The Nasca culture (AD 1-650) located on the south coast of Peru has been interpreted in many ways since it was first investigated by Max Uhle in 1901. Scholars have described it as a middle range society, heterarchy, simple chiefdom, confederacy, paramount chiefdom, theocracy, state, and empire. This paper explores past interpretations of Nasca and presents data from the site of La Tiza in the southern Nasca drainage. The evidence from La Tiza indicates that population was larger and settlements were more variable than has previously been proposed for southern Nasca. In addition, there are indications of a greater degree of social differentiation and ritual activities not previously identified at other sites in the area. This has implications for the overall integration and complexity of the Nasca culture.

1. Introduction

Since it was first investigated by Max Uhle in 1901, the Nasca culture of the Early Intermediate Period (AD 1-650) has been interpreted in many ways by different scholars. Nasca was not the first complex society on the south coast of Peru; previously, during the Early Horizon (800 BC-AD 1) the Paracas culture centered in the Ica and Pisco valleys had many large sites, evidence of regional integration, and was the origin of elaborate and widespread textile and ceramic styles. The Nasca region at this time was integrated to differing degrees with the Paracas culture with some areas, such as the southern drainage, having relatively low population and a number of competing groups that were loosely tied with areas to the north. Following a transition period after the end of Paracas there was a shift that included changes in material culture and sociopolitical organization that would come to be called the Nasca culture, which represents the first large, regionally integrated complex society that developed and was centered in the Nasca drainage.

Interpretations of the Nasca culture vary greatly in terms of complexity and type of sociopolitical organization, and it has been described as a heterarchy, middle-range society, simple chiefdom, confederacy, paramount chiefdom, theocracy, state, and empire (Carmichael, 1995; Isla Cuadrado and Reindel, 2006; Massey, 1986; Orefici, 2011a; Proulx, 2010; Reindel, 2009; Rowe, 1960; Schreiber, 1999; Schreiber and Rojas, 2003; Silverman, 1993; Silverman and Proulx, 2002; Vaughn, 2009). The last twenty years have seen a proliferation of research on the Nasca culture and there is now a great deal of new data that can be used to better assess the nature of this ancient society. This paper explores past interpretations of Nasca and in particular the way scholars have defined it in terms of complexity and sociopolitical organization. Then data is presented from the site of La Tiza, and suggests how this new information aids in the interpretation of this civilization.

2. The Nasca culture

The heartland of the Nasca culture was the Nasca drainage and the core area extended north to the Ica Valley although the distinctive, fine, polychrome pottery has been found at settlements from Acari to Chinchilla, and even as far away as the Moquegua Valley to the far south (Goldstein, 2000), and the Carhuarazo Valley to the east in the highlands of Ayacucho (Schreiber, 1992) (Fig. 1). The Nasca drainage sits in a basin between the Andes mountains and a coastal range, and includes several river valleys that drain into the Pacific Ocean. The Santa Cruz, Grande, Palpa, Viscas, and Ingenio are all part of the northern drainage, and the Nasca (Aja and Tierras Blancas), Taruga, and Las Trancas valleys comprise the southern drainage. The drainage is part of the hyper-arid northern Atacama desert with a mean annual precipitation not exceeding 10 mm (Mächtel et al., 2009: 39). Water in this area is dependent on rainfall in the highlands between November and May. At this time of year there is water in the rivers but during the rest of the year the flow is greatly decreased in the northern rivers. In the...
south, where the catchments are smaller and there is a high quantity of ash in the soil that absorbs much of the moisture, it stops altogether (Schreiber and Rojas, 2003: 25).

The Nasca culture was an agricultural society with population concentrated in the inland river valleys where arable land and access to water was located. Irrigation was essential in the desert and at some point during the Nasca culture a series of complex, underground, horizontal aqueducts called *puquios* was constructed in the south (Schreiber and Rojas, 2003). A study of diet from Nasca populations in the Las Trancas valley of the far southern drainage indicates that people had access to a wide range of food items (Kellner and Schoeninger, 2008, 2012), and excavation of Nasca sites confirms the consumption of a variety of plants including maize, potatoes, squash, beans, and native fruits (Isla Cuadrado, 1992; Orefici and Drusini, 2003; Silverman, 1993; Valdez, 1994). Evidence from several sites suggests that domesticated camelids (llamas and alpacas) were kept by Nasca people (Horn et al., 2009; Silverman and Proulx, 2002; Vaughn, 2009). There was also procurement of marine resources from the Pacific, approximately 50 km away, although they did not make up a large part of the diet (Kellner and Schoeninger, 2008, 2012).

An important issue in interpreting Nasca sociopolitical organization is that there were shifting degrees of integration and hierarchy over time. Therefore, a brief discussion of chronology is needed before further describing cultural developments. The Nasca culture has traditionally been divided into three periods (Early, Middle and Late) that correspond with certain ceramic phases (Nasca 2–7), and given calendar year dates by associated radiocarbon dates. However, there are differences in the chronology between the north and south drainage (Table 1). For example, in the south Early Nasca is associated with Nasca 2–4 pottery and has been dated to AD 1-450, while in the north it is associated with Nasca 2–3 pottery and dates to AD 90-325. The differences documented in the various ceramic phases may be related to other factors besides time such as regional variation, styles based on different social groups, and functional aspects of the pottery (Silverman and Proulx, 2002: 37). A new study using optically stimulated luminescence (OSL) tested 50 surface sherds collected from sites of various time periods in the southern Nasca region (Vaughn et al., 2013). This study found considerable overlap in Nasca 1 and 2, as well as Nasca 4 through 7. However, the general designations of Early, Middle, and Late have been shown to have validity despite the
contemporaneity of some phases, and differences in the chronology of phases between the north and south.

The largest site of the Nasca culture was Cahuachi, with size estimates ranging from 150 hectares (Silverman, 1993: 57) up to 24 square km (Orefici, 2011a: 143). Located in the lower Nasca valley of the southern drainage there are about forty mounds at the site (with associated plazas) in a core area of 25 hectares that were constructed by modifying the natural hills (Silverman, 1993: 87). The first public/ritual architecture was built at Cahuachi in the Transitional period between Paracas and Nasca (Nasca 1) but it is during Early Nasca that it became a large and important center. Although much of the occupation at Cahuachi dates to Early Nasca, there was later use of the site with Middle Nasca ceramics found in some areas (Silverman, 1993: 38) and Late Nasca ceramics found in others (Orefici and Drusini, 2003). There is a Late Nasca occupation at Estaquería that was part of the Cahuachi complex but away from the main temple area (Strong, 1957: 34). There are also cemeteries at Cahuachi dating to many time periods (Schreiber and Rojas, 2003: 16–17; Strong, 1957). However, the main construction, and most extensive use of the site occurred in Early Nasca.

