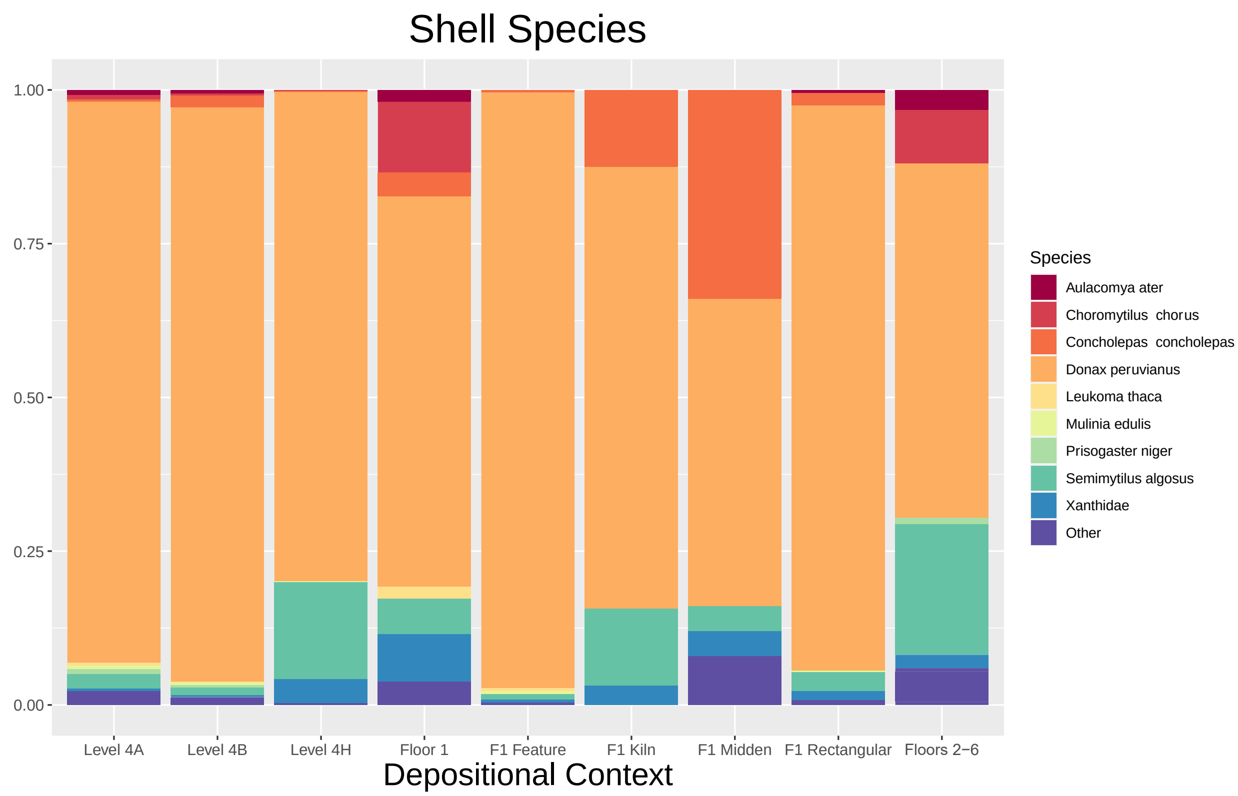

Figure 7.11. Frequency of shell species across the different depositional contexts. The Floor 1 Midden contains a large number of *Concholepas conchelepas* fragments, which might be associated with craft production. Level 4 Hallway and Floors 2-6 contain a significant number of *Semimytilus algosus* which could be associated with feasting events.

Figure 7.12. *Concholepas concholepas* with traces of purple pigment inside. The purple pigment could have been used in craft production as purple is a common color in Chincha ceramics and textiles, and the pigment does not appear to be decorative.

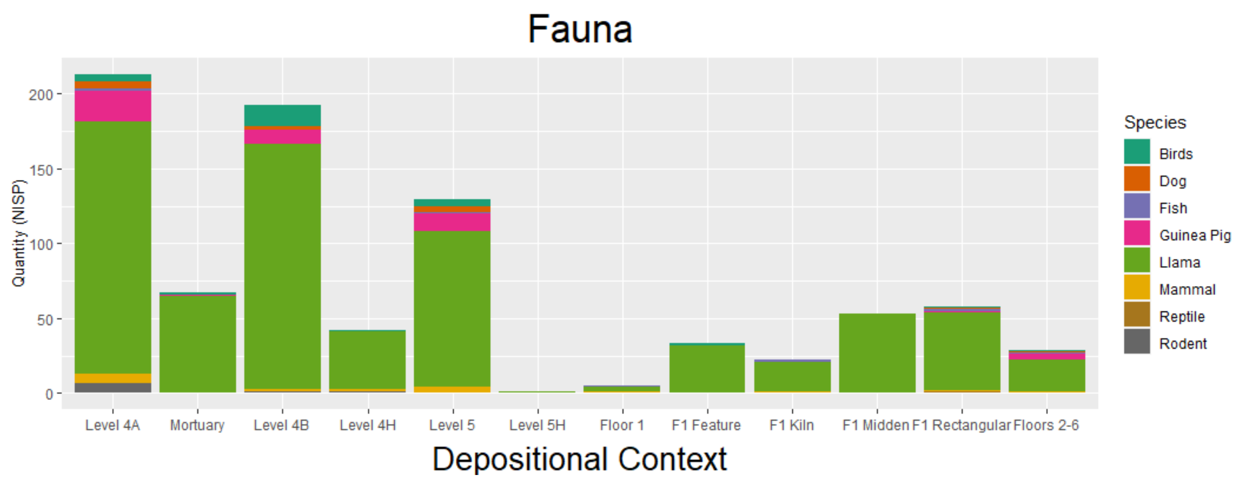

Figure 7.13. Fauna present across the different depositional contexts. The most common species present is Llama, and the largest number of faunal remains was recovered from Level 4A and 4B.

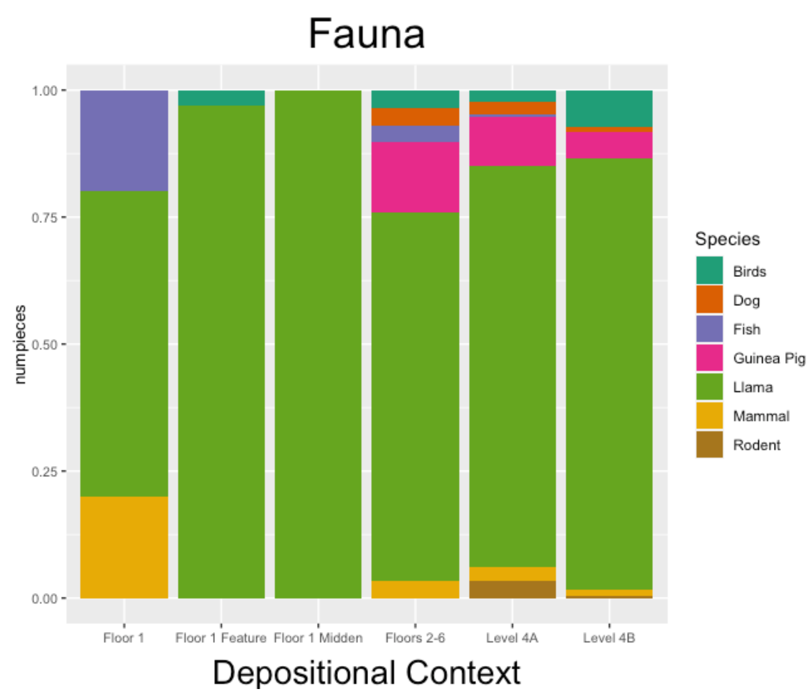

Figure 7.14. Frequency of faunal species across the contexts. The Floor 1 Midden is entirely llama, and Guinea Pig was present in Floors 2-6, Level 4A and 4B.

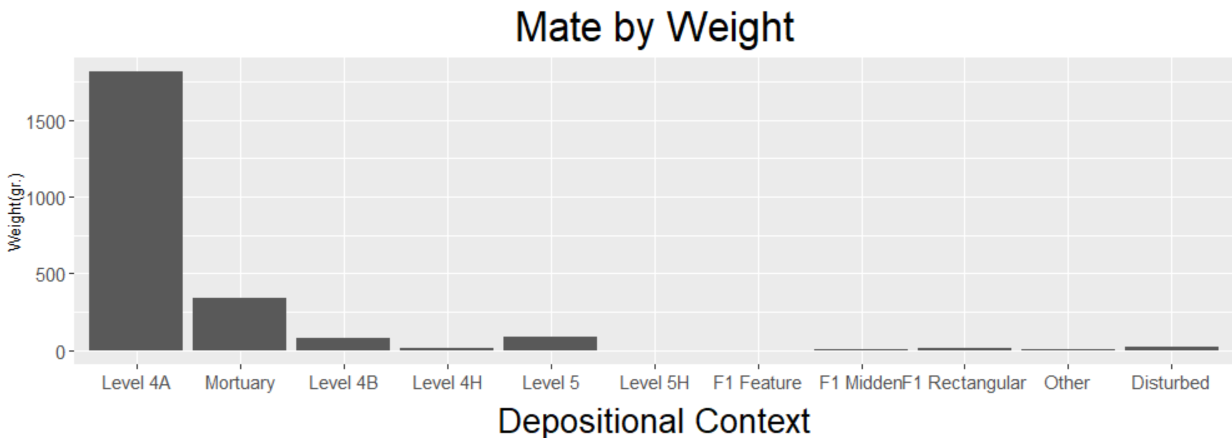

Figure 7.15. Presence of *mate* by weight across the different contexts. The vast majority of *mates* were recovered in Level 4A.

Figure 7.16. Pyro engraved gourds recovered from Room A2 of Complex N1 at the site of Las Huacas.

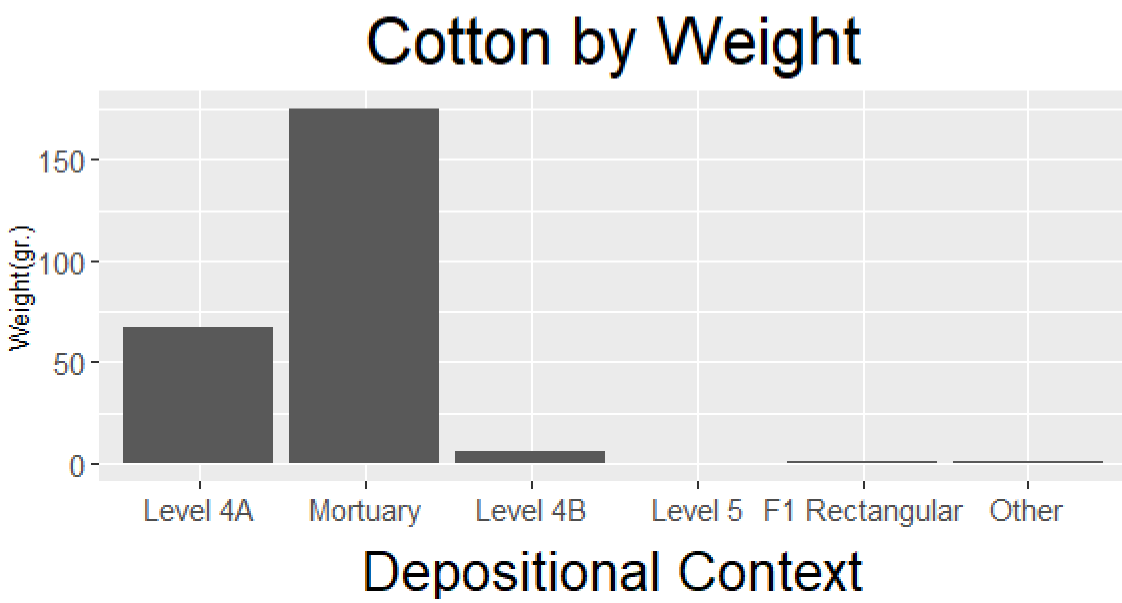

Figure 7.17. Cotton by weight across the different depositional contexts. The vast majority of cotton was recovered from mortuary contexts, followed by Level 4A.

Figure 7.18. Deseeded cotton recovered from Room A2 of Complex N1 at the site of Las Huacas.

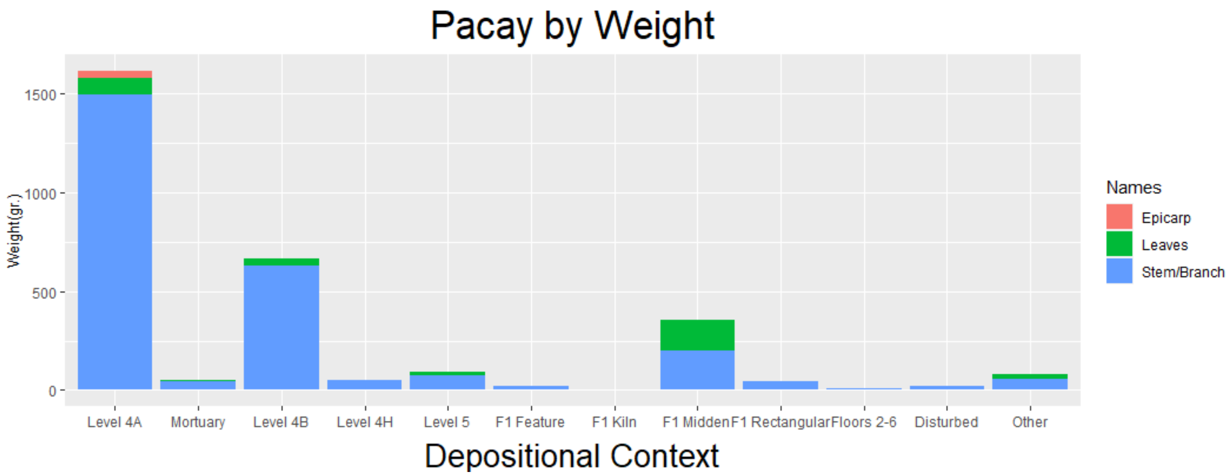

Figure 7.19. Presence of pacay across the different depositional contexts. The vast majority of Pacay was recovered from Level 4A.

