

# THE EARLIEST FORTIFIED SETTLEMENTS OF THE SOUTH COAST OF PERU

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*Within Peruvian archaeology, warfare is a seldom discussed topic, and the south coast region is not an exception. As a result, there is the impression that violent conflict had little or no role in the development of complex societies, such as Paracas and Nasca. An exception is the case of the bodiless human skulls, called “trophies.” Besides the trophies that may, or may not, have resulted from violent conflict, other material manifestations of warfare, such as fortifications and buffer zones, remain unknown. This paper traces the origins of warfare in this region. Considering that the earliest trophy heads come from late Paracas contexts and the earliest manifestations of structures identifiable as monumental buildings also appear for the first time around late Paracas, a starting point for this analysis is the Paracas culture that preceded the Nasca culture. In particular, I review settlement data and site configuration to answer critical questions about when and where warfare emerged in the region. In contrast to the valleys of Ica and Nasca, for instance, evidence from Acari indicates that violent conflict emerged early in the Early Intermediate Period as manifested in large fortified settlements and human decapitation on a scale that is unknown in Ica and Nasca.*

Key Words: Warfare; Fortifications; Human decapitation; South Coast of Peru; Early Intermediate Period

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Research recognizes that “warfare has been with us for a long time” (Allen and Arkush 2006:1), that “warfare in the human past was virtually ubiquitous” (LeBlanc 2006:437), and that “war is well documented in ancient states and empires” (Flannery and Marcus 2003:11801). However, tracing its origins back to earlier societies is problematic because violent conflict occurs at different scales. Indeed, researchers note that there is real variability (Elliott 2005), not only in the way violent conflict took place, but also in the way it affected different cultures

(Topic and Topic 2009:18); because of such variability, the material evidence of these human actions is not homogeneous (Flannery and Marcus 2003; Arkush and Stanish 2005:3). Thus, what counts and what does not count as evidence of warfare is a major concern in scholarly discussions.

Despite the disagreements noted here, there is some consensus that warfare alters existing settlement patterns and configurations. Based on ethnographic and archaeological evidence, scholars argue that violent conflict often forces

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people to group themselves into fewer but larger settlements. Such a process results in large unoccupied lands that functioned as buffer zones (DeBoer 1981; Haymes 1983:398; Elliott 2005:299; Arkush and Stanish 2005:15; Flannery and Marcus 2003:11803; LeBlanc 2006:443). Moreover, the newly established settlements are not only distant from one another, but were also built in defensive locations and provided with human-made defensive barriers (Topic and Topic 1978; Trigger 1990:121–122; Vencel 1999:67–70; Allen and Arkush 2006:7; Parkinson and Duffy 2007:118; Roscoe 2008:513–515; Field and Lape 2010:114). Researchers assert that “one of the most obvious indicators of war is the presence of fortifications or other defensive settlement patterns” (Allen and Arkush 2006:7); more importantly, fortifications are archaeologically visible. Therefore, buffer zones and fortifications—in addition to the evidence of trauma (Milner 1995) and weapons—are seen as the outcome of violent conflict (Arkush 2008:241; Elliott 2005:298–299; Haas 2001:340; LeBlanc 1999:56; Roscoe 2008:513; Vencel 1984:127).

This paper discusses the particular case of the Peruvian south coast region and the aim is to determine, if possible, when and where in the region warfare emerged. To this end, I first review the available information that is indicative of violent conflict in the region. In the second part, I present archaeological information from the Acari Valley that shows that as early as the Early Intermediate Period (Hereafter EIP) walled settlements existed in Acari. To further illustrate this argument, I describe the main features of Tambo Viejo, a walled settlement built in the Acari Valley. I also discuss the general layout of the Acari settlements. Finally, to contextualize the discussion, I compare the Acari information with data from elsewhere the region and discuss

the reasons that prompted the early emergence of violent conflict in Acari.

### **Paracas and Nasca of the Peruvian South Coast**

The south coast of Peru is a hot and arid desert region with sand dunes that are relieved by small rain-fed rivers that descend from the western slopes of the Andes Mountains to form some arable land (Menzel 1959:125; Proulx 2006:1; Schreiber and Lancho Rojas 1995, 2003:24). Available arable land, however, varies from one valley to another (Rowe 1956:137; Conlee and Schreiber 2006:96–97). The rivers carry water only during the summer months (December–March) that correspond to the rainy season in the highlands; during the rest of the year, the rivers remain dry or with little water. Depending on climate variations, such as drought, water carried by these coastal rivers fluctuates; indeed, there are years when the rivers stay dry or with little water the entire year (Valdez 2010a:84). Beyond the course of the rivers, the landscape is desolate, with strong winds that carry sand.

Despite such limitations, along the course of each of these rivers, there are hundreds of archaeological sites that represent a continuous human occupation for a long period (Beresford-Jones 2011:37; Rowe 1956:137; Valdez 2000a). The location and distribution of these settlements indicates that valley resources were important in past population subsistence. Nasca culture, for instance, was coastal but not maritime (Kroeber 1944:24). Finding the remains of various cultivated plants indicates that plant cultivation constituted the foundation of the valley settlement economies (Beresford-Jones 2011:89; Piacenza 2002; Valdez 2010a). Other valley resources and those secured from the sea complemented the subsistence base (Valdez 2009a). Thus, in this otherwise inhospitable arid region (Silverman and

Proulx 2002:67), complex cultures such as Paracas, of the Early Horizon Period (circa 800 – 100 B.C.), and Nasca, of the Early Intermediate Period (circa 100 B.C. – A.D. 550) flourished (Paul 1991; Proulx 2006; Silverman 1996). Paracas and Nasca excelled in ceramic making and textile production (Carmichael 1998; Paul 1992; Silverman 1993:302). Furthermore, Paracas and Nasca are world-famous because of the depictions they represented in the arid coastal plain—the Nasca Lines (Aveni 1986; Clarkson 1990; Silverman 1990; Ruggles and Saunders 2012).

Paracas and Nasca are equally well-known for the rich iconography that was skillfully depicted in their material culture, particularly in gourds, textiles, and ceramics (Seler 1923; Sawyer 1961; Proulx 1968). One of the themes that was introduced during late Paracas times and continued throughout the development of Nasca is the representation of human heads identified as trophies (Paul 2000; Peters 1991; Sawyer 1961:278) and often depicted with mythical beings (Proulx 1971:17, 2008:572). Furthermore, Proulx (1971:17–18) observes that in late Paracas a wide-eyed mythical creature, called the Oculate Being, holds the head in one hand and a knife in the other hand. Thereafter, the mythical being took different forms, including of humans, felines, falcons, whales, for example, and continued grasping the head and the knife (Proulx 2001:122).

Based on iconographic studies, Proulx (1971, 1989, 1999) argued that warfare was the source of the heads. More precisely, Proulx (1971:20) noted that “Nasca, and to a lesser degree the Paracas, spread their cultures