In the north during Early Nasca there was an increase in settlement density with sites concentrated on the large plain at the confluence of the Grande, Palpa, and Viscas rivers (Reindel, 2009: 451). These sites were not fortified or in defensive locations. Settlement patterns indicate a hierarchy of site sizes with hamlets, small villages, and centers such as Los Molinos and Lipata that had planned layouts, central buildings, and use of adobe bricks. Silverman (2002a: 109) has described at least two regional centers in the middle Ingenio valley and has identified several sites with civic ceremonial components (Silverman and Proulx, 2002: 248). In the south new house forms and village layouts were established in Early Nasca with sites also now in non-defensive locations and without prepared non-domestic interaction areas (Van Gijsegem and Vaughn, 2008). In contrast to the north, it has generally been proposed that settlements were predominantly small villages located in the upper valleys where water was available, and that they were integrated through the ceremonial center of Cahuachi (Schreiber, 1999; Schreiber and Rojas, 2003; Silverman, 1993; Vaughn, 2009). The term village is defined based on Schreiber's work (Schreiber, 1999; Schreiber and Rojas, 2003) in which sites that are generally less than 3 hectares are villages and those that are larger but without ceremonial architecture are called towns. Generally, village sites of this period in the south are considered to have been self-sufficient with some, but not highly marked, social differentiation among inhabitants (Silverman and Proulx, 2002; Vaughn, 2009). Previously, no sites that fall into the town category have been identified in the south. However, there are some larger settlements such as Cantalloq, Jumana, and Pueblo Viejo that have been characterized as ceremonial centers due to the presence of architecture such as a platform mound (Orefici, 2011a: 87; Reindel, 2009: 452; Schreiber and Rojas, 2003: 146) but whose roles in integration of the region remain unclear.

Middle Nasca has been classified as a transitional period during which there was reorganization of society with changes in both the north and south. In the north, settlement centers shifted to the northern plain and to the middle valleys, with a peak of settlement density (Reindel, 2009: 454). In some areas of the north there was abandonment of sites with civic-ceremonial components (Browne, 1992: 80) and the addition of others such as La Muña, which was an important center with adobe buildings, and a necropolis with large shaft tombs (Reindel, 2009: 454). In the south, there were new settlements established in the middle and upper valleys (Schreiber and Rojas, 2003: 146). It is thought that construction stopped at Cahuachi and that it was no longer in use as a major pilgrimage center (Silverman, 1993) although some scholars suggest it was occupied at least through Middle Nasca (Isla Cuadrado and Reindel, 2006). The large amount of burials around the site indicate that “the mortuary cult had not ceased and that Cahuachi still served as ceremonial center” (Schreiber and Rojas, 2003: 16–17). There are no other sites with civic-ceremonial architecture that have been recorded in the south at this time. It is during Middle Nasca that Schreiber and Rojas (2003) propose that the puquios were constructed and led to a change in settlement location since larger populations could now be supported in the middle valleys. However, Orefici (2011a: 135) has suggested they could have been in use during Early Nasca, and that Cahuachi may have played a part, at least indirectly, of water management at this time.

During the last period of the Nasca culture, Late Nasca, there were also substantial shifts in society. In the north sites continued to be established in the middle and upper valleys, and the large plain at the confluence of the Grande, Viscas and Palpa rivers was abandoned (Reindel, 2009: 455–456). There were, however, larger sites than in Middle Nasca and some of them are very regular in construction and appear to have been more planned. The change in site location is thought to be a result of the shifting of the desert margin to the east as a period of severe aridity occurred during this period. Working in the adjacent area of Palpa-Viscas, Browne (1992: 80) reports a significant drop in population during this time. Elsewhere in the northern drainage in the Middle Grande and Ingenio valleys there was also abandonment of Middle Nasca sites, and the new habitation sites were smaller. In contrast, the south during Late Nasca saw population aggregation and a possible increase in complexity (Schreiber and Rojas, 2003: 146–148). During this period many of the previous smaller sites were abandoned, and instead there were a smaller number of large towns, and more of the population appears to have moved south. Cahuachi remained a burial location but there is little evidence of civic ceremonial architecture at other sites during this period.

Throughout all periods of the Nasca Culture there were highly skilled craftspeople who made fine polychrome ceramics and textiles. The pottery had elaborate designs that used fifteen distinct mineral pigments, and had very thin walls that averaged four mm (Vaughn, 2009: 39). The ceramic style did go through changes during the approximately 500 years of its production. In Early Nasca pottery the prominent motifs were established, which included images of various agricultural products such as beans, chili peppers, and maize as well as animals such as birds, fish, and killer whales. Supernatural creatures were depicted such as the anthropomorphic mythical being, the horrible bird, and the serpentine creature (Proulx, 1968, 2006). Distinctive shapes included double-spout-and-bridge bottles, cup bowls, and head jars as well as open bowls and dishes. The style underwent a change in Middle

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### Table 1: Nasca chronology in the north and south drainage with radiocarbon dates and associated ceramic phases.

<table>
<thead>
<tr>
<th>Period</th>
<th>South dates</th>
<th>South phases</th>
<th>North dates</th>
<th>North phases</th>
<th>La Tiza dates</th>
<th>La Tiza phases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late Nasca</td>
<td>AD 500-650</td>
<td>6, 7</td>
<td>AD 440-640</td>
<td>7</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Middle Nasca</td>
<td>AD 450-550</td>
<td>5</td>
<td>AD 300-440</td>
<td>4, 5</td>
<td>?</td>
<td>5</td>
</tr>
<tr>
<td>Early Nasca</td>
<td>AD 1-450</td>
<td>2–4</td>
<td>AD 80-300</td>
<td>2, 3</td>
<td>AD 80-550</td>
<td>3,4</td>
</tr>
<tr>
<td>Initial/transitional</td>
<td>100 BC-AD1</td>
<td>1</td>
<td>120 BC-AD 90</td>
<td>1</td>
<td>370 BC-AD 75</td>
<td>1</td>
</tr>
</tbody>
</table>

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Nasca from naturalistic to use of more abstract and geometric elements, and there were more representations of humans (Proulx, 1968, 2006; Roark, 1965). In Late Nasca the ceramic style continued to become more abstract and there was an increase in scenes that are thought to represent warfare and warriors, which may indicate that conflict increased (Proulx, 1983; Roark, 1965; Silverman and Proulx, 2002). There is influence from the Moche ceramic style as well that consisted of new types of bottle shapes, depictions of running warriors carrying feather staffs, and the use of floating fillers (Proulx, 1994). During Late Nasca there is also evidence of interaction with the Huarpa people in Ayacucho where Nasca 7 pottery features are found on the pottery (Knobloch, 1983). Throughout the Nasca culture there was an unusually high quantity of fine ceramics used at all sites, even at small villages on the periphery (Vaughn, 2009; Vaughn and Linares Grados, 2006). Sourcing studies have indicated that the majority of Nasca polychrome pottery was produced from a clay source that was likely near Cahuachi, indicating centralized production and distribution (Vaughn et al., 2006; Vaughn and Neff, 2004).