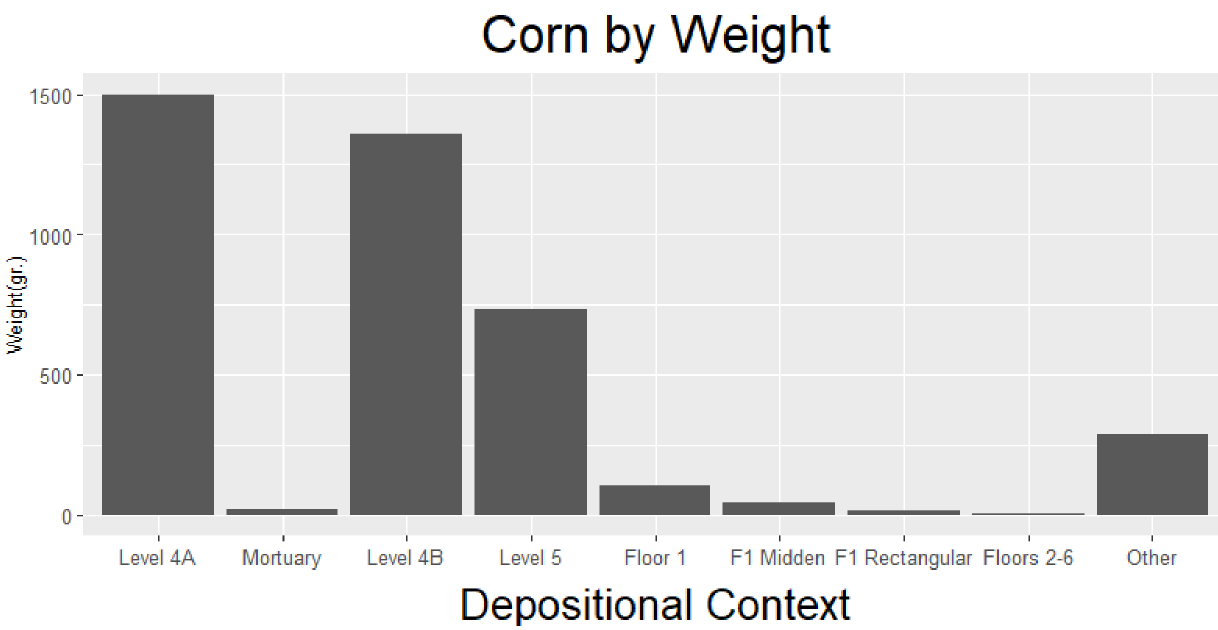

Figure 7.20. Presence of corn across the different contexts. Both Level 4A and 4B contained a large amount of corn, followed by Level 5.

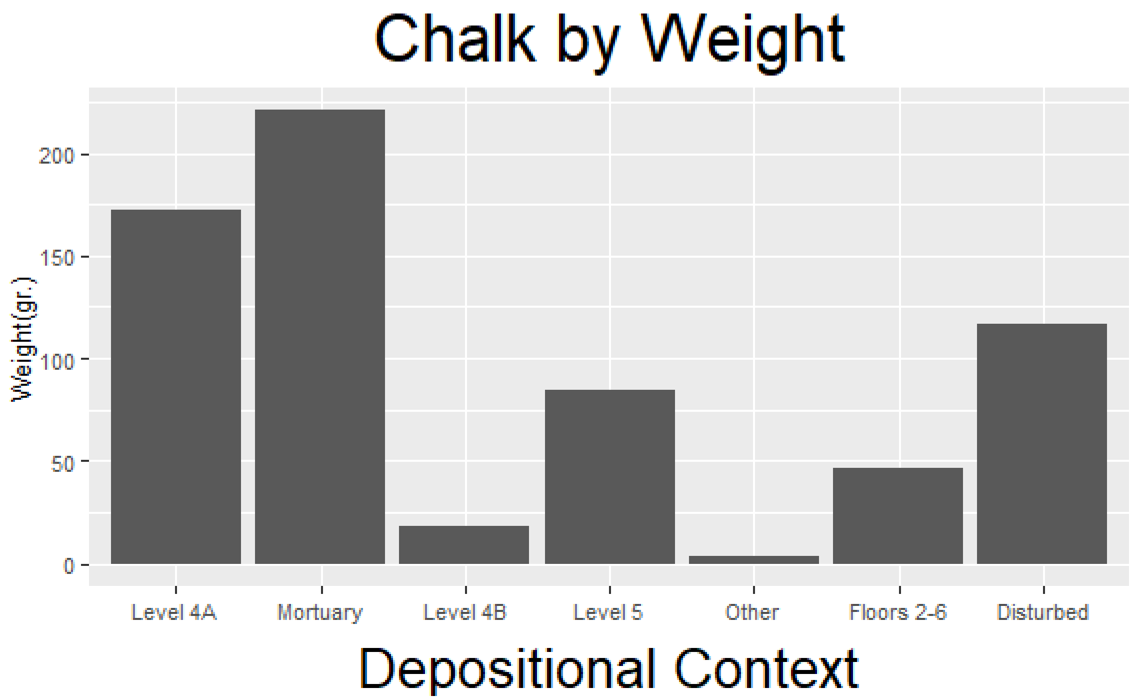

Figure 7.21. Presence of Chalk across the different depositional contexts. The most chalk was recovered from Mortuary contexts and Level 4A.

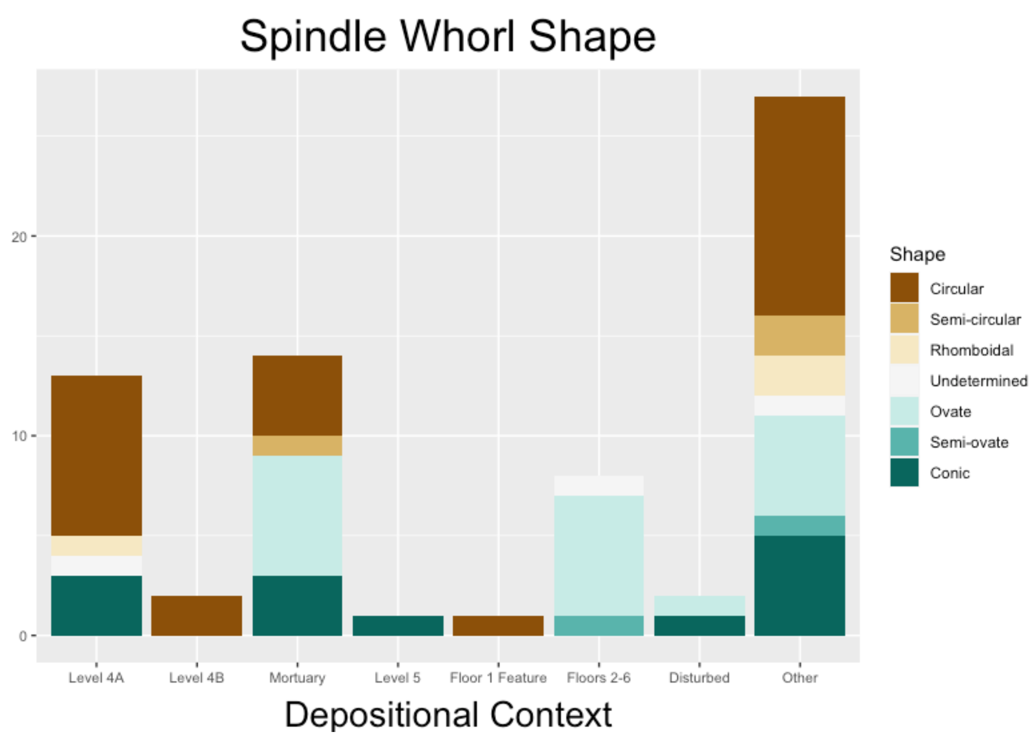

Figure 7.22. Spindle whorl shapes across the different depositional contexts. Through time circular or semi-circular shaped spindle whorls become more numerous.

Chapter 8

The *Balanzas* of Chincha

The concept of weight and measurement is central to the operation of many complex states and empires (Alberti et al. (eds.) 2006; Brogan 2006; Kroll 2012; Michailidou 2008; Petruso 1992; Rahmstorf and Stratford (eds.) 2019). At the site of Las Huacas PIALH's excavations of Room A2 within Complex N1 recovered a high volume of *balanzas* (similar to Roman scales), demonstrating the importance of these items for the ancient inhabitants of the area. *Balanzas* are known throughout the Peruvian coast, including the site of Pachacamac (Owens and Eekchout 2015:172) and Cerro Azul (Marcus 1987:92), but the largest known collection comes from the Chincha Valley including finds at the sites of La Centinela and Las Huacas. In the first part of this chapter, I will discuss the collection of *balanzas* recovered during the excavations of Complex N1 at the site of Las Huacas. Then, I discuss *balanzas* found in burials associated with the Chincha capital site of La Centinela. I combine the data from the La Centinela collection with the Las Huacas collection and explore what the dimensions, decorations, and construction material of the *balanzas* might be able to tell us about their context of use. From statistical analyses it appears that there are different types of *balanzas*, but how these map onto functional or stylistic preferences remains to be determined. The collection from Las Huacas is highly decorated and could have been a similar to the colored barcodes on spindles at the site of Cerro Azul that were used to associate artifacts with specific individuals (Marcus 2016).

To conclude the chapter, I discuss the Chincha *balanza* collections within a broader discussion of Andean administrative tools, mainly *khipus* and *yupanas*. *Khipus* are the Andean knot records that are clearly tied to the bureaucratic function of tribute collection in the Inca Empire and census data in the colonial period (Ascher 2002; Brokaw 2010; Conklin 2002; Hyland 2014, 2016; Jacobsen 1964; Locke 1923; Medrano and Urton 2018). A *yupana* is an Andean abacus which is used to count. Through interpreting the *balanzas* within the larger context of accounting and economic practices of the time period, we can better synthesize and hypothesize about their significance at the site of Las Huacas.

The Las Huacas *Balanzas*

At the site of Las Huacas in the Chincha Valley, excavations in 2017-18 recovered 23 fragments of *balanzas* (**Table 8.1**) that likely come from 15 separate *balanzas*.[10] *Balanzas* are tools that were used for weighing items. They generally consist of a central beam (made out of bone or wood), a suspension cord and hanging cords that held nets, metal discs or gourds. All the *balanzas* recovered from the site of Las Huacas were made out of bone. Many of the *balanzas* from Room A2 of Las Huacas were found in undisturbed contexts and the majority of the *balanzas* were associated with burial contexts. The other *balanzas* found outside of mortuary features could be associated with the final Late Horizon occupation of the structure, or were from disturbed burials, the contexts are too mixed to tell. As many of the *balanzas* are associated with mortuary features, it is logical to assume that they were intimately tied to the identity and economic role of some of the individuals buried within Complex N1 (Saxe 1970). Of 13 different

[10] Total number of *balanzas* was estimated based on distinct contexts and design elements. Fragments that were found in the same context with similar designs were counted as likely belonging to same *balanza* if there percent of completeness was less than 50%.

burial contexts described in the previous chapter, 5 contained *balanzas*. They were noticeably absent from the sub-adult burials, the burial of the single adult female, Tomb 4 (where 2 women were buried) and Tomb 1 (**Table 8.2**).

From the burial contexts, there are certain preliminary conclusions that we can draw about who used *balanzas*. Unfortunately, due to the comingled nature of the mortuary features at Las Huacas that contained *balanza* fragments, we currently cannot associate any specific *balanza* or *balanza* fragment with a particular individual, but we can associate them with groups of people (Tomb 2, Tomb 3 and Feature 17), and with disturbed burials (litter burials and cist burials). It is plausible from the data to conclude that children did not make use of *balanzas*, as they are absent from the individual sub-adult burials. Consequently, they were likely tied to the economic role of individuals while they were alive and not necessarily a status symbol. The lack of inclusion of a *balanza* with the individual female burial (Individual 4), or the tomb that only contained 2 females could point to a gendered use of these items, but our sample size is not adequate for drawing these conclusions.

Out of all the burial features, Feature 17 contains the most *balanza* fragments (11 of the 23 fragments are associated with the feature or found nearby)[11]. Furthermore, the number of *balanzas* fragments make *balanzas* the most numerous artifact type in the burial feature outside of textiles. The relative abundance of *balanzas* within the ossuary could indicate that specifically for the 42 individuals that were reinterred in Feature 17, the *balanzas* were intimately tied to their identity.

Also, the fact that *balanzas* are not include in all burials demonstrates that they were not something that was deemed important to bury with all individuals who were interred in Room

[11] These *balanza* fragments are likely associated with Feature 17, some were found in the burial feature, but others had been displaced due to the collapse of the western wall of the feature.

A2 of Complex N1 at Las Huacas. This likely means that *balanzas* were not something that all people at the site of Las Huacas made use of. Therefore, the possession and use of these items was probably tied to a specialized economic role that the individual held during their life. Though, due to the fact that they are mostly incomplete and not associated with specific individuals, it is difficult to say exactly what this role was and who fulfilled it.