Nasca religion and ritual practices were focused around various supernaturals and concerns with water and fertility. Hundreds of geoglyphs (ground drawings) known as the Nasca Lines (for which the region is famous) were constructed and were central to religious practices. They were first made during Paracas times and the images were similar to those found on earlier petroglyphs in the area, but it is during the Nasca culture that they reached their peak of construction and use (Lambers, 2006; Reindel, 2009). They are dated to the Nasca culture through their resemblance to images in the art (pottery and textiles), the presence of Nasca pottery on the geoglyphs, and materials recovered in excavations of associated altars. Over 1500 have been recorded in the Palpa region alone (Lambers, 2006; Lambers and Sauerbier, 2008) and on the main pampa more than 700 straight lines (Aveni, 1990), and many biologists were mapped by María Reiche (1993). The geoglyphs were locations for rituals that likely involved walking, dancing, and music (Aveni, 1990; Lambers, 2006, Reinhard, 1988; Silverman, 1993; Urton, 1990). Another aspect of Nasca religion was trophy head taking, a widespread practice that involved decapitation and careful preparation of the head. The supernatural beings in Nasca art are associated with heads and decapitation, and are considered integral to Nasca cosmology and related to violence, death, and fertility (e.g., Carmichael, 1995; DeLeonards, 2000; Proulx, 1989; Verano, 1995).

3. Views of Nasca complexity and regional integration

Complexity can be defined in many ways and traditionally archaeological discussions of complexity have revolved around the presence or absence of certain traits (e.g. hereditary inequality, specialization), and the grouping of societies into types (e.g. chiefdoms, states), which is reflected historically in the research on Nasca. More recently, archaeologists have looked at complexity in a diversity of ways focusing on how societies operated and considering various dimensions of power and inequality (e.g. Alt, 2010; Chapman, 2003; Price and Feinman, 2010; Voffee, 2005). One of the primary dimensions of complexity and social organization that is discussed in this study is integration, which is defined as “the interdependence between societal units and the means or mechanisms used to achieve the degree of connectivity” (Feinman, 2012: 30). Specifically, this paper focuses on regional integration and the degree to which people were connected throughout the core Nasca area, and the types of supra-community relationships that existed. Centralization is a key aspect of regional integration, and refers to the concentration of power and the degree of hierarchy in administration and leadership. Another dimension is the amount and kind of social differentiation, and refers to status differences and evidence of inequality in access to goods.

Max Uhle was the first to make interpretations of the Nasca culture and he saw its influence, particularly the widespread use of the ceramic style, extending out to many of the valleys north of Nasca (including Ica, Pisco, and Chincha). He even suggested there were similarities with ancient remains in western Argentina. “Although we still are lacking the convincing proofs it would be plausible that such a powerful culture as that of the region between Nasca and Chincha undoubtedly was, might also have sent out offshoots eastward into these remote regions” (Uhle, 1914: 10). Following Uhle, the next archaeologist to do fieldwork in Nasca was Julio C. Tello who conducted research in 1915 and then in the 1920s. He worked at Cahuachi and several other sites and he saw the culture as more limited in geographic scope spanning from Pisco in the north to Acarí in the south, with no influence in the highlands (Tello, 2005: 215). Also in the 1920s research was conducted by Alfred Kroeber and in a discussion of the difficulty his team had in finding good stratigraphy in order to develop a Nasca ceramic chronology he writes “…the chances are particularly unfavorable in a region like Nasca which is without concentrated sites of habitation or large structures” (Kroeber, 1927: 639). This seems to be the first suggestion that the Nasca culture had few settlements and that most were without large or impressive architecture.

As archaeological fieldwork continued, most of it focused at Cahuachi, and the view of the Nasca culture was once again as a more hierarchical and geographically extensive society. William Duncan Strong who worked there in the 1950s wrote “In our opinion, Cahuachi was the greatest, and probably the main capital site of the Nasca civilization in the time of its own peculiar highest florescence” (Strong, 1957: 32). In the 1960s John Rowe suggested that “Perhaps Cahuachi conquered a little empire on the coast which was destroyed after a generation or two” (Rowe, 1963: 12). He based this interpretation on the research that had been done at Cahuachi and the discovery of fortified sites in the Acarí valley south of the Nasca drainage. This view of Nasca continued into the 1980s when Sarah Massey (1986), who worked in Ica, argued that the end of Topará pottery in the upper Ica Valley was due to an invasion from Nasca after which Nasca ruled the Ica region from a hierarchy of settlements with the main administrative center being Cerro Tortolita. She classified Nasca as a regional state.

The 1980s also saw the beginning of characterizing Cahuachi as a relatively empty ceremonial center, and not an urban capital. Helaine Silverman’s (1988, 1993) work at the site highlighted the idea that it was a pilgrimage center that only had a small permanent population. Because of the lack of standardization in construction and layout of the mounds Silverman (1993: 309–312) proposed that many were built and used by different social groups from the region during pilgrimages to the site. She thought a few of the mounds such as the Great Temple were inclusive monuments for all Nasca people. She concluded that Nasca was more similar to what would be expected of chiefdom organization than that of a state although she also argued that it should be viewed as an Andean society rather than using abstract western concepts (Silverman, 1993: 341–343). Several other archaeologists have suggested that Nasca was a chiefdom or other type of middle-range society. From her surveys of the southern valleys and analysis of settlement patterns, Katharina Schreiber has proposed that in the south during Early Nasca the region was organized at the level of a chiefdom (Schreiber and Rojas, 2003: 15–16) and that in Late Nasca there were a series of small polities (Schreiber, 1999: 168), but in neither period was there a centralized state. Kevin Vaughn, who has excavated at several small villages in the upper elevations...
of the south, has found they were relatively self-sufficient with evidence of minor social differentiation (Vaughn, 2009; Vaughn and Linares Grados, 2006). He describes the Nasca culture as a middle-range society (Vaughn, 2009:179). Analysis of mortuary patterns by Patrick Carmichael (1988, 1995) of over 168 burials from the drainage found that burial form and offering type was mostly consistent throughout the Nasca culture. He found that the burials showed ranking “but there was a low degree of formalized social differentiation in the status hierarchy” and that stratification was not indicated (Carmichael, 1995: 174).

Researchers who argue that Nasca was a type of middle-range society stress that settlements were mainly villages with little differentiation in terms of status and economic activities, and that Cahuachi was primarily a pilgrimage and ritual center that did not have a large full-time population (Schreiber, 1999; Schreiber and Rojas, 2003; Silverman, 1993, 2002a, Vaughn, 2009). The elites at Cahuachi are often described as priests who organized large ritual gatherings and feasts, with power based primarily on ritual knowledge, which was non-coercive in nature (Silverman, 1993; Silverman and Proulx, 2002; Valdez, 1994; Vaughn, 2004). Polychrome pottery and textiles exhibiting elaborate iconography were important in this context as the medium through which the religious ideology was communicated, and served to maintain the prestige and power of elites (Vaughn, 2009). It has also been argued that at least during Early Nasca agriculture was based on simple irrigation features (Schreiber and Rojas, 2003: 157), and that it was unlikely that any person or group had control over agricultural resources (Vaughn, 2009: 51). The type of organization during Early Nasca has also been characterized as a group-oriented chiefdom that focused on corporate strategies (Silverman, 2002a:166). In Middle Nasca it is hypothesized that new elites were established and that with a decline in power at Cahuachi the political landscape was more fragmented (Silverman and Proulx, 2002: 252). There may have been the emergence of leaders who legitimated their power through kinship lines and not through more communal and ceremonial aspects as they did during Early Nasca (Silverman, 2002a:169). The evidence of drought conditions during Late Nasca may have led to conflict and the control of water by a few individuals and families, along with increased political fragmentation (Schreiber and Rojas, 2003: 157–158). Overall, this is seen as a shift from religious to more secular power with increased stratification and warfare (Proulx, 2010).