In the ethnohistoric record *balanzas* are described as being used to weigh small amounts of gold, cotton, and coca leaves (Osgood Brooks 1986; Rostworowski 1960; Saville 1925). Currently, for the *balanzas* recovered at the site of Las Huacas we do not have any direct evidence of exactly what the *balanzas* would have been measuring, since the artifacts were not found with weights or other artifacts. For almost all of the Las Huacas collection, except for *Balanza* V, we only recovered the central beam. *Balanza* V was associated with Feature 17 and was mostly complete except for the decomposition of parts of the hanging nets (**Figure 6.32**). When the artifact was recovered, the hanging cords of the *balanza* were wrapped around the central beam and held together by a single cord that contained a spondylus shell bead. Outside of *Balanza* V, we do not know what type of receptacle would have been hanging from the central beams. In order to increase the corpus of artifacts, I compared the Las Huacas collection to the *balanzas* collected by Max Uhle at the site of La Centinela.

The La Centinela *Balanzas*

The La Centinela *balanzas* were collected by Max Uhle when he was on an expedition to Peru financed by Phoebe Hearst (Kroeber and Strong 1924). His excavations focused mostly on the LIP, Late Horizon and Colonial Burials. During these excavations he recovered approximately 33 *balanzas* (Hu n.d.). For the majority of these *balanzas* only the central beam is preserved but, in some cases, Uhle recovered complete *balanzas* that were associated with both nets and metal discs. Based on photos from the collection, the complete specimen was found in a similar state to Las Huacas *Balanza* V, where the hanging cords were wrapped around the central beam.

Kroeber and Strong (1924) state that while overall the Inca period tombs were the richest, they contained less *balanzas* than the LIP tombs. They state that this “may be significant” (Kroeber and Strong 1924: 39) insinuating that *balanzas* may have been tied to a more local practice and not as directly associated with Inca control in the region. This statement should not be given too much weight though, given that the Uhle burials have not been dated using absolute dating techniques and rely mainly on ceramic styles to assign burials to specific time periods. Overwhelming, early studies in the Chincha and Ica regions associate variability with temporal differences (Kroeber and Strong 1924; Menzel 1966) and do not emphasize contemporaneous variation in material culture.

Overall, the largest difference between the two sites is that the Las Huacas *balanzas* are all made out of bone, while the *balanzas* in the La Centinela collection are made out of both wood and bone. Furthermore, the Las Huacas collection contains a much wider variety of decoration styles than the La Centinela collection (see **Table 8.1** and **Figures 8.1-8.7**). The decorations recorded for the La Centinela artifacts are all incised concentric circles. The Las Huacas collection includes animal figures, human figures, concentric circles and geometric designs. In general, there are similarities in *balanza* production and decoration technique across the two sites. Most are flat pieces of either bone or wood. The only exceptions are Las Huacas *Balanza* V and Uhle Collection #4-5466. *Balanza V* is a rod-shaped bone that was carbonized for decoration (**Figure 6.32**), and artifact 4-5466 is also a rod-shaped bone that had been formed to look like undulating waves (**Figure 8.8**). Many of the *balanzas* were decorated with red or black pigment, and some were finished off with a slip and polished. Overall there is a lot of variety in the decoration of the Las Huacas *balanzas* but they were all made as a generally similar shape, and there is evidence for at least three largely identical *balanzas* that contained bird designs (*Balanza* N, O [**Figure 8.4]** and *Balanza* A ([**Figure 8.5**]).

Returning to the questions of what type of receptacle would have been attached to the central beam, from the La Centinela collection we know that both metal discs and nets were attached to the central beams to hold the goods that were being weighed. At Las Huacas, excavations did not recover metal discs attached to *balanzas* but metal discs were recovered from the mortuary features associated with *balanzas* at the site (**Figure 8.9**). The metal discs did not have perforated holes where strings could be attached, but there was evidence that they would have been attached to something on the back. At the site we also found mates with attached strings that could possibly have been used with *balanzas*. The metal discs (from the complete *balanzas* in the La Centinela collection and the isolated ones recovered at Las Huacas) and nets have very different dimensions and properties. The metal discs would have likely held small amounts of possibly metal, and the nets could have held lighter items, such as cotton or coca. Due to the variety of hanging receptacles, it is reasonable to conclude that not all *balanzas* in Chincha were used to measure the same good and could possibly have been used in different contexts.

Due to preservation conditions, it is not possible at this juncture to be able to say which beams would have been associated with nets, metal discs, or *mate* vessels. Though in looking at the two collections there does appear to be a lot of variety in the decorations and dimensions of the balance beams. Due to these differences, I decided to evaluate whether or not there were any major differences in the dimensions and attributes of balance beams that might be connected to the materials they were used to weigh. To do this, I recorded attributes on the Las Huacas collection and completed statistical analyses that included both the Las Huacas and La Centinela collections. Henceforth, this composite dataset is referred to as the Chincha *balanzas*.

Data Collection

The majority of the Las Huacas *balanzas* are incomplete, but most are more than 50% complete. This is known through the presence of the hole in the middle where the suspension cord would have been attached. For the Las Huacas *balanzas*, when this central hole was present on the fragments, I was able to estimate the total length of the *balanzas*. In measuring thickness, the thickness of the beam varied throughout the artifact, in order to be consistent, I measured it from the center point or from a central portion of the *balanza* fragment rather than at end. Width was measured at the widest point on all artifacts. I weighed each fragment and then estimated its total weight when possible based on the percentage of completeness of the artifact. In using these techniques, I was able to collect data on complete dimensions for 11 *balanzas* from Las Huacas. The dimensions of the La Centinela *balanzas* were recorded by Dr. Di Hu, who generously shared the data with me (Hu n.d.).

Balanzas would have been sophisticated items that were designed and tailored to their specific use (similar to Roman scales). As discussed above, based on the types of *balanza* attachments (nets vs. metal discs vs. gourds) and description in the ethnohistoric record of *balanzas* being used to measure metal, cotton and coca, it is likely that not all *balanzas* were used to measure the same type of good or goods. Due to this fact, I hypothesized that there might be subtle differences in the dimensions of *balanzas* that are linked to the type of good that they were designed for. To explore this idea, I used the dimensions and attributes of the Chincha *balanzas* to explore variation. It is also important to note, that it is possible that not all variation is due to function, but that some differences could be due to cultural style and individual preference.

To begin evaluating the differences in dimensions between the Chincha *balanzas* I began with length. The lengths of the Chincha *balanzas* span from 6-20cm. A histogram of the lengths demonstrates the possibility that there might be a multimodal distribution (with possibly 4 groups, 3 around the peaks and another for the longer ones at the tail end) (**Figure 8.10**). But, with a relatively small sample size we need to look at other aspects of the data as well.

In looking towards width, there is generally a linear relationship between length and width, i.e. as the *balanzas* get longer they also get wider, but in distinguishing between wood and bone it was clear that there was a difference between the two materials (**Figure 8.11**). While the wood *balanzas* generally scale up linearly, for bone *balanzas* a linear relationship has a poor agreement (with an $R^2 = .22$). In evaluating this further, this could be tied to the types of bones that were used to make *balanzas*. A histogram of all bone *balanza* widths appears to be multimodal, with possibly 3 distinct groups (**Figure 8.12**). But, as with *balanza* length, the sample size is not large enough to make any conclusive interpretations. The multimodal distribution could possibly be connected to the goods that the *balanzas* were measuring, but it is most likely tied to the starting widths of the bones that were used to make the *balanzas*. Unlike wood, *balanzas* made out of bone are constrained by the dimensions of the type of bone that they are carved out of.

Through my analyses I was not able to discern specifically which animal or bone the *balanzas* were made out of, but they all likely came from medium/large mammals. Based on the faunal data from excavations, they were likely made from camelid bone (llama or guanaco), since camelid bones are the most abundant mammal species present at the site (see Chapter 7). On top of comparing length with width, I also compared length with weight, and thickness. Both of these dimensions followed a generally linear pattern that as the artifacts get longer, they also get heavier and thicker.

Due to the possible multimodal distributions of *balanza* lengths and bone *balanza* widths, I completed a hierarchical cluster analysis of the Chincha *balanzas*. The cluster analysis used Euclidian distance to calculate clusters based on data on length, width, thickness, weight, material (bone versus wood), and the presence of any sort of decoration. In order to not skew the data, I used centimeters for length measurement and mm for all other measurements. Though I did give length twice as much weight as the other variables since it was likely a significant variable and the most notable difference between the *balanzas*. To cut the clusters I used the complete method.

The results of the cluster analysis demonstrated that there were 4 main clusters. When mapping these clusters onto the previous graphs (**Figure 8.13**) the 4 clusters match up fairly well with the multimodal length distribution and different widths distribution of the bone *balanzas*. Of the four clusters, clusters 1, 2 and 3 are present at both Las Huacas and La Centinela, but cluster 1 (the shortest *balanzas*) is mostly found at the site of La Centinela. Similarly, cluster 4 (the longest *balanzas*) is only found at the site of Las Huacas and was only made out of bone.

Based on these analyses I hypothesize that between the Las Huacas and La Centinela collection of *balanzas* there were likely 4 types of *balanzas*. These different types likely encapsulate both functional and stylistic differences. The group of long *balanzas,* Cluster 4, is only associated with Las Huacas, while the shorter *balanzas,* Cluster 1, are only mainly found at

La Centinela. This could have possibly been due to particular stylistic preferences at each site, or it could have been associated with specifically what individuals at these different sites were measuring.

Chincha *Balanzas* Summary

As previously stated, the Chincha *balanzas* are the largest known collections of *balanzas* from the Andean region. In the ethnohistoric record *balanzas* are described as weighing small amounts of cotton, coca leaves and metal. The Chincha are also described as being one of the few groups that were allowed to travel throughout the Andes as merchants, both by land and by sea (Rostworowski 1970). The presence of *balanzas* in Chincha might be due to the fact that they were important tools of the Chincha merchants. This association warrants further study, since the *balanzas* are also thought to be used to measure high quality goods that were used in craft production (such as gold and camelid wool). Based on their context the Las Huacas *balanzas* could have been the tools of merchants or state sponsored craftsmen.

Statistical analyses of *balanzas* from both the site of Las Huacas and La Centinela found evidence for 4 different clusters of *balanzas* based on their dimensions, weight, presence of decoration and construction material. Not all clusters were present at both sites, this could have been due to the contexts within which the balance beams were used, or it might be related to stylistic preferences of individuals at the different sites. The *balanzas* are an interesting and unique artifact that is not often recovered or studied in the Andes. Their use and function are likely deeply tied to the economic and political organization of the region. In order to understand the significance of the Chincha *balanzas* on a theoretical level I will look at broader discussions of weight, measurement, and accounting practices in the Andes.

Measurement and Accounting Practices in the Andes

The Andes never developed a Prehispanic written language, but there is evidence through time for the use of distinct tools of measurement (Espinoza 1987; Rostworowski 1960) and record keeping (Ascher 2002; Brokaw 2010; Conklin 2002; Hyland 2014, 2016; Jacobsen 1964; Locke 1923). These tools would have been involved in diverse types of exchange. The Inca are sometimes portrayed as a monolithic redistributive state, but research has demonstrated that there were multiple networks within which goods were circulated (Garrido 2016; Hirth and Pillsbury 2013; Mayer 2002). Espinoza (1987:176) highlights four main methods by which goods were circulated throughout the Inca Empire:[12]

1. State control of goods through retributions and redistribution to the state servants and peasants only in cases of social crisis (droughts, floods, freezes and plagues)
2. The circulation of valuable goods within groups of people of a certain nationality or ethnic group, which includes *mitmas* that occupy other ecological floors
3. Exchange directly between individuals of two or more different nationalities or ethnic groups
4. Long-distance trade with professional merchants

These different types of circulation all coexisted within the Inca Empire, and they relied on different relationships and methods of exchange. This chapter is focused not only on how things are exchanged, but specifically the types of exchanges that would have relied on methods of quantification or have been recorded.

[12] Original text: "A nivel general en el Tahuantinsuyo encontramos cuatro formas de circulación de bienes:
1. La controlada por el Estado mediante retribuciones y redistribuciones a sus servidores, y a la masa campesina únicamente en caso de crisis sociales (sequias, inundaciones, heladas, plagas)
2. Circulación de valores de uso dentro de las gentes que conformaban una determinada nacionalidad o grupo étnico en lo cual se incluyen los *mitmas* destacados a otros pisos ecológicos
3. Intercambio directo entre individuos de dos o más nacionalidades o grupos étnicos
4. El comercio a largo distancia con mercaderes profesionales".

In the Andes there are 3 general categories of tools that would have been used in measuring and recording transactions and exchanges: (1) counting, (2) recording, and (3) weighing and measuring. Counting tools include features such as *yupanas* —an Andean abacus— and other architectural features that were used to quantify goods — such as the floor panels at the site of Inkawasi (Chu 2018). *Yupanas* were usually made out of platforms that had small circles or divots where stones could be moved during the act of counting. Tools that recorded information were *khipus*, which are groups of cords with knots that stored information (Conklin 2002). Tools used to weigh goods were most commonly *balanzas* and a tool known as a *huipe,* which was made out of a weighted gourd (Espinoza 1987). Within these three categories of tools (counting, record keeping, and weighing) each would have served a distinct function in supporting more bureaucratic organizations.