While Nasca as a middle-range society is still a common way to view the culture, there are recently formulated models that return to earlier interpretations, and propose that Cahuachi was the capital of a state with a large permanent population (Isa Cuadrado and Reindel, 2006; Orefici, 2011a; Reindel, 2009). Markus Reindel and Johny Isla, whose research is focused in the northern drainage, have argued that there was a greater degree of centralization and hierarchy than has been proposed by other researchers for Early Nasca. They argue that there is evidence for a regional state based on the presence of a settlement hierarchy in each valley with hamlets, villages, and centers along with a regional capital at Cahuachi (Isa Cuadrado and Reindel, 2006; Reindel, 2009). During Middle Nasca they propose that the mortuary evidence from La Muña reflects the emergence of social stratification. Similarly, Giuseppe Orefici (2006; 2011a,b), who has worked for many years at Cahuachi, terms it a theocratic capital. The paramount role of religion in leadership and power, especially in Early Nasca, is central to most archaeologists’ perceptions of the civilization whether they classify it as a middle-range society or as a state. Orefici’s excavations have identified residential areas inside of temples and in the areas on the periphery of the monumental architecture. This suggests that elites lived here along with a supporting population that included people such as farmers and artisans (Bachir Bacha, 2007; 88). There is evidence of fairly extensive craft production in the form of textile and pottery making tools, and raw materials such as cotton and pigments. Orefici (2011a:88–89) also proposes there was surplus production at the center where goods were stored, redistributed, and exchanged. He argues that the data point to a stratified society with different social classes and a high degree of specialization. In Middle Nasca he sees a shift from a theocratic society to one that was more diffused politically with autonomous centers across the region held together by some kind of confederation (Orefici, 2011a: 87). This is a similar shift to that noted by other scholars who would classify the civilization as a middle-range society.

A critical issue in interpreting Nasca culture sociopolitical organization is how integrated areas such as Acarí (to the south) and Pisco and Ica (to the north) were with the heartland. Despite Rowe’s initial argument that Acarí was conquered by Nasca, Valdez’s (1998, 2009) work in the valley has found that a conquest did not occur and scholars now see it as independent from the Nasca drainage (Carmichael, 1992; Silverman, 1993; Silverman and Proulx, 2002; Valdez, 2009). The Pisco valley as well is no longer thought to have been within the core area of the Nasca culture (Silverman, 1997). The Ica valley is a very different situation. While the idea that Nasca conquered Ica, as Massey had suggested, is not generally accepted there was a close connection between the two regions. There is Nasca pottery of all phases in Ica, and beginning with Nasca 3 it is the exclusive pottery of the valley. There are also some large sites in the region, especially during Early and Middle Nasca that have low pyramids (Silverman, 2002b: 150). In addition, trophy heads and cranial deformation of the Nasca type are found here. Silverman (1993, 2002b) sees Ica as independent from Nasca, but with a shared identity that was integrated through pilgrimage at Cahuachi. However, limited recent research has been conducted in Ica that focuses directly on its relationship to Nasca.

One of the key differences in current interpretations of the Nasca culture is based on where in the drainage scholars have focused their work. There are some clear divisions between north and south that have facilitated different interpretations. The north had far more settlements and more locations with civic-ceremonial activities. This would have been in part because the north was much more heavily populated during the previous Paracas culture of the Early Horizon while significant migrant populations did not settle the southern drainage until late in that period. The smaller number of sites with civic-ceremonial areas in the south is probably also because of the proximity of the large ceremonial center of Cahuachi. Those researchers who work in the north have typically interpreted Nasca to be more hierarchical and stratified (Browne, 1992; Isa Cuadrado and Reindel, 2006; Reindel, 2009). Scholars who have worked at Cahuachi (Orefici, 2011a;b; Strong, 1957), with the exception of Silverman (1993), also propose Nasca was more likely a state level society. In contrast, archaeologists working in the south have primarily interpreted it to be a middle-range society of some kind (Schreiber, 1999; Schreiber and Rojas, 2003; Vaughn, 2009; Vaughn and Linares Grados, 2006). However, research at the site of La Tiza reveals a new perspective of the Nasca culture in the south. La Tiza is not a typical settlement for this area of the drainage. It is a town located in the middle valley while most research in the area has focused on small villages in the upper elevations. It also has evidence of a greater degree of social differentiation, and of ritual activities that were not identified at other habitation sites in the south. These attributes call into question the previous characterization of the south and also suggest that population was larger, and settlements were more variable than has been proposed. This has implications for the overall integration and complexity of the Nasca culture.
4. La Tiza

The settlement of La Tiza is situated above the Aja river in the middle Nasca Valley where it joins with the Tierras Blancas tributary (see Fig. 1). The site extends across approximately 30 hectares of a steep, rocky hillside. It is in an area that has some of the most abundant arable land in the southern drainage. Located at approximately 700 m asl, La Tiza is in the yungas zone, which on the western slopes of the Andes is found at around 500–2300 m (Pulgar Vidal, 1972). In this warm, somewhat protected agricultural zone, many valued crops are grown. There is also good access to water here, and the Aja has the greatest annual discharge of water of any of the rivers in the southern drainage at 30.27 million cubic meters (ONERN, 1971; Schreiber and Rojas, 2003: 25). However, this amount is still very low, and is almost half of what the Rio Grande has in the northern drainage. These volumes are also significantly lower than in river valleys elsewhere on the coast of Peru. The puquios that were built throughout the middle valleys were constructed in order to tap into the more consistent underground water supply. The puquio of Orcona is located just east of La Tiza (Fig. 2) and two lost or destroyed puquios were possibly located upstream (Schreiber and Rojas, 2003: 96–97). While Schreiber and Rojas (2003) have convincingly argued that the puquios were constructed during Middle Nasca, I will argue below that the Orcona puquio was possibly in use during Early Nasca. Across the valley to the south is the sacred white sand mountain that the Orcona puquio is directed towards and may have been a water source, or the puquio could have been part of a larger water management system in the area. The Nasca culture occupation of La Tiza began in Early Nasca and extended through Middle Nasca. Much of what appeared to be Nasca cemetery is actually domestic and ritual area, and the size of the Nasca settlement is at least three times what was originally proposed after mapping of the site was completed. Besides the misidentification of habitation areas as cemetery, another misleading factor was that in one area of the site (Sector III) at least 70 Middle Horizon tombs were constructed on top of Nasca habitation, obscuring the earlier occupation. In Early Nasca the site grew in size from the previous period and included areas of Sectors II, III, and V totaling over eight ha (Fig. 3). Middle Nasca remains are found concentrated in Sectors I and II. A total of 12 units with primarily Nasca culture occupation were excavated (Units 8, 21, 22, 46, 49, 51, 54–59) (Table 2). In addition, two intact burials (Burials 1 and 8), and one looted burial (Burial 9), dating to this period were discovered. There were also five units where Nasca contexts were mixed with materials from other time periods. Four radiocarbon dates from the Nasca contexts date the occupation between AD 80 and AD 550 (Table 3). The majority of the Early Nasca pottery at La Tiza is Nasca 3 and 4, and the two phases are found together in most contexts, suggesting that they are contemporary (Fig. 4). There were only a few Nasca 2 sherds and they were found in the same contexts with Nasca 3 and 4 pottery. Middle Nasca at La Tiza is associated with Nasca 5 pottery and is restricted to burial and ritual areas.