Khipus are the most well-known of these items. The term *khipu* comes from the quechua language where it literally means knot (Locke 1923). *Khipus* were composed of groups of cords with knots. The way that a *khipu* encoded and transmitted information is similar to binary code. The *khipucamayoqs* (people who made the *khipus*) had a variety of decisions they could make in creating the *khipu* and each one of these decisions would have encoded a specific type of information (Ascher 2002; Brokaw 2010; Conklin 2002; Hyland 2014, 2016; Jacobsen 1964; Locke 1923). Their decisions included the type of knot they tied, where they tied it, whether the thread was “z” or “s” spun, and the color of the cord to name a few (Conklin 2002). Typically, Inca *khipus* were made using a primary cord with subsidiary cords attached to it. The Inca used a base 10 number system, and vertical rows on the *khipus* worked as a place value system where there were vertical 1000s, 100s, 10s and 1s rows, similar to our 100s, 10s and 1s columns.

Khipucamayoqs used simple, long and figure eight notes to record numbers, and to record a zero in a place they left the cord unknotted in this section.

While *khipus* are mainly associated with the Inca, recent research has demonstrated their time depth in the Andean region. The earliest known *khipus* date back to the Middle Horizon (AD600-1000). These earlier *khipus* have a distinct style, one aspect being that colored cords are wrapped around the hanging cord (Conklin 1982, 1990:26). *Khipus* clearly predate the rise of the Inca, but from descriptions in the ethnohistoric record it is clear that they were central to the administration of the Inca Empire (Guaman Poma 1980[1615]).

Administrative *khipus* were used in conjunction with counting features, such as a *yupana*. Guaman Poma de Ayala (1980[1615]) describes how goods were counted using a *yupana* and then this information was encoded into the *khipus*. Outside of the description in the ethnohistoric record, archaeological research has corroborated how the *yupana* and the *khipus* worked together to count and record important information for the Inca Empire. One such case is the site of Inkwasi in the Cañete Valley of Peru (Chu 2018). The site of Inkawasi was constructed by the Inca during the Late Horizon and was an important seat of Inca power in the region. The site was composed of various sectors, a large plaza and had a large storage capacity. Recent excavations at the site recovered a large number of *khipus* (Chu 2018). Some *khipus* likely fulfilled the role of double entry book-keeping (Jacobsen 1964). Excavations of the plaza adjacent to the room where the *khipus* were found contained floor panels which would likely have been used for counting goods. At Inkawasi the association between the paired *khipus*, a large storage capacity and floor panels used for counting demonstrates how the Inca used *khipus* and counting features to store and transmit information about goods stored at the site.

The site of Huacones, also in the Cañete Valley, contains evidence of similar activities. Excavations recovered 10 *khipus*, a storage room of *ají* (peppers), and a *yupana* (Areche 2019). The *yupana* was made up of a grid of small circles in a small platform directly adjacent to a plaza. At both the sites of Inkawasi and Huacones the presence of *khipus* and counting features is closely tied to administration and the control and storage of tribute goods. Contextualizing this within the previously described types of exchange in the Inca Empire, *khipus* and *yupanas* are clearly linked to first and second type of exchange, which are the redistribution of various goods by the state. This is not to say that they were exclusively used in these contexts, but that one of the major functions of both *khipus* and *yupanas* was to quantify and store information on activities closely associated with state collection and redistribution of goods.

Khipu finds are not only restricted to administrative centers. While many known *khipus* do not contain any provenience information, many were found in burials (Bjerregaard and Von Hagen 2007; Van Dalen 2016). The presence of *khipus* in burials could possibly mean that they were an important part of the individuals' identity (such as the *khipucamayoqs*), or they could have served the role of telling the story of individuals buried in these tombs. While the numerical information encoded in *khipus* has been deciphered, there are still many *khipus* and many parts of *khipus*, that have not been deciphered. It is possible that they were able to store more narrative information and were not just solely records of state transactions.

Currently, in most contexts it is not possible to associate *khipus* with a specific individual. In one case from the Norte Chico, a *khipu* was found associated with a single infant burial, but it did not contain any knots (Van Dalen 2016). Researchers postulate that this is because the infant would have grown up to be a *khipucamayoq*, but currently there is not enough evidence to support that interpretation. The exact relationship between *khipus* and the people that they are buried with remains to be determined. In general, *khipus* and *yupanas* were both associated with large administrative structures, and likely one of their principle functions was processing and storing information that was central to the administration and expansion of the Inca Empire.

The use of *khipus* and *yupanas* is relatively well-known for the Inca Empire, but other tools of quantification and systems of exchange are not as well understood. Contemporaneous with *khipus* and *yupanas*, were handheld artifacts that were used to weigh items known as *balanzas* and *huipes*. The most well-known of these is the *balanza*. *Balanzas* have been found at multiple sites throughout the Peruvian coastline, including the sites of Cerro Azul (Marcus 1987:92) and Pachacamac (Owens and Eeckhout 2015), but currently the most *balanzas* have been recovered in the Chincha Valley of Peru.

Unfortunately, the context and use of *balanzas* is not well understood. From their overall size and function, it is reasonable to assume that they would have been used in smaller scale encounters than *khipus* and *yupanas*. *Balanzas* are generally between 5-20cm in length and can be made out of wood or bone. They would have been suspended from above by a string in the middle. *Balanzas* were often decorated and highly transportable, which differs from *yupanas* or other counting features that were built into the site's architecture. Based on the portable nature of *balanzas* and their stylistic elements, Espinoza (1987) describes them as being used in more Type 3 and 4 encounters where they mediated transactions between different ethnic groups and by long-distance merchants. As described in Chapter 2, the Chincha were well-known merchants in the Inca Empire. The ethnohistoric record describes them as being in charge of long-distance maritime trade to Ecuador, and then traveling throughout the highlands trading goods (Rostworowski 1970). Most groups that were incorporated into the Inca Empire were not allowed to trade freely; the Chincha were only allowed to do this due to the prestigious position that they held within the Inca Empire.

Balanzas could have been used alongside weights. Ancient Andean systems of weights and measurements are not well understood. Generally, weights are polished lithics that typically were recovered in burials. A study of stone weights from the Chincha and Ica Valley conducted by Sara Osgood Brooks (1986) uses the Lowest Remainder Method (Schreiber 1978:70-75) to evaluate if there is any standard unit of measure. For the Chincha Valley, Osgood Brooks hypothesizes that the standard unit was 5.6-5.8gr and for the neighboring Ica Valley that it was 7.7gr. If these hypotheses turn out to be correct, then it appears that there was variation in standard units of measurement between Chincha and Ica, but more research is needed on the use of stone weights in the region.

In conclusion, while many early studies of the Andes viewed the economic system of the Inca as a largely redistributive monolithic state (D'Altroy and Earle 1985; Murra 1980), recent studies demonstrate that there were diverse types of exchanges that occurred throughout the Inca Empire (Garrido 2017; Hirth and Pillsbury 2013; Mayer 2002). The Inca were a bureaucratic state that relied on the ability to process information. Central to the ability to process information were tools such as *khipus*, *yupanas* and *balanzas*. While *khipus* and *yupanans* are mainly associated with large administrative sites where goods would have been collected, counted, and stored by the state, the exact context for the use of *balanzas* is more elusive.

Based on their small portable nature and the diverse types of styles and decorations, these artifacts could have been used to mediate interactions between people of different ethnic groups and nationalities, long-distance trade, or possibly in craft production. Scales used for measurement are much more commonly described for groups from northern South America in

Ecuador and Colombia during the Colonial Period (Saville 1925:271-272). It is also possible that they were tools that controlled the use of high-value raw materials such as cotton and metal in craft production. If they were a tool of the Inca state to control goods used in craft production, one would expect to commonly find them throughout the Inca Empire, which is not the case. In this sense they might reflect specific conditions in Chincha or relate to Chincha's unique role in the Inca empire.

The presence of a large number of these *balanzas* in the Chincha Valley of Peru and the description of the Chincha as important merchants could support the idea that they were important tools of long-distance merchants. From analyses presented in this chapter it is also likely that *balanzas* would have been tailor made to weigh specific items. Regardless of their exact use, the presence of *balanzas* at Las Huacas and the Chincha Valley in general are tied to the presence of bureaucratic institutions. As will be discussed in the conclusion, the elite public architecture of the Chincha Valley during the Late Horizon also reflects a progression towards a more bureaucratic political structure. As described by Topic (2003), the foundation of a bureaucracy is the ability to process information. In order to process information, goods need to be quantified and this information needs to be stored and transmitted. In most ancient polities the type of information that needs to be processed generally pertains to the production and circulations of subsistence goods and luxury items, and census data. In complex political groups, such as the Chincha and the Inca, goods can be circulated through a wide variety of systems and each would have relied on distinct tools.

The Las Huacas *balanzas* encapsulate a wide variety of styles, and the analyses of both the Las Huacas and La Centinela *balanzas* demonstrate that there may have been different types of *balanzas*, as the analysis picked up 4 different clusters. These clusters could be due to stylistic preferences, but they could also be influenced by what types of goods were being weighed. Weighing gold and weighing cotton, would have been very different. Furthermore, their presence, and absence in the distinct burial features of Las Huacas point towards the fact that *balanzas* were intimately tied to the economic role of the individuals buried at the site and that they may have been related to gendered labor, where they were used by males but not females. More data from in situ *balanzas* are needed to understand the role of these items in the Andean prehistory, but it is clear that they were likely tied to economic specialization in the Chincha Valley.

Chapter 8 Tables and Figures

Las Huacas *Balanzas*

Artifact	Length (mm)	Projected Length (mm)	Width (mm)	Thickness Center (mm)	Thickness Mid-section (mm)	Design Type	Color	Weight (g)	Projected Weight (g)
A	120.49	174.54	19.73	3.91	2.41	Birds	Black and Red	11.87	20.77
B	58.22	111.8	13.96	3.88	-	Concentric Circles	Black	5.73	11.46
C	121.17	121.17	10.81	3.28	3.45	NA	NA	8.2	8.2
D	26.3	-	8.48+	4.01		Concentric circles in a Stair-Step	Black and Red	0.69	-
E	47.85	-	12.6	4.46		Human Figures	Black and Red	1.65	-
F	-	-	-	4.22		Concentric Circles	Black and possibly White	-	-
G	35.3	-	14.86	3.86		Concentric Circles	Black	162	-
H	187.33	187.33	22.1	5.32	4.62	Stair-step	Red	23.48	25.828
I	130.38	130.38	11.69	4.36	4.4	NA	NA	11.72	11.72
J	19.76	-	13.03+	3.99		Stair-step	NA	0.96	-
K	16.55	-	8.26+	3.49		Birds	Red	0.39	-
L	62.84	109.38	11.62	5.34	4.81	Human Figures	Black and Red	2.34	4.446
M	40.61	-	12.72	-	4.2	Bird and Stair-step	Black and Red	2.923.13	
N	199.32	199.32	20.15	5.36	5.47	Birds	Black and Red	21.04	22
O	123.47	162.28	20.28	4.34	3.47	Birds	Black and Red	10.92	15.015
P	25.58	-	13.19+	3.51		Birds	Red	1.16	-
Q	69.9	139.6	10.45	3.86	4.11	NA	NA	4.32	8.64
R*	145.32	132.16	7.03	-	-	NA	NA	7.16	-
S	97.73	102.99	5.18	4.97	4.21	Unknown	Black and Red	3.18	-
T	27.82	-	14.59	3.58	-	Concentric Circles	Black	1.13	-
U	29.73	-	9.84+	4.11	-	Concentric Circles	Black	1.18	-
V	157	157	6	8	-	NA	Black	-	-

*possible *balanza* in progress. This artifact was not included in the cluster analysis.

Table 8.1. The *balanza* and *balanza* fragments recovered in Room A2 of Complex N1 at the site of Las Huacas.

Presence of *Balanzas* in Mortuary Features at the site of Las Huacas

Mortuary Features	Presence of *Balanza*
Tomb 1	
Tomb 2	■
Tomb 3	■
Tomb 4	
Feature 17	■
Individual 1	
Individual 2	
Individual 3	
Individual 4	
Individual 5	
Individual 6	
Individual 7	
Individual 8	
Cist Tombs	■
Litter burials	■

Table 8.2. Mortuary features at Las Huacas with *balanzas* indicated by the black boxes.

Figure 8.1. *Balanza* B decorated with concentric circles and black pigment.

Figure 8.2. *Balanza* C, an undecorated *balanza*.

Figure 8.3. *Balanza* H decorated with a stair-step motif with triangles.

Figure 8.4. *Balanzas* N and O nearly identical *balanzas* decorated with carved birds and red and black pigment.

Figure 8.5. *Balanza* A decorated with bird designs and red and black pigment, similar to *Balanzas* N and O.

Figure 8.6. *Balanza* M decorated with a stair-step motif, circles, and a bird on top. It is also decorated with black and red pigment.

Figure 8.7. *Balanza* E was in the form of human figures holding hands. There was evidence of black pigment in the eye holes.

Figure 8.8. Artifact 4-5466 from the Uhle collection at the Phoebe Hearst Museum.

Figure 8.9. Metal discs found in mortuary features: (left) was found near Feature 17 and (right) from Tomb 3.

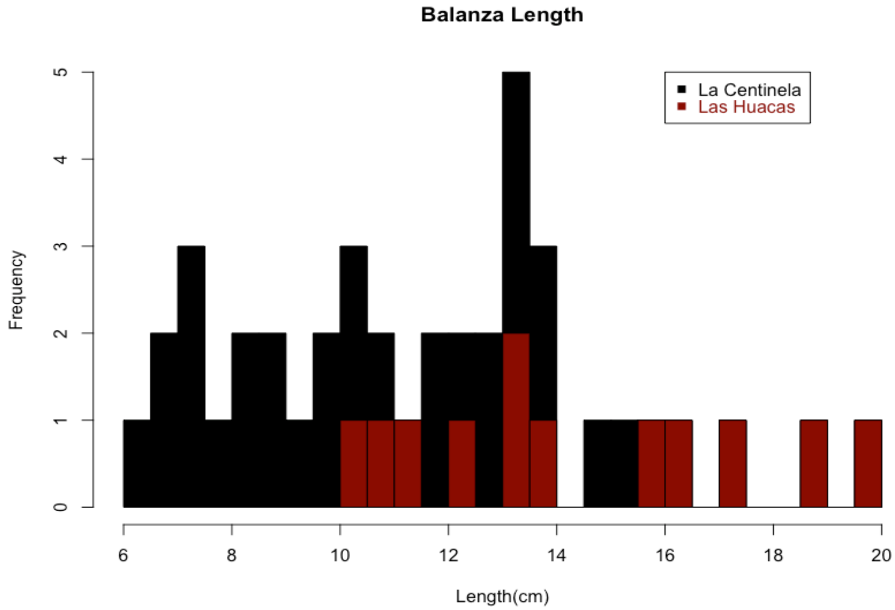

Figure 8.10. Histogram of the length of the Chincha balanzas (La Centinela collection is in black and the Las Huacas collection is in red). There appears to be 4 possible groups, with the 3 peaks, and the long tail.

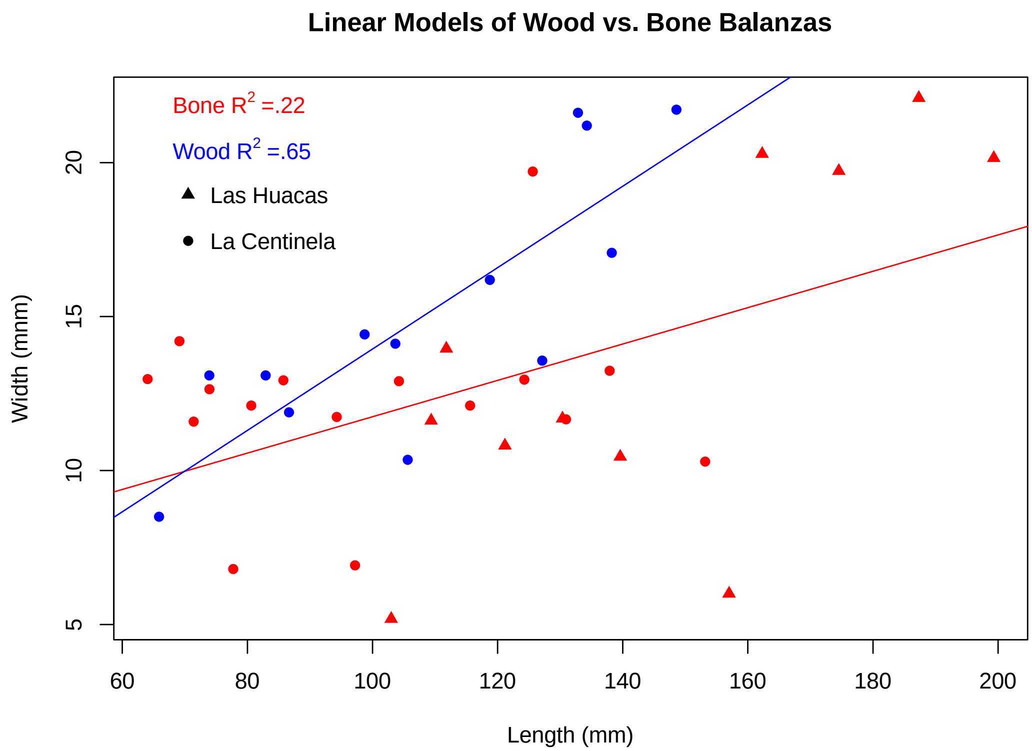

Figure 8.11. *Balanz*a width plotted against length, bone *balanzas* are represented by the red shapes, and wood *balanzas* by blue. While *balanzas* made of wood seem to follow a generally linear pattern, a linear relationship is in poor agreement for the bone *balanzas*. Demonstrated by the R^2 value of .22.

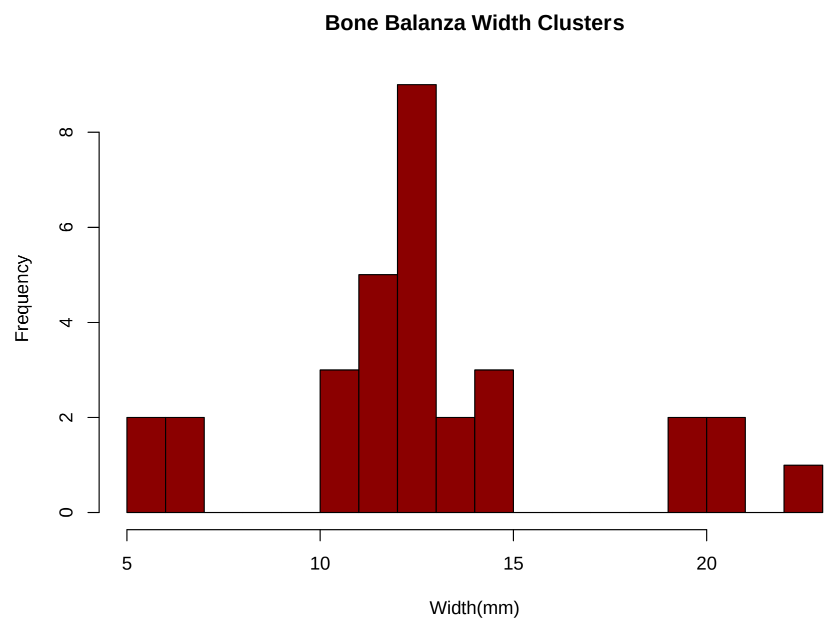

Figure 8.12. Histogram of the bone *balanza* widths showing 3 possible distinct groups.

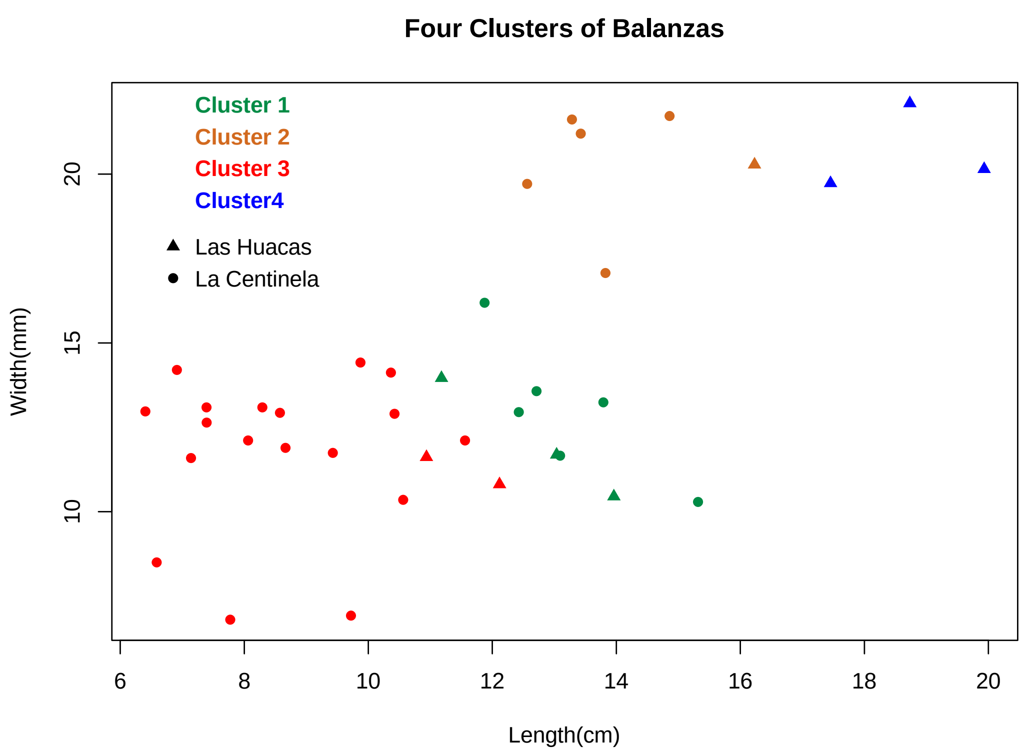

Figure 8.13. Cluster analysis of the Chincha *balanzas* encountered evidence for four possible cluster types. Cluster analysis considered, length, width, height, material type, weight, and the presence of decoration.

Chapter 9

Conclusion

This dissertation reports the results of two field seasons at the site Las Huacas in the Chincha Valley, with a specific focus on the excavation of a single room (Room A2) in Complex N1. The excavations of Complex N1 provide a wide variety of data to understand how an important complex was transformed during the Late Horizon. The nature of these transformations provides significant implications for understanding changes that occurred in the region during the Late Horizon.

As described in Chapter 3, Complex N1 was selected for excavation because it showed the clearest signs of Inca influence in its overall layout and architecture. Complex N1 is similar to Inca palaces throughout the Inca Empire (Kendall et al. 1992; Morris et al. 2011; Protzen 1991; Salazar and Burger 2004) and specifically to other coastal regions (Bueno 1982; Isbell 2006; Morris and Santillana 2007; Protzen 2008; Villacorta 2004). This chapter will explore the connections between changes in architecture and activities at Complex N1 and its relation to Inca expansion into the Chincha Valley. This research has demonstrated that Complex N1 became increasingly more restricted and partitioned through time. Most of the artifacts and resources at the site are likely locally acquired and produced, though, there are some artifacts in foreign styles that might be linked to a broader exchange network, including metal artifacts. In the earlier occupations the space was likely used to prepare food for feasts and in the final occupation for the burials of multiple individuals.

The excavations at Las Huacas provide information about how the site was transformed and they also add evidence to what makes the Chincha case of Inca expansion so unique. Excavations at the site of Las Huacas recovered 23 fragments of *balanzas* that likely come from 15 separate artifacts. While these items are found throughout the Peruvian coast, they are most well-known for the Chincha Valley. The concept of weight and measurement is not one often explored in the Andean region, but case studies of weights and measurement from Europe and the Near East help to theorize how goods were circulated throughout the Inca Empire. The presence of *balanzas* at the site also highlights the need to rethink the idea of the Inca Empire as a monolithic state that solely relied on the redistribution of important resources and explore the variety of ways that goods might have been circulated throughout the empire. The research at Las Huacas provides a detailed account of how architecture, ceramic production, and burial practices were transformed when the region was part of the Inca Empire, and offers perspective into what makes the Chincha case of Inca expansion both unique and similar to other coastal regions.

Chincha Valley Transformations

As described in Chapters 3 and 7, access to Complex N1 became increasingly restricted through time and activities conducted within the structure shifted from preparing food for feasts to a place where mortuary rituals and burials took place. These changes occurred between ca. AD 1200 and1650 and were associated with broader sociopolitical changes in the region. In order to interpret these larger sociopolitical changes, the data from Complex N1 needs to be contextualized alongside other sites in the Chincha Valley. From studies throughout the Inca Empire, some changes in material culture or economic activity are associated with Inca tactics

(Costin 2015; D'Altroy and Hastorf 2001), others are the result of changes instigated by local groups (Garrido 2017), and sometimes a mix between the two (Costin 2016). It can be difficult to discern the motivation behind specific actions without a written record (apart from the accounts told to Spanish chroniclers by mostly Inca informants), but developing a regional framework creates a larger context within which to interpret specific changes at the site of Las Huacas. Similarities between Las Huacas and other sites in the region might be related to regional administrative changes, while aspects unique to Las Huacas could be associated with tactics at this specific site. The previous research at the sites of La Centinela, Lo Demás and Tambo de Mora provides a foundation for addressing larger trends. In studies of ancient Empires, it can be difficult to differentiate emulation versus direct Inca presence, but through looking at regional trends and cases we can understand how power might have been negotiated in situ**.** The architectural transformations and organization of craft production described in this chapter for Las Huacas are similar to other sites in the valley, but the site also contains its own unique footprint of Inca presence, where there is evidence for emulation of Inca styles over exact Cusco styles. Regardless, the layout and transformation of Complex N1 represents a shift in sociopolitical strategies and not just mere emulation of Inca material culture across the entire site.

La Centinela

The site of La Centinela was the capital of the Chincha polity and is located on the Chincha coastline. Las Huacas would likely have been a secondary center under La Centinela (Canziani 2009). La Centinela contains the clearest sign of Inca expansion into the valley, most emphatically by the construction of an Inca palace. La Centinela was also home to an important

Chincha temple known as *Chinchaycamac*, which was a satellite oracle of the Pachacamac temple in the Lurín Valley. La Centinela was an important ritual and administrative center and its material culture shows local Chincha, Chincha-Inca, and Inca ceramic styles (Morris and Santillana 2007). La Centinela also contains some storage facilities, though nothing comparable to Inca sites such as Inkawasi in the neighboring Cañete Valley (Hyslop 1985) and Huánuco Pampa (Morris and Thompson 1985). As described in Chapter 2, this site contains areas that have evidence for direct Inca presence (Sector III) and other areas where the connection to the Inca is not as straight forward (Sector VIII).