Nasca architecture was different than during the previous Transitional period at the site. People in both eras constructed agglutinated compounds, but the Nasca architecture was more regular, and there was use of cut or shaped stone in addition to natural fieldstone, and the first use of double coursed walls. There is also a greater deal of architectural diversity. In Sector II there are large agglutinated compounds in the lower elevations with double coursed walls. In the higher elevations of this sector the architecture consists of larger rectangular and roundish structures of fieldstone. In Sector III much of the Nasca architecture has been obliterated by the later Middle Horizon tombs and looters so it is difficult to discern its layout. However, an area with fine cut stone and probable rectangular structures with alleyways or corridors was observed. In Sector V the Early Nasca architecture is similar to that of the upper elevations of Sector II with free standing structures of fieldstone but also some shaped stone. The architecture at La Tiza also varies from the types found at other Early Nasca settlements in the south; Marcaya had round house patio groups, Upanca had irregular circular houses, and Pueblo Viejo had rectangular structures of adobe and cobble (Isla et al., 1990; Vaughn, 2009; Vaughn and Linares Grados, 2006). There is some similarity in layout with the architecture found at Los Molinos in the north (Reindel, 2009: Fig. 25.7) where there was planned buildings on terraces with long corridors and retaining walls. Overall, there was a diversity of architectural types and layouts during this period in the south, which parallels the patterns found in the north (Reindel, 2009; Silverman, 2002a).

Subsistence evidence indicates that farming was the central part of the economy. Botanical remains from the La Tiza Nasca contexts include maize (Zea mays), llama bean (Phaseolus lunatus), peanut (Arachis hypogaea), pacay (Inga Feuillei), yucca (Manihot esculenta), guava (Psidium guajava), sweet potato (Ipomoea batatas), squashes (Cucurbita maxima, Cucurbita moschata), huarango (Solanum tuberosum), and another squash species (Cucurbita maxima) (Reindel, 2009; Silverman, 2002a).
Prosopis sp.), and industrial plants such as cotton (Gossypium barbadense), gourds (Langenaria siceraria), and reeds (Phragmites communis). Carbon isotope analysis of enamel and bone carbonate on all of the burials excavated at the site found that C4 plants, maize being the most prevalent, made up the majority of the food sources of people living at the site (Buzon et al., 2012).

Given the size of the settlement, irrigation agriculture would have been necessary to farm the area and support the population. I propose that the nearby Orcona puquio was functioning during this time period. Because of La Tiza’s location in the middle valley, there would not have been year round surface water and a means of obtaining subterranean water would have been essential. Subterranean water is relatively close to the surface in this part of the valley and the Orcona puquio is one of the shallowest at four meters below the river bed at its upper reach (Schreiber and Rojas, 2003: 94). Wells and surface canals were likely used for irrigation, but canals would have been short because of the low volume of water (Schreiber and Rojas, 2003: 32). It is also possible that the...
Orcona puquio, and possibly the two lost or destroyed puquios located upstream, were built and used during this period. Although, there is little direct evidence to indicate that this was the case, it is a potential scenario to explain the larger than expected population at La Tiza, and is an area for future research and testing.

Farming was supplemented by the use of domestic animals, primarily cameldids (Llama sp.) and guinea pigs (Cavia porcellus). The MNI of terrestrial faunal remains from Nasca contexts indicates that cameldids were the most common type of animal consumed at La Tiza (Table 4). The presence of both juvenile and adult cameldids, and camelid dung, indicates the animals were herded in the area and the meat was not obtained through trade. Guinea pig was the second most commonly consumed animal. There was also a continued exploitation of wild resources, particularly marine resources. Small amounts of shellfish were consumed and there was an MNI of one fish found in Unit 46. Unlike the previous Transitional period there was no identifiable deer, viscacha, or bird in the faunal assemblage. There was little indication of spatial differences in the consumption of fauna, although it must be noted that the Nasca contexts from the 2009 field season were not included in the faunal analysis.

The Nasca people at La Tiza used, manufactured, and traded various goods. Similar to other Nasca culture sites fine polychrome pottery was the most common ceramic type used. These polychromes were the principle serving vessels used by Nasca people and percentages of fineware are very high compared to most ancient Andean cultures and to later cultures in the region. Mary Noell conducted analysis on the La Tiza Nasca culture pottery, including an MNI of rim sherds, and found that 53% of the assemblage was fine ware. This is a slightly lower percentage than reported at some village sites that average closer to 60% (Vaughn, 2009: Table 6.3; Vaughn, 2010; Vaughn and Linares Grados, 2006:610), and Cahuachi at 71% (Silverman, 1993: 28), but it is still at a higher percentage than plainware (Noell, 2014). The highest percentage of fine ware was in Unit 8 (81%), where a Middle Nasca decapitated burial (discussed below) was located. In terms of high status pottery types, at La Tiza there were headjars (n = 4), cup bowls (n = 5), stirrup spout vessels (n = 1) and miniatures (n = 4). Previous research at village sites in the region had identified headjars and cup bowls as high status types (Vaughn, 2004, 2009; Vaughn and Linares Grados, 2006). At La Tiza headjars and cup bowls were found in greater quantities than at the village sites, and there was the addition of a stirrup-spout vessel and miniatures that have not been identified at villages in the south.

Compositional analysis (INAA) was conducted on a small sample of Early Nasca sherds from La Tiza (n = 28) and 46% were assigned to Group 1. The Group 1 compositional group was previously identified as the clay source used in much of the Nasca polychromes in the southern drainage, and associated with a source near Cahuachi (Vaughn et al., 2006; Vaughn and Neff, 2004). An additional 25% of the sample was from Group 1 Macro that is considered local from a regional perspective and related to Group 1. The remainder of the sherds were unassigned (11%) or placed in the newly established mica tempered (11%) or plainware groups (7%). All of the La Tiza polychromes (n = 15) were from Group 1 or Group 1 Macro. This is a different pattern than is found in the previous Transitional period when there was greater heterogeneity in the clay sources and production was more decentralized (Vaughn and Van Gijseghem, 2007). This reinforces the idea that during Early Nasca polychrome pottery was almost exclusively made from the clay source associated with Group 1 that was likely located near Cahuachi. This may suggest centralized production of fine ware at Cahuachi that was distributed to people throughout the region. However, it also should be noted that there may not be a lot of geological variability in clays suitable for fine ware production in the region. In this case there could be different production locales that used a common clay that was broadly distributed (Vaughn et al., 2011: 3566). There is also the possibility that some kind of technological change occurred in Early Nasca that became widely used and led to compositional homogeneity. This could include mixing clays or screening tempers (Vaughn et al., 2011: 3566). Regardless, there is an important change in pottery production and distribution at the beginning of the Nasca culture and much of the evidence suggests Cahuachi was the location of production for much of the fine wares at that time. There is very limited evidence for ceramic production at La Tiza. Smoothers made of ceramic sherds were found in some units, but no other tools or raw materials such as brushes, pigments or raw clay were found.

There is evidence of textile manufacturing in the form of textile fragments, yarn, spindle whorls, spindle whorl blanks, and bone tools used in weaving. Analysis of the La Tiza textiles was

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conducted by Blair Mills and she found that they were rare in the Nasca contexts because of the poorer preservation of materials during this time compared to later periods at the site. However, those that were found provide some of the first documented textiles from an Early Nasca domestic site (Mills and Conlee, 2014). From Unit 21 (Level B) there were two textile fragments that were cotton warp-faced plain weave constructed of S-plied yarn that consisted of two Z-Spun yarns S(2z). There was also a short length of camelid fiber yarn that was spun and plied in the same way as the cotton yarn. In Unit 53 (Level B) there was a cotton cord with a knot that was Z(6s(2z)) and a bundle of cotton and camelid fiber yarns. Unit 54 (Level B) had two segments of a chord made of camelid fiber that was dyed red and was spun Z(2s(2z)). The Nasca textiles were typical of the overall assemblage from the site with cotton warp-faced plain weave the most common type, and with yarns overwhelmingly Z spun and S plied.

Spindle whorls were found in seven units (8, 46, 51, 54, 55, 58, 59) most of which were in Sector II. The whorls (n = 13) were all made from ceramic sherds. These whorls had a range of total diameter of 21.6–42.4 mm, a hole diameter of 3.4–7.8 mm, thickness of 5.0–9.8 mm and weight of 3.9–12.9 g. These are similar in size and shape to those found at other Nasca sites such as Marcaya (Vaughn, 2009) and were likely used in drop spinning. Unit 46 in Sector V and Unit 59 in Sector II contained the greatest evidence for textile making activities. Overall, the evidence related to textile manufacture suggests that spinning and weaving was done at La Tiza, textiles were made of both cotton and camelid fiber, and that at least some of the camelid fiber was dyed. There is also some indication that production was concentrated in a couple of areas at the settlement.

Stone tools were manufactured and used at the site with the overwhelming majority of lithics made from obsidian, followed by smaller numbers of chalcedony/white chert, quartzite, and andesite, basalt, and brown chert (Johnson, 2009: Table 5). There were fewer formal lithic tools than in the previous period and this follows a general trend of a decrease in formal tools over time (Johnson, 2009: 46). A large amount of obsidian was found in Unit 46; it contained 72.6% of the debitage from the Nasca period (Johnson, 2009: Table 5). The greatest number of Nasca tools were also found in this context (n = 63, 71.6%). This concentration may be the result of a production area nearby or restricted access to the material. Of the obsidian analyzed by Jelmer Eerkens (using XRF) from this period (n = 37), all but one sample came from the Quispisapa source, which was the dominant source in the central Andean region during all time periods (Burger and Asaro, 1977; Burger and Glascock, 2000). The source is located in the highlands of the department of Ayacucho and is 108 km from the modern town of Nasca (Eerkens et al., 2010: Table 2). The one artifact not manufactured from Quispisapa obsidian was a biface fragment from the Potreropampa source that is about 70 kilometers farther than Quispisapa and is considered a minor source. The biface was found in Unit 8 in a context with Early and Middle Nasca pottery and just above a decapitated burial. Overall, there was a greater amount of obsidian found in the Nasca contexts than in earlier ones. There was also less bipolar reduction, a technique used when there is an intensive reuse of material, indicating that there was likely more access to the material than previously (Johnson, 2009: 57–58). The reduction in the number of formal tools may also indicate a more reliable supply of the material. This pattern is in contrast to what other researchers in the south have proposed, namely that access to obsidian dropped during early Nasca (Kantner and Vaughn, 2012; Vaughn, 2009). This discrepancy is probably due to the previous research focusing only on small villages where people had less access to the material than the people at La Tiza.

Overall, it appears that trade and exchange patterns changed relative to the previous Transitional period. Ceramics were being produced more centrally by skilled artisans that may have been based at Cahuachi. Fine polychromes were the dominant type of pottery at La Tiza, and likely at all sites in the region, including small villages that were quite a distance from Cahuachi. Textiles were produced at La Tiza and people had access to both cotton and camelid fiber. Long-distance trade of obsidian increased, with the material more available to people at La Tiza than before. There was also trade with coastal populations from whom they obtained fish and shellfash.

In addition to the use of La Tiza as a domestic settlement, the site was an important burial and ritual location during Early and Middle Nasca. There are burials contemporary with the Nasca 3 and 4 habitation, including a child from Unit 46 (Burial 8) who was found in a wall of earlier construction. The child, aged 9–10, was placed in a seated flexed position with arms crossed and facing southwest. Large ceramic pieces had been placed on top of the cranium, one of which was a large decorated fragment with a Nasca supernatural creature that was phased to Nasca 4. The child had linear enamel hypoplasia, which indicates physiological disruption that can be symptomatic of nutritional deficiency or disease stress (Buzon et al., 2012: Table 3). A radiocarbon date from a tooth yielded a date of AD 80–240, placing the burial at the beginning of Early Nasca. Strontium and oxygen isotopic analysis suggests that the child was born and lived in the local region.

There are no public ritual spaces that date to Early Nasca at La Tiza although there is evidence for household level rituals. For example, in Unit 21 in Sector II, two complete gourds were found in a dug out area of the bedrock at the base of the unit. These types of paired objects are interpreted to be dedicatory offerings and are found in other contexts at the site. Pan pipes are another type of artifact that indicates ritual activity and fragments were found in units 22, 51, 53, 54, and 58. Units 22 and 51 are Early Nasca domestic units while Units 53, 54, 58 have Early Nasca pottery but also contain Middle Nasca tombs. Pan pipes have a long history of use on the south coast beginning in the Paracas culture and they are common at both Nasca ceremonial centers and villages (Silverman, 1993; Vaughn, 2000). In the Nasca culture they are associated with ritual activities and are present in burials, caches, and are found in the iconography with supernaturals and depictions of ceremonies (Strong, 1957; Silverman, 1993). Silverman (1996: 10) proposes they were connected with ancestor worship. Ritual locations were also found associated with the site in the form of nearby geoglyphs. There are a series of straight line geoglyphs near the eastern edge of the site. A line center has been recorded just east of Cerro Orcona not far from the settlement (Johnson et al., 2002: Fig. 10.3). In addition, a very large trapezoid is clearly visible across the valley to the south on an alluvial fan just above the Tierras Blancas river.