La Centinela's Sector III

Sector III at La Centinela, the location of the Inca palace, had restricted access and several plazas, platforms, and rooms, similar to other Inca palaces (Morris et al. 2011; Protzen 2008; Rowe 1944). The restricted spaces would have likely been used for interactions between the Inca and important dignitaries (Wallace 1998:15). Morris and Santillana (2007:148) state that "Sector III as a whole represents the Inca's most elaborate and visible strategy for linking the Cusco rulers to their coastal subjects and allies." At the southern end of Sector III was the palace of the local Chincha ruler. The Inca palace and the Chincha ruler's palace faced each other and represented a kind of shared power. Unexpectedly, the entrance of the Inca palace was a typical Chincha-style rectangular door and the entrance of the Chincha palace was a typical Inca double door jamb. This adoption of architectural elements of the other culture is indicative of power sharing by the Chincha and the Inca. These two palaces looked down on a large public plaza to the east. While access to the palaces was restricted, people on the eastern platform of the palace could be seen by people in a large public plaza (**Figure 2.1**).

The material culture in Sector III includes both Inca polychrome A and B sherds and vessels (Rowe 1944), as well as "the typical Cusco Inca forms of plates, pots, and the so-called aryballoid jars" (Morris and Santillana 2007:140). In this sector excavations also found Chincha and Chincha-Inca style ceramics.

La Centinela's Sector II

Directly north of the Inca palace is Sector II, the major ritual center of the site. Here was a large *tapia* temple believed to be *Chinchaycamac*, an oracle of Pachacamac in the Lurín Valley. While the site of Pachacamac was occupied by AD 200/300 (Eeckhout 2013), research suggests that during the LIP its influence was mainly local, i.e. it was not until the Late Horizon that Pachacamac's influence expanded to other regions (Eeckhout and López-Hurtado 2018; López-Hurtado 2011; Makowski 2008). The Inca coopted Pachacamac, using the oracle's prestige to develop satellite sites and temples dedicated to the oracle along the Peruvian coast. Ethnohistoric sources indicate that one of these satellite sites was located in the Chincha Valley, the oracle *Chinchaycamac* (Castro and Ortega Morejón 1938[1558]).

While there is some debate on exactly which structure or site was Chinchaycamac, Morris and Santillana (2007) believe that it was the large *tapia* pyramid in Sector II which appears to have been left intact by the Inca, though, during the Late Horizon there were changes made to how the temple was accessed. To ascend the pyramid, people had to pass through a typical Inca plaza with trapezoidal niches (Morris and Santillan 2007:150). In this sector the Inca displayed their authority alongside the local Chincha, and there is evidence for direct Inca involvement.

La Centinela's Sector VIII

Other sectors of La Centinela that contain evidence of Inca influence lay outside the ritual and administrative (Sectors II and III) of the site. This includes Sector VIII which contains an elite residence with ritual spaces (Morris and Santillana 2007:151-154). Sector VIII was split into two sectors in which Sector VIIIA followed typical Chincha patterns and was more accessible, and Sector VIIIB incorporated more Inca elements and had restricted access to ritual spaces. This distinction was also apparent in the material culture; Sector VIIIB had more Inca Vessel shapes (35.6% and 31.1%) than VIIIA, which only had 8% (153). The exact nature of Inca influence in Sector VIII is not clear, but researchers suggest three possibilities for the coexistence of the two material cultures — (1) intermarriage, (2) the presence of Inca officials, or (3) local emulation of Inca styles. While some Inca elements were incorporated into Sector VIII, local Chincha architectural style and material culture still dominated the Late Horizon.

La Centinela's Sector XI

Researchers noted that in Sector XI, a plaza on the eastern end of the site, incorporated Inca architectural elements with its central platform and trapezoidal niches. The sector was highly disturbed, so researchers did not concentrate on this area (Morris and Santillana 2007:151).

Burials

Outside the "urban center" of La Centinela were multiple burials excavated by Max Uhle. As described in Chapter 5 (ceramics) and Chapter 8 (*balanzas*), these burials contained a rich array of burial goods (Kroeber and Strong 1924), but unfortunately, the excavation of the burials was not systematically recorded. These burials include LIP, Late Horizon and Colonial material, including *balanzas*.

La Centinela- the surrounding area

Changes during the Late Horizon can also be seen at Lo Demás and Tambo de Mora, two sites close to site of La Centinela and Tambo de Mora was likely part of the La Centinela urban center. Lo Demás is a 2-hectare fishing settlement that dates to the Late Horizon (Sandweiss 1992). One of its residential structures was constructed from Inca rectangular adobes (Structure IV) and contains evidence for attached craft specialists. Even though the entire extension of Structure IV is not discernible, Structure IV had a more complex architectural pattern than structures found in other sectors of the site. Structure IV also contains a small plaza with a painted bird on the wall. Few Inca artifacts were found at the site, but the most were found in Structure IV. Based on this evidence and the strong local style in the material culture, researchers concluded that Structure IV was occupied by local elites emulating Inca styles and not Inca officials or labor groups (Sandweiss 1992:141-146).

At Lo Demás, it appears that fishing was intensified and that at Tambo de Mora craft production was originally intensified and then moved to a new location either in the Chincha Valley or even outside the valley (Alcalde et al. 2010; Rostworowski 1977:234; Sandweiss 1992:6).

La Centinela Conclusion

La Centinela provides a window into understanding the distinct ways that the Inca transformed Chincha sites. In Sector III, the Inca placed their palace adjacent to the local rulers and some material culture recovered in this area are in the “classic” Inca styles and shapes (Morris and Santillana 2007:140). In Sector II, the large Chincha *tapia* pyramid is largely untouched, but the Inca diverted traffic through a typical Inca plaza. At the eastern end of the site (Sector XI), the architecture displays trapezoidal niches and Sector VIII appears to have two parts, with one (B) more closely associated with the Inca. It is also important to note that there are seven other sectors at the site of La Centinela that do not show significant alterations.

At La Centinela the Inca presence is clearly apparent in some sectors and not in others. It is clear that the Inca and the Chincha developed a close relationship in which the authority of the Inca, while dominant, did not supplant the Chincha, but rather was developed alongside. At La Centinela the Inca transformation was associated with both ritual spaces and elite residences. The elite residences utilized a restricted-access plan and complex organization of plazas platforms and rooms, which is similar to Inca constructions in other regions (Protzen 2008, 2010). The Late Horizon modifications are seen only in certain sectors (Sectors II, III, VIII and XI), and many parts of the site do not have evidence on the surface for major transformations under Inca occupation.

At La Centinela there is also evidence for specialized labor. Morris and Santillana (2007) interpreted the eastern segment of the Inca palace as the location of textile production. Furthermore, at the site of Tambo de Mora, part of the urban center of La Centinela, there was evidence for an intensification of craft production (Alcalde et al. 2010) that was likely in response to Inca presence. After craft production intensified towards the end of the Late Horizon, the same space was no longer used for craft production. It became a midden. There is also evidence for specialized fishermen at Lo Demás. Outside of architectural modifications, there is also evidence for Inca involvement or influence in specialized economic practices (fishing and craft production).

Las Huacas

This dissertation adds key information on the second largest site in the valley, Las Huacas, and on a previously understudied aspect of the Chincha economy — the farmers and specialized laborers who lived in the middle of the Chincha Valley.

Architecture

Earlier research at Las Huacas found Inca architectural features (Engel 2010; Lumbreras 2001) and Inca-influenced material culture (Wallace 1971). My excavations in Complex N1 found Late Horizon evidence of (1) an architectural unit that was increasingly more restricted to traffic; (2) a building that witnessed a wide range of activities that changed over time; (3) local Chincha, Inca, and Chincha-Inca material culture; and (4) a dynamic mortuary tradition.

From the artifacts and architecture of Complex N1, there are some interesting similarities and differences to La Centinela and the other Chincha Valley sites. As with Lo Demás and La Centinela, there is a shift in architecture that is more indicative of the Inca political strategy, and this transformation of architecture was restricted to certain areas. Complex N1 is unique at the site of Las Huacas and differs from the other structures with its complex architectural organization that utilizes plazas and platforms of various sizes. These similarities between Las Huacas and some structures around La Centinela demonstrates there was a shift happening at multiple sites in the valley. This change in the organization of elite complexes is likely associated with new strategies that elites and/or Inca officials used to develop their authority in the Late Horizon.

By comparing the artifacts and architecture at Las Huacas and La Centinela and its surrounding area, we can note some similarities and differences. As with Lo Demás (Structure IV) and La Centinela (Sectors II, III, VIII and XI), Las Huacas shows some Inca architectural elements in only certain areas. Complex N1 is unique at Las Huacas and not only superficially emulates Inca architectural elements (such as trapezoidal niches or double door jambs) but integrates Inca architectural canons into its floorplan. A sign that shows the transformation of Complex N1 was not simply emulation of the imperial style, but corresponded with a change in the way that people would have accessed and used the space, which is tied to socio-political strategies that local elites and/or Inca officials would have used to develop their authority. These similarities between Las Huacas and La Centinela demonstrate that similar changes in architecture occurred at multiple sites, but the timing of the changes at each site will require a fine-grained chronology. Currently, all these changes are associated with the Late Horizon and Inca presence in the region. It is also important to note that this was not a transformation of all architecture in the region, but at select structures within certain sites.

Material Culture

The overwhelming majority of the material culture and resources recovered from Las Huacas likely came from coastal, if not local contexts. While there are some Inca-influenced items, none appear to have come directly from Cusco as they did at the site of La Centinela. The Inca designs appear to be local copies in most cases (**Figure 9.1**), or the origin of the design motif is unknown, such as the Inca-style bird. The metal artifacts recovered from the site, though, do merit more study as the appear to use a variety of alloys and production techniques that would be useful in reconstructing Prehispanic exchange networks. Regardless, most goods were likely acquired locally, but during the complex's occupation (AD1200-1650) the site experienced multiple changes to the organization and function of Room A2 in Complex N1. These changes were likely precipitated by interactions with the Inca, whether through direct Inca action or the reaction of local elites to a changing political landscape in the Late Horizon.

There were interesting differences in the quantity of Utilitarian Reddish-brown sherds from the earliest occupation in Floors 2-6 to the later occupation in Level 4A. The middle occupations (Floor 1, Level 5, and Level 4B) all have more Utilitarian Reddish-brown wares than both Level 4A and Floors 2-6. This increase in utilitarian wares coincides with an increase in *Concholepas concholepas* in Floor 1 features, especially the midden in the southwest corner. Some concholepas valves and fragments contained traces of purple pigment, which could have been associated with craft production. In these same levels (Level 4B, Level 5 and Floor 1) we found scrapers, a kiln, and waster sherds, associating these occupations with craft production. Based on the ceramic evidence, rim shape and design motifs, the kilns are currently associated with Inca presence in the region. The kilns are dated to around AD 1320-1420 (**Table 3.1**, **Figures 3.55** and **3.57**), which may suggest that the Inca influence began around AD 1400, 70 years earlier than the commonly accepted date of 1470 (Menzel and Rowe 1966). The AD 1400 date is in line with other studies (Bongers 2019; Julien 2000, 2008). Emulation of Inca styles or incorporation of Inca technologies could have obviously happened prior to incorporation into the Inca Empire, but research at Las Huacas and the Middle Valley mortuary structures (Bongers 2019) demonstrate that there were changes in architecture, material culture and mortuary practices that points towards a larger shift in activities around AD 1400.

After the occupations associated with Floor 1 and Level 5, and the burn event, the room was then used for mortuary rituals and the burial of multiple individuals in Room A2. The discontinuation of craft production in a particular space is similar to what researchers found at the site of Tambo de Mora (Alcalde et al. 2010), where an LIP and Late Horizon ceramic and metallurgical workshop was abandoned and used as a midden in the terminal Late Horizon.

After Room A2 in Complex N1 was no longer used for craft production, Tutuma Coarseware is introduced into the assemblage and there is evidence for a general decrease in the quality of the Chamorro ceramics found at the site. Tutuma Coarseware, while coarse, was used in burial contexts and was decorated with red and purple slip, signifying that is was likely not a utilitarian ware. The introduction of Tutuma Coarseware in Level 5, and the decrease in the Chamorro production value could have been due to changes in the organization of craft production, where elites at the site did not have access to the same type of quality ceramics that they did during the LIP and early Late Horizon.

Under the final occupation of the complex, Room A2 was used for the burial of multiple individuals. These burials are associated with the Terminal Late Horizon based on stratigraphy and material culture, and possibly could include the Early Colonial Period based on AMS dates. The mortuary practices at Las Huacas incorporate primary burials, a multi-stage burial processes and secondary mortuary features. Many burial practices, such as red pigment applied directly to crania and reeds inserted into vertebrae, were associated with a changing mortuary culture of the Late Horizon in other areas of the Chincha region. These practices are similar to those observed by Bongers (2019) in the Upper and Middle Chincha Valley. Bongers concludes that burial practices were an important place where new political and social relationships were created. In the burials excavations recovered a large number of *balanzas*, At this point in time it is not possible to say exactly what they would have been used for, but their presence in Chincha highlights the need to explore the various ways that goods might have been circulated throughout the Inca Empire. Below I summarize data on the Late Horizon in the Chincha Valley and develop comparative cases from the North Coast of Peru under the Chimú Empire and Mycenean Greece. I then conclude by integrating data on weights and measurement from Europe and the Near East to better understand the role and significance of the Chincha *balanzas*.

Chincha Valley Late Horizon Summary

Between the new research at Las Huacas and previous research around the urban center of La Centinela, there are important similarities and differences. First, the most apparent difference is that the evidence supports a more direct connection between the Inca and Chincha at La Centinela, especially within the Inca palace sector (III). Las Huacas does not have the same evidence in material culture or building material (Inca adobes) for as direct of control by the Inca.

Regardless of this lack of evidence for direct presence, some changes at Las Huacas incorporate important aspects of Inca architectural planning. Typical Chincha structures were truncated pyramids that were generally not associated with perimeter walls. Complex N1 differs from this typical model with its complex horizontal floor plan and restricted access. Earlier occupations (Floors 2-6) were associated with a more open floor plan that was likely similar to the Chincha structures and is associated with cooking trenches (**Figure 3.32**). Complex N1 has some similarities to Sector VIII of La Centinela, where researchers were not sure if Inca architectural features and material culture were from local emulation or the presence of Inca officials. Though, the transformation of Complex N1 is much more expansive than those described for Sector VIIIB at La Centinela and Structure IV at Lo Demás. Currently, the transformations of Complex N1 seem to occupy a sort of middle position between the two ends of the spectrums of direct Inca control (Inca palace) and likely local emulation (Lo Demás Structure IV). As described in Chapter 7, the material culture is mostly in the local Chincha style and the plants, animal and shell species could mostly have been locally obtained, demonstrating a strong local culture.

In comparing Las Huacas to the site of Tambo de Mora, there are similarities in in the occupational histories of the site. Complex N1 was the location of craft production from approximately AD 1400-1450, until the space was used to corral camelids. This mirrors the changes at Tambo de Mora where a room was originally used for craft production and later became a midden (Alcade et al. 2010). Within Complex N1, craft production was moved outside of Room A2. As highlighted previously, it is not clear where it was moved to, but the ethnohistoric record highlights the possibility of craft production being moved to the neighboring Cañete Valley or the capital of Cusco (Alcalde et al. 2010; Rostworowski 1977:234, 1978-1980:166; Sandweiss 1992:6). This discontinuation of production activities in the room also coincides with a general decrease in the production value of ceramics found in the room (Tutuma Coarseware and Chamorro rough become more numerous through time).

This transformation of the organization of craft production and the use of space —from an open highly accessible area to enclosed exclusive spaces —occurred in many regions of the world. To develop an understanding of the broader implication of the changes described for Chincha Valley architecture, I will compare the Chincha Valley case to other regions.

Case Studies

The architectural changes in Chincha reflect some changes that occurred on the north coast of Peru under the Chimú Empire and mainland Greece at the time of Mycenaean city-states. These two cases saw similar transformations – from open-access to restricted-access ritual spaces within elite public architecture. That being said, the process came about through two different processes: one was the rise and expansion of an empire (Chimú); the other was competition between elite families (Mycenaean). In Chincha during the Late Horizon, these two factors were probably both important agents of change.

North Coast of Peru.

The north coast of Peru was home to both the Moche state (AD 100-800) (Quilter 2002) and the Chimú Empire (AD 900-1470) (Vogel 2018). Both were complex polities, but the way that elites in each case developed authority was different. The Moche state did not actively insert themselves into local economic activities. The Chimú, in contrast, were a highly bureaucratic empire that had profound effects on the economic organization of the polities that they incorporated (Topic 2003).

Moche political authority focused largely on *wak'as*[13] or large structures that were the location of feasts and ritual activities by both elites and commoners. In the Moche state, political power was held by people who had ties to important ancestral places or *wak'as,* and political authority was rooted in community religious activities (Moore 1996, 2005). In this type of

[13] *Wak'a* is a term that encompasses diverse types of things. In this dissertation, I use *wak'a* to refer to large structures on the coast of Peru that were used for ritual and religious activities, not structures that had clear ties to the bureaucratic functions of administration, storage, and tribute collection. For an in-depth discussion of the term *wak'a*, see Mannheim and Salas Carreño (2015).

political organization elites can be seen as stewards of the *wak'as*, relying upon their connection to religious and community rituals to develop and maintain their authority.

Succeeding the Moche state in the Moche Valley was the Chimú Empire (AD 850-1470), which expanded to incorporate most of the north coast. Between the Moche state and the Chimú Empire there was a major shift in the architectural layout and organization of administrative centers, elite residences, craft production, and tribute collection (Vogel 2018). The new style of architecture can be most clearly seen in *ciudadelas* but was also reflected in non-royal elite compounds throughout Chan Chan (Moore 2005). *Ciudadelas* were dedicated to the collection of tribute, craft production, the burial of Chimú rulers, and possibly elite residences (Moseley and Day (eds.) 1982). Access to these structures and to specific rooms was restricted. They were surrounded by massive perimeter walls that had a height of 4 to 9 meters. Within these walled compounds the Chimú carried out important bureaucratic activities, such as state-sponsored craft production and the collection and storage of tribute. In the *ciudadelas* the Chimú could tightly control access into and within the compound (Day 1982).

There were major differences in the tactics used by the Moche and the Chimú and a major part of this change was reflected in the architectural layout and function of the *ciudadelas*. The Chimú did not focus as much on group cohesion; instead, their strategies sought to extract tribute and gain wealth by relying on a strict division of classes, where only certain people could access certain parts of the structure. The *wak'as* retained an important ritual position, but they ceased to serve a central role in maintaining and expanding political authority (Moore 1996, 2005).

Outside of the *ciudadelas,* there were elite structures that included similar features to *ciudadelas,* including "ramps, storage areas, walk-in-wells, and ramps, and also were subdivided in a pattern similar to that of *ciudadelas* like Rivero and Tschudi” (Moore 2005:197). The layout of these structures varies, but the elite structures were generally similar to *ciudadela*s in layout, function, and restricted access. The elite residences also appear to have served a function in the extraction of tribute and storage of resources.

Multiple scholars have seen evidence of a progression from Moche *wak’as* to the emergence of *ciudadelas* in the Moche Valley (Vogel 2018). The Middle Horizon site of Galindo (AD 550-1000) has two distinct types of architecture — Moche-style *wak’as* and walled enclosures containing rooms (Bawden 1982:293) that are similar to the Chimú *ciudadelas*. The transition from Moche-style *wak’a* to Chimú *ciudadela* was tied to an important shift to a political economy focused on the extraction of tribute, and a more “hands-on direct administration of goods and labor” (Topic 2003:245).

In the Moche Valley there was a natural progression to enclosed and walled structures, but there is also evidence that such use of space was related to Chimú expansion. Near Chan Chan are the sites of Quebrada Katuay, El Milagro de San José, and Quebrada del Oso that integrate Chimú architectural elements (Keatinge 1982). These sites were the location of bureaucratic activities related to agriculture, such as canal maintenance, harvesting, and planting. Structures that followed a more enclosed architectural pattern contained patios and burial platforms similar to structures at Chan Chan (Keatinge and Conrad 1983). This style of architecture was tied to the control of labor throughout the region and an integral part of the highly hierarchical system of Chimú administration (Keatinge 1982). Along with being the location for the storage and collection of tribute, these structures with enclosed architecture in the Chimú provinces were likely the location of important rituals that created the necessary relationships between Chimú administrators and local elites.

Mycenaean City-States

While the Chimú case captures changes that occurred as part of imperial expansion, similar changes were brought about through elite competition in other regions. During the Late Helladic period (1700-1050 BC) (Manning 2012) elite public architecture associated with Mycenaean city-states began creating exclusionary architecture where important activities were conducted. Mycenaeanization was a complex process that drastically changed social organization and was continually evolving throughout the Late Helladic (Pantou 2014). There were significant changes in the fortification of settlements, mortuary practices, and elite architecture (Fitzsimons 2011).

During the Late Helladic, the political organization was centered on Mycenaean palatial societies that operated largely as city-states (Ward 2018; Galaty and Parkinson 2007). Settlements with palaces were usually much larger than the surrounding settlements (Small 1998, 1999) and were the site of diverse activities. The palaces were an important part of the regional economy, but they were not the central node for entire regional economies (Galaty and Parkinson 2007). There were many institutions such as sanctuaries and religious institutions that played an important role, while palaces focused on activities that supported the palace itself.

During the Late Helladic, there is evidence for changes to elite architecture at Menelaion. At the site there are differences in the successive constructions of an elite residence. Mansion 2, which was built atop Mansion 1, had more restricted access. Mansion 2 had "well-defined exterior boundaries, smaller rooms, a complex circulation pattern, and walled-off courts where there had once been open spaces" (Pantou 2014: 392). Pantou suggests that this is connected to an increase in social differentiation and that the configuration differed sharply from the sociopolitical environment of Mansion 1, which was much more focused on creating group identity. During the time period of Mansion 2, there could have been some consolidation of political power, but it does not appear that this would have been long-lasting, due to the fact that Mansion 3 does not retain these qualities and was a "modest structure" (Pantou 2014:392). The shift in architecture during the Late Helladic reflects a shift in strategies —from creating group cohesion (inclusionary) to differentiating classes (exclusionary). This transition at Menelaion happened relatively early in the Late Helladic, but as Mycenaean palaces continued to grow, the use of exclusive spaces in developing political authority became more apparent.

Palaces and elite residences were central to creating spaces where elites interacted with the public, but elite architecture also created spaces that only certain people could enter. These changes were not brought about in an imperial way, as seen with the Chimú, but were the result of a competitive culture where elites were trying to gain wealth and prestige (Galaty and Parkinson 2007). Specifically, at the Palace of Nestor experiential and spatial syntax research demonstrate that there were certain areas that could be easily accessed for public ritual, and that more elite rooms were harder to reach (Ward 2018). The layout of the Palace of Nestor brought people together, but also restricted certain spaces for people with high enough status to access them. This is characteristic of Late Mycenaean architecture in general and shows that the construction of exclusive spaces was part of elite families' strategies to conduct private activities and maintain their authority.

Palaces oversaw activities that supported the institution of the palace and the prestige of the elite families that resided there. Palaces utilized feasting to create the illusion of a reciprocal relationships (Voutsaki 2016; Nakassis 2010) in order to extract wealth and the necessary goods that they needed to display their status. In this sense, the elites that resided in these facilities needed to attract support from local commoner populations, but also institutionalize the difference between commoners and elites. The relationship between the elites that occupied the palace and the people residing in the surrounding area was sustained through feasting (Halstead 2011; Renfrew 1972), but there was a clear class distinction embedded in the layout of the architectural spaces used for these events. The relationships appeared to be reciprocal but were most effectively used by elites to acquire and mobilize vast amounts of wealth.

Assessing Case Studies

Case studies from Greece and Peru capture a shift from (1) promoting access and creating group identities to (2) restricting access and promoting privacy that institutionalized class differences via elite architecture. These two cases create even more gray area in trying to determine if changes occurred through direct Inca presence or through local elites adapting to a changing political landscape in the Late Horizon. On the north coast of Peru, the transition from Moche style accessible *wak'as* to the highly inaccessible *ciudadelas* was connected to a drastically different type of political economy predicated on class and the extraction of wealth. This change in sociopolitical strategy coincided with elite public architecture that restricted access to enclosed spaces and institutionalized the differences between commoner and elite. Mycenaean palatial societies, which operated as city-states, also saw a similar shift in architecture during the Late Helladic. Together, these case studies demonstrate how restricting access to enclosed spaces within elite architecture can be an integral part of diverse types of political economies that rely on a clear differentiation in classes. The Chimú did this through centralized imperial authority and the Mycenaeans through competition between elite families in distinct city-states. Both areas supported early economies that relied on the idealized concept of reciprocity in the development of elite authority, but both the Chimú Empire and Mycenaean palaces were inherently non-reciprocal, due to their goal of extracting wealth and supporting an elite class (Keatinge and Conrad 1983; Voutsaki 2016; Halstead 2011; Renfrew et al. 1974). Elite public architecture was an important tool through which these groups reinforced their political authority.

These two case studies shed light on the changes to elite public architecture that occurred in the Chincha Valley. It is clear from the ethnohistoric record and archaeological research that during the Late Horizon major changes occurred to the administration and organization of the region. One notable change highlighted in this dissertation is the use of enclosed architectural spaces for elite residences, craft production, and ritual activities. These changes are similar to the changes (1) from Moche style *wak'as* (AD 100-800) to Chimú *ciudadelas* (AD 900-1470) and (2) during the Late Helladic on mainland Greece under Mycenaean city-states.

In these transitions, there is a shift to tightly enclosed and more inaccessible structures. This change was influenced by changing sociopolitical tactics (Moore 1996; Pantou 2014; Vogel 2018). The enclosed spaces in these two cases were associated with a political strategy that differed from previous tactics designed to promote group cohesion; now they were eager to institutionalize class differences and extract tribute and increase wealth. On the north coast of Peru, this transition was reflected in a shift from a more corporate style administration to a bureaucratic institution. In Chincha, the administration of the local Chincha polity likely was similar to the Moche, based on the style of architecture and description of coastal polities in the ethnohistoric record (Fernández et al. 1844) and evidence for large feasts at Las Huacas in Floors 2-6. Evidence from the Paracas period, 1,200 years prior to the Inca, does contain evidence of a political economy founded on creating group cohesion (Stanish et al. 2018), but relevant research from the end of the Paracas period in AD 200 to the arrival of the Inca is lacking. Future research will illuminate the exact nature of the political organization of the LIP Chincha and surrounding coastal polities.

During the Late Horizon in Chincha and other coastal valleys, we see the use of elite structures with restricted access and exclusive ritual spaces. This style of architecture is similar to elite structures that were seats of Chimú and Mycenaean political authority. In the Chimú and Mycenaean cases, there is evidence for the rise of more bureaucratic organizations that were heavily predicated on class distinctions. The similar change in architecture in Chincha could represent a shift from highly visible investments in ritual and prestige to one focused more on exclusionary tactics and the extraction of wealth. But, who was the benefactor of this change, the Inca Empire, local Chincha elites, or a mix of the two?