In addition to the burials and domestic areas that date to Early Nasca, there is also a Middle Nasca component associated with Nasca 5 pottery that is primarily found with burials and ritual areas. However, there were no documented domestic areas dating to Middle Nasca. The greatest concentration of Nasca 5 pottery is in Sector II. Here in Unit 8 there was a circular stone lined tomb that was 1.15 m in diameter and 1.1 m deep that had a white compact surface with visible finger marks that sealed a chamber. Inside the tomb was a headless body that was placed in a seated position facing east with crossed legs, and a Nasca 5 head jar placed to the left of the body (Conlee, 2007). The jar has a striking image of a head with a tree growing out of the top. Analysis of the skeletal material indicates the individual was a male who was approximately 22-29 years old when he died (Buzon et al., 2012: Table 3). The man had sacral cleft and sacral-caudal shifting at the coccyx border, which are spinal defects. The man’s upper two vertebrae (C1 and C2) were missing and the third vertebra (C3) had cut marks that indicate that he was decapitated (Conlee, 2007). The cut marks
were determined to be perimortem because they are darker than the surrounding bone, whereas excavation and other postmortem damage results in a darker surface and lighter cut marks (Walker, 2001). In addition, the cuts have rounded edges, indicating that the bone was fresh, and there is no evidence of the flaking or breakage that is common in postmortem cut marks. His head was likely made into a trophy head, although no trophy heads have been found at the site. Strontium and oxygen isotopic analysis indicate that the man was from the local region (Buzon et al., 2011; Conlee et al., 2009) and not a foreigner captured in battle, although there remains the possibility that he was captured and decapitated as the result of local warfare. He was buried with care in a well-made tomb with a symbolic head replacement object that had an image of a tree growing out of the head. This imagery suggests a transformation between the human and the mythical world. Overall, these data indicate a strong ritual component to the practice of trophy head taking.

Adjacent down slope from the tomb with the decapitated man, another tomb of similar size, shape, and construction was found in Unit 55 (Fig. 5). This stone lined tomb measured 1.10 m and had a depth of 1.6 m. At the base of the chamber was a large stone on which the body had been placed. Unfortunately, this tomb had been looted, and only the feet of the person who had been buried here were intact, which had been placed with the left foot crossed over the right. Based on the intact feet, and other bone scattered throughout the tomb, it was estimated that the individual was 18-22 years old and possibly female (Buzon et al., 2012: Table 3). There was a high density of fine polychrome pottery throughout the unit (both inside and outside the tomb) with much of it Nasca 3 and 4. However, at least ten sherds were Nasca 5 and half of these came from inside the tomb itself. Because of the presence of Nasca 5 sherds and similarity to the previously discovered tomb in Unit 58 it appears the two may be contemporary, and it is even possible that another decapitated body was buried here.

Excavations further downslope from the two burials revealed that they were placed on an artificial terrace. In Units 58 and 59 there was a low wall that appears to have been constructed as part of ramp that would have allowed access up the hill to the tombs. In Unit 59 two large globular shaped plainware ceramic vessels were found at the base of the unit in the southeast corner (Fig. 6). These are interpreted as dedicatory offerings, just as the gourds were in the Early Nasca domestic context. The majority of the pottery in these two units was Nasca 3 and 4 with one identifiable Nasca 5 fragment in each. Also found in Unit 59 were four obsidian points and the largest number of spindle whorls and spindle whorl blanks dating to this period.

In addition to the ritual area associated with the two burials, there are two plazas in the lower elevation of Sector I that appear to date to Middle Nasca. No excavations were conducted in this area, but the pottery found in looters pits and on the surface here was primarily Nasca 5. Inspection of the looters pits revealed that the plaza areas contained quite a bit of material, including ash and organics. This suggests these were not spaces that were continually swept clean and that they were the foci of frequent and continued activity. There are also some looted tombs just below the plazas that are associated with Nasca 5 pottery.

There are some indications that the Nasca 3 and 4 pottery (Early Nasca) and Nasca 5 (Middle Nasca) pottery may have been used at the same time at La Tiza. The two kinds of pottery are mixed together in the tomb area, with Nasca 5 seemingly associated with the tombs themselves and the Nasca 3 and 4 pottery with the area around them. This may indicate that the tombs were intrusive into an earlier area of the site. However, it could be that the Nasca 5 pottery was more of a stylistic type at the site that was used in burials. Another complication with chronology at the site is the radiocarbon date from Unit 21, which contained Nasca 3 and 4 pottery, was AD 410-550, a time that would normally be considered Middle Nasca in the south. This extends Early Nasca later at La Tiza than at other documented sites and would suggest that Middle and Late Nasca together only spanned a period of 100 years before the Middle Horizon occupation began around AD 650.

There is no evidence of Late Nasca occupation at La Tiza, which is curious given the site’s favorable geographic location. There were a few Nasca 6 or 7 sherds from the excavations in Sector III but they do not seem to represent habitation during this time. There is a settlement located to the west that consists of two large compounds and associated round structures. Although there is little pottery on the surface, the diagnostic ceramics suggests it dates to Late Nasca. It is possible that people who lived at La Tiza established this site during Late Nasca.

5. Implications for Nasca culture integration and complexity

There are several lines of evidence from La Tiza that have implications for the nature of integration and sociopolitical complexity of the Nasca culture. It was a different kind of settlement and could be considered a town during this time period because of its larger size, evidence of social differentiation, and diversity of functions. The Early Nasca occupation was spread over at least eight ha, making it larger than other contemporary habitation sites recorded in the south such as Marcona (1 ha.), Upanca (ca. 5 ha.) and Uchuchuma (2 ha.) that are classified as villages (Vaughn, 2009, 2010; Vaughn and Linares Grados, 2006). La Tiza likely grew larger than other settlements because of its position in an area with good access to arable land and to groundwater. People here had more wealth and prestige than at the village sites, which is evident in
the presence of elite pottery types and greater access to goods such as obsidian. In addition, it had burial and ritual areas that have not been documented at the smaller domestic sites in the south.

La Tiza is also unique because of its location. Most of the Early Nasca sites in the south are located higher in elevation in the foothills where there is more consistent year-round surface water. The location of La Tiza in the middle valley challenges us to rethink the idea that in the south settlements were not found in this section of the valley at this time. It has been proposed that since the rivers in the middle valleys were dry for part of the year that large populations could not live here until extensive irrigation was developed such as the *puquios*. However, La Tiza had a good sized population and there are *puquios* located near the settlement that could have increased the potential for agricultural productivity. If the nearby Orconca *puquio* was functioning during this time that may explain why a large site developed in this location earlier than would be expected. Additionally, if *puquios* or other complex irrigation systems were built by the people of La Tiza during Early Nasca then this would have contributed to the development of more differentiation among settlements in the region than previously proposed. Schreiber and Lancho (1995:234) point out that during years of flood and flowing rivers, everyone has access to irrigation water but in other years only the people who control the *puquios* have water. The same restriction of water that has been seen by some as a hindrance to sociopolitical development in the region may actually have been a critical factor in the development of inequality and concentration of power.

The research at La Tiza indicates that Early Nasca population estimates have been underestimated in the south. In particular, sites are hard to recognize and are probably underreported in the middle valleys. Before excavation, La Tiza was dated to the Late Intermediate Period with a small Nasca cemetery, and possibly a small Nasca habitation area. Much of what appeared to be cemetery is actually domestic and ritual area, and the size of the Nasca settlement is at least three times what was originally proposed. It has been noted that the Nasca people often buried their dead in earlier settlements and that traces of habitation are destroyed by looters looking for tombs (Carmichael, 1995; Hecht, 2009: 227; Silverman, 2002a: 46). For example, at Los Molinos, in the north, Middle Nasca graves were cut into Early Nasca settlement (Hecht, 2009: 227). Silverman (2002a: 46) found a similar pattern at sites in the Ingenio valley and has noted that when later Nasca pottery is found on the surface of a settlement that also has earlier Nasca pottery, that the later pottery may be related to burials placed in earlier domestic contexts. Destruction of earlier habitation would be particularly notable where houses were constructed primarily of wattle-and-daub, which may have been the case in parts of the middle valley. It is likely that many places that have been recorded as Nasca cemeteries were actually habitation sites as well, and that population has been underestimated. In addition, the middle valleys are where modern population is concentrated and have been the most impacted by expanding towns and modern agriculture.