In the Chincha Valley, this transition in architecture is clearly tied to direct imperial Inca presence at the Inca palace, but in other sectors of La Centinela and sites throughout the valley, the driving force behind these changes is less clear. These changes could be due to Inca presence, local elites working on behalf of the Inca, or local elites changing their strategies in the new political landscape of the Late Horizon. The Mycenaean and the Chimú cases demonstrate that the types of architectural changes outlined in this chapter can be brought about by different forces. One, where they are central to imperial expansion and created by imperial officials (Chimú), and the other through competition between distinct elite families (Mycenaean). Changes to Structure VIII and Lo Demás appear to be more connected to elite emulation. Complex N1 seems to fall between these two and the La Centinela palace, where there is evidence for direct Inca involvement. Lo Demás and Sector VIII include enclosed spaces, but at

Lo Demás the entire archaeological extent is not well known, and Sector VIII at La Centinela, still has a very Chincha style of architecture.

Complex N1 has a completely different architectural floorplan than any other structure or compound at Las Huacas. Surveys of the site have also not recorded a large storage capacity, for this reason, it is likely that the Inca did not view Las Huacas as a site to economically exploit, but due to its size it would have been an important location of ideological control (Eeckhout and López-Hurtado 2018; Mackey 2006, 2010). It is also likely that administrative decisions at the site of Las Huacas were still impacted by larger Inca motivations in the region, as we see evidence for a reorganization of craft production, similar to Tambo de Mora (Alcalde et al 2010). Complex N1 has Inca architectural features and could have been influenced by Inca motivation in the region, but it still has a very strong local style. In this way it is difficult to interpret how these changes were brought about. The data from Las Huacas needs to be further contextualized with new research in the Chincha region.

From the architecture we can see a transition towards a more bureaucratic style of administration, and also a stricter control of craft production throughout the valley. With the Chincha case it is also particularly important to look at the *balanzas*. As described in Chapter 8, we are not sure where they were used, but using other studies of weight measurement in other regions we can begin to conceptualize their significance. The act of making scales and weighing is significant. Given the mere presence of a tool to determine weights and equivalency creates a standardized manner of interacting, whether that be between two individuals, or individuals and the state. In order to understand the potential significance of the Chincha *balanzas*, I will utilize other cases of metrological studies from throughout the world.

Concept of Measurement in Archaeology

The introduction of implements to weigh and measure goods is a topic that is discussed in archaeological theory throughout the world (Alberti et al. (eds.) 2006; Brogan 2006; Kroll 2012; Michailidou 2008; Morley and Renfrew (eds.) 2010; Petruso 1992; Rahmstorf and Stratford (eds.) 2019) Such implements (e.g. scales and balance beams to weigh items) represents an important shift towards a standardized system of weighing and exchanging one item for another. Scales and weights are not related to a specific economic system or even a specific economic practice, but they are broadly associated with the rise of bureaucratic institutions and the accumulation of wealth, whether that be by individuals or the state (Rahmstorf and Stratford (eds.) 2019). Research in Europe and the Near East have found a wide variety of uses for weights and scales. They could be used to mediate transactions by merchants, for accounting, and to control raw materials used in craft productions (such as metals and textiles). The presence of weights and scales in a region can be tied to one or more of these activities. In order to be able to differentiate between the two, it is necessary to understand the contexts in which they were used.

Unfortunately, often times weights and scales are not found associated with each other or in their original contexts. They are often recovered from burials, or isolated on their own. Consequently, it is difficult to say exactly how they were used. In the Near East and Europe, research has focused on reconstructing standard units and uses both textual and archaeological data to understand the larger contexts within which they were used. Some evidence (Peyronel 2019) supports the idea of a very centralized state-run institution where weights and measures were gathered and recorded in specific institutions. These institutions worked as a kind of official "stamp of approval" that the weights recorded were correct and this certification was backed by the larger institution. Outside of this, there is also evidence of scales and weights being the tools of long-distance merchants.

Many studies addressing ancient practices of weight and measurement are specifically designed to discern metrology and standardized units of measure. Some of the most notable studies look across regions to find some sort of convertible system that linked different economies (Mederos and Lamberg-Karlovsky 2001). Other studies highlight the need to understand the weights and measures in practice, rather than as abstracted numerical values (Petruso 2019). When discussing standard units of measure and how they would have been used by different ethnic groups and polities, it is important to understand how precise the measurements were expected to be, and what difference in weight would have been considered significant. The aforementioned study (Mederos and Lamberg-Karlovsky 2001) evaluated down to the .01g, which is beyond what these ancient weights and measures would have been designed to evaluate. By looking at group categories rather than specific artifacts (Kershaw 2019), we can understand more about how these weights would have been used, instead of seeing them as part of a rigid system with specific weights down to the second decimal place.

Outside of considering the level of accuracy of ancient weights systems, it is also important to note that there were multiple goods being weighed and sometimes different standards of measurement were used for different items (Peyronel 2019). In the ancient Near East copper, silver, wool, and barley were all standard measurements. Weights and measurements are often associated with long-distance-trade (Mederos and Lamberg-Karlovsky 2001) and urban activities, but research on Scandinavian Viking weights demonstrate that they can be found in rural areas (Kershaw 2019). The presence of Scandinavian weights in rural centers is interpreted as evidence that weights and scales were not just the tools of long-distance merchants, but also used in local transactions that were inherently different. Based on the weights and scales found in urban centers and marketplaces versus rural areas, merchants used more low-value weights (lighter), while local rural weights were larger, likely used for larger (heavier) transactions.

In conclusion, the presence of weights and measurement is not directly tied to a single method of the exchange and circulation of goods, but it does represent a shift towards the control of transactions linked to the accumulation of wealth and more bureaucratic operations. This can either be in the service of an elite class or as part of state administration.

Conclusion

This dissertation has presented data on how the Chincha Valley was transformed during the Late Horizon when it was part of the Inca Empire. These transformations were both brought about through formal Inca tactics and via the agency of local elites as they reacted to a shifting political landscape in the Late Horizon. The line between local Chincha and foreign Inca is particularly difficult to draw, since research at La Centinela in the 1980s found evidence for a close relationship between the two, where the Inca authority was carefully developed alongside the local in multiple sectors of the site (Morris and Santillana 2007).

Regardless of this close association between the Inca and the Chincha, the ethnohistoric record describes how Inca demands steadily rose (Rostworowski 1999). So, while there was a close relationship between the two, there was a power imbalance that favored the Inca. During this time, the Inca adopted some trends of the coastal groups and the coastal elites adopted new Inca styles, whether through direct Inca influence or local emulation.

One domain where transformations can be seen is in the decreased accessibility to certain spaces and buildings. This is similar to the elite architecture of the Chimú Empire and

Mycenaean Greece. The construction of spaces that have restricted access represents a shift in the way that local elites or new foreign officials interacted and maintained their authority. Prior to this, the local Chincha sites could be viewed as being similar to Moche *wak'as* in which local people used ancestral claims and control of ritual activities to bolster their authority and created spaces where communities could come together for large communal feasts. Later constructions in the valley show some similarities to Chimú style *ciudadelas*, and Mycenaean palaces. The Chimú and Mycenaean had political economies that utilized restrictive plazas where rituals were conducted for only part of the population. This differentiation in classes and accessibility provided a foundation for more bureaucratic institutions that focused on the extraction of wealth.

The Chincha Valley case could also be indicative of broader trends on the south and central coast. While the Chincha are often cited as a unique case of Inca expansion, the changes in architecture seen in Chincha are similar to those in other coastal regions such as the Lurín (Alvarez-Calderón 011; Eeckhout 2010; Eeckhout and López-Hurtado 2018; López-Hurtado 2011) and Pisco Valleys (Protzen 2008; 2010; Protzen and Morris 2004). Due to the complexity of coastal polities in the LIP, there are likely broad similarities in the strategies that the Inca used to develop relationships with local elites and the ways that local elites may have adapted to the new political climate of the Late Horizon. While in some cases, such as Inkawasi (Hyslop 1985), elite public architecture was clearly used to extract and collect goods for the Inca state, other sites such as Canchari (Serrudo and Coben 2018) and Cerro Azul (Marcus et al. 1985), were the location of Inca efforts to develop relationships with local elites. These relationships created important hierarchies and class distinctions that were central to the management of the Inca Empire on the Peruvian coast.

On the other hand, research has also demonstrated the ability of local groups to take advantage of new networks to increase their own wealth and prestige outside of direct Inca control (Garrido 2016). In the Chincha case, it is currently not clear what the driving forces behind all these architectural changes were. More research is needed in order to understand the types of activities that occurred within various structures and how these activities compare to other Inca provinces and coastal polities in the LIP and Late Horizon.

Understanding the Chincha case has the ability to inform discussions of Inca expansion throughout the Peruvian coast. Due to the rich diversity of resources available on the Pacific coast, Inca administrations looked different on the coast than in the highlands. Similarly, it is important to understand how the coastal groups themselves would have created changes in the Late Horizon. The changes discussed in this chapter to Chincha architecture, reflect more broadly a change in sociopolitical strategy that is similar to the Chimú and Mycenaeans. In these regions, restricted elite public architecture was a foundation for creating a shift towards a more bureaucratic style of administration that was focused on the extraction of wealth and less on community cohesion. Future studies should address the larger processes associated with these changes.

Outside of the architecture, the presence of *balanzas* also represents the foundations of a more bureaucratic organization. Rather than equivalency being decided in face to face interactions, a tool regulated and verified that quantities were equal. The *balanzas* and the architectural transformations are both connected to a more bureaucratic organization, in the sense that they represent a certain level of abstraction in how interactions occur, and how equivalency is determined. The transition to a more class-based society and the development of a weighing systems are not linked to one type of political or economic system. This harkens back to the debate introduced in Chapter 1 between more market principles (elite competition) or non-market (state redistribution). As Aztec studies have emphasized (Berdan et al. 2017; Brumfiel 1980), it is not useful to simply classify an economy as market or non-market, since ancient and modern polities can utilize principles of both systems, but rather it is important to understand how these principles worked in specific situations. With the Aztec, markets were an important way in which goods were circulated, but state redistribution of certain key resources, such as feathered shields was also important. To think of the Aztec as having a purely market economy or depending solely on redistributive functions is to miss an important interplay of the two systems, both working together to grow and expand the Aztec Empire.

Looking at the Inca we see various systems though which goods could be exchanged in the Andes. Espinoza (1987) noted four: (1) state redistribution of staple goods, (2) state redistribution of luxury goods, (3) exchange between individuals of different ethnic groups, and (4) long distance exchange with professional merchants. These different systems of exchange can all coexist and do not represent competing ideologies, but rather explain different commodities and aspects of a complex economic system. These systems of exchange were not of equal importance in distinct regions. As previously highlighted, the Inca are generally viewed as relying heavily on the first two types (D'Altroy and Earle 1985), but the Chincha Valley might have been a place where state redistribution was less prevalent.

This could have been intimately tied to the role of the Chincha merchants in procuring *Spondylus* during the Late Horizon. The Chincha merchants were conducting trade at the borders of the empire and it seems likely that their methods would have differed from the typical Inca system, where redistribution is heavily predicated on the authority of the state.

Balanzas, or similar instruments, are described more often for Colombia and Ecuador (Saville 1925). More research is needed to reconstruct how they would have been used at Las Huacas, but excavations of more contexts in Chincha and the integration of previously collected data on *balanzas* from other contexts throughout the Andean coast might yield new insights.

The research from Complex N1 demonstrates a change in function overtime. Originally it was an open space at the base of a platform characterized by cooking trenches. Later, during the time period of Inca influence, the same area was used for craft production. Around this time there were rectangular cuts made in the floor that could have been part of some sort of ritual feature, drains or the base of walls. These cuts were then filled in and the room was later used by camelids. It was then burned and then the location of mortuary rituals and burials. In Room A2, we see a shift from ritual feasting to craft production and then mortuary rituals. In the initial phase elites are focused on garnering support from the local inhabitants, but as the complex transitions into the Late Horizon we see it become a productive center used for craft production and camelids and then exclusive rituals pertaining to elite burials. The burial rites did not only involve simply depositing human remains, but there is also evidence for a multi-stage burial process and secondary mortuary practices. As was the case at Farfán (Mackey and Nelson 2020) and the upper Chincha Valley (Bongers 2019), these burial practices were likely important to how power was negotiated in the Late Horizon.

The changes at Las Huacas cannot be disembedded from the larger Inca imperial project, as the changes in function in the room were influenced by Inca presence in the region. That being said, Complex N1 does not show the same evidence for direct Inca presence as the Inca palace at La Centinela does, but it does show larger scale changes than Sector VIII at La Centinela and

Structure IV at Lo Demás. Las Huacas is the second largest site in the valley that oversaw an important segment of the Chincha population, the agricultural laborers, and it likely would have been a strategic point for the Inca to institute ideological control.

The research presented in this dissertation provides an important opportunity to develop new frameworks for interpreting Inca expansion to the coast. Often these studies rely on models developed in the Andean highlands where the Inca did not encounter the same types of specialized polities that appear in Peru's coastal valleys. Peru's coastal valleys also encapsulate a lot of variety in social complexity during the LIP and Late Horizon, but the marine environment and fertile river valleys created some widespread similarities. Wealth accumulation and specialization were likely different on the coast than the highlands, where local elites would also have had access to long-distance trade and distant resources. Achieving a better understanding of multiple factors that influenced changes in the Late Horizon will help archaeologists create a more comprehensive idea of the diverse economic strategies used by the Inca as they incorporated the Andean coast in the Late Horizon. The Chincha case provides an interesting opportunity to understand how two complex economies, the Chincha and the Inca, developed under imperial expansion in the Late Horizon, and how Chincha's role at the Empire's northern frontiers affected local sociopolitical strategies and economic practices.

Chapter 9 Figure

Figure 9.1. Fragments of an imitation Inca vessel found in Room A2 of Complex N1 at the site of Las Huacas.

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