The Middle Nasca component of La Tiza was primarily associated with burials and large gathering areas. This brings into question the nature of Nasca 5 pottery and its chronological relationship to Early Nasca. Middle Nasca has been treated as a distinct chronological period and a time when important shifts took place in the region: the construction of the *puquios* in the south, the end of construction at Cahuachi, and the establishment of the site of La Muña in the north with elaborate burials. The Middle Nasca burials at La Tiza were unusual; they were in well-constructed tombs placed within Transitional and Early Nasca habitation. Both the decapitated man and the individual in the other tomb were from the local area, but there is no evidence of Middle Nasca domestic areas at La Tiza. Excavations around the tomb suggest this was an important mortuary and ritual area where large terraces were constructed along with a ramp to bring people up to the area of the burials. The plaza areas at the base of the site also appear to be contemporary and may have been staging areas and places for large gatherings. This was not just an area where human sacrifices were buried, but where rituals continued to be carried out.

La Tiza was not the only settlement in the south with potentially non-domestic functions. Reindel (2009: 452) proposes that the site of Cantalloq in the middle Nasca valley and Jumana in the lower Nasca valley were centers and reflect an additional level in the settlement hierarchy. Schreiber and Rojas (2003: 146) have classified Cantalloq and the site of Pueblo Viejo, located in the lower Nasca valley, as small ceremonial centers during Early Nasca. Orefici (2011a: 87) has also described Pueblo Viejo as a small ceremonial center at this time associated with Nasca 2-3 pottery. These centers likely housed local leaders and would have contributed an additional layer of religious and political integration in the region. A closer examination of these sites would aid in developing a clearer view of Nasca sociopolitical organization. There remains a relatively small sample of Nasca sites that have been scientifically excavated and future research may identify new kinds and sizes of settlements in the region.

6. Conclusions

Recently acquired data from La Tiza can be used to evaluate ideas about complexity and sociopolitical organization of the Nasca culture. Key differences in past interpretations have been based on where researchers have focused their fieldwork, with those in the north arguing that there was more hierarchy and complexity than those working in the south. While recognizing that there are historical and cultural reasons for differences in the two areas, the research at La Tiza suggests that the differences between north and south were not so pronounced.

Previous research has made it clear that religion was an important aspect of regional integration. This is demonstrated by the widely shared ceramic style with intricate iconography, and the areas for large public gatherings and evidence of ritual activity at Cahuachi. One aspect of Nasca ceremonial practice that has been widely discussed, but not often considered in detail in discussions of regional integration, are the geoglyphs. These are found throughout the area and evidence shows they were places of continuous activity over the course of the Nasca culture. I suggest that these two loci of religious practice reflect increasing centralization and regional integration of society. At Cahuachi large gatherings would have been organized and controlled by resident elites and functioned to bring people together from all over the region and unite them through a shared ideology. The geoglyphs would have been places where religious beliefs were reinforced and similar rituals enacted on a smaller scale throughout the region by local ritual specialists.

Religious integration was central in the Nasca culture, but its role has tended to overshadow the influence of political, economic, and other types of social relationships. Most notably, there is evidence for a regional political hierarchy represented by different site sizes and types throughout the region. While a diversity of settlement types including regional civic ceremonial centers are recognized in the north, the current research requires a reformulation of existing models of the south to integrate findings from La Tiza and other sites. In sum, there were many small villages, at least one town (La Tiza), and three potential small ceremonial centers in the areas neighboring Cahuachi, which was undoubtedly the most important center for integrating the core Nasca region. Besides its central religious role it also would have served as a
political center with the most powerful leaders residing at the site and directing the monumental construction efforts. Also, there is sufficient evidence that Cahuachi played an important role in the economy as a site of specialized fineware pottery production, textile manufacture, and possibly the storage of surplus. The widespread presence of fine polychrome pottery even at small rural villages suggests that there was well-organized distribution of these goods through regional trade and/or exchanges that took place as part of pilgrimages.

The evidence suggests that the region was organized more hierarchically and that power was more centralized than is to be expected if Nasca was a simple chiefdom/middle-range society loosely integrated through religion and pilgrimage activities at Cahuachi. I propose that Cahuachi was also an economic and political center with leaders who had power in various realms. It is possible that Nasca was a confederacy with a paramount leader based at Cahuachi and another powerful leader centered in the north at Los Molinos in Early Nasca, and then later at La Muña during Middle Nasca. In the south, the secondary leaders may have resided at the proposed smaller civic ceremonial sites. There does not appear to be clear evidence of social classes or high degrees of economic specialization outside of Cahuachi. However, it seems likely that there were the beginnings of stratification and the region was developing into a type of regional political integration that was more state-like, though something appears to have curtailed this transformation.

Researchers have formerly suggested that the shift from Early to Late Nasca was a change to more secular power that was accompanied by an increase in warfare and conflict. I propose that leaders also held power in areas outside of the religious realm in Early Nasca, but at the end of this period when there was a collapse of Cahuachi as a centralizing force the religion lost power and other realms were strengthened. There may have been a coup of sorts with leaders at Cahuachi ousted and the regional/secondary leaders taking control. This transition coincides with evidence for increased violence and conflict starting in Middle Nasca, which given the dates from La Tiza may be a short period that overlaps with Late Nasca and corresponds with the decline of the Nasca culture in the south.

Climate change, specifically increased aridity, has been treated as a major cause of change and eventual collapse of the Nasca culture (Eitel and Mächtle, 2009; Eitel et al., 2005; Reindel, 2009; Schreiber and Rojas, 2003; Silverman and Proulx, 2002). In the fifth through seventh centuries AD, during Middle and Late Nasca, paleoclimatic data indicate there was an increase in aridity and the rivers became less reliable and droughts more frequent. Another factor in the decline of the Nasca culture was the rise and expansion of the Wari state to the east in the central highlands. By Late Nasca the Huarpas people of that area and the Nasca interacted frequently, as is reflected through a shared ceramic style. This may have been due in part to migrants from the Nasca drainage moving into the highlands (Eitel and Mächtle, 2009: 27). In Nasca there are evident shifts in population at this time; in the north there is a large decrease in population, and in the south people moved out of the Nasca valley proper and to the south into larger aggregated settlements, which may suggest increased conflict (Schreiber, 1999: 168). La Tiza at this time was no longer used as a settlement. By AD 650 the Nasca culture was fundamentally changed, with various sites abandoned, new ceramic and textiles styles, diminished population, and new burial forms that coincide with evidence for the Wari state in the region. The Nasca culture was just one of several ancient societies that were based in the region and the unexpectedly large and complex occupation at La Tiza has provided an opportunity to rethink the nature of Nasca society, and further studies will examine its relationship to previous and subsequent cultural dynamics in the region.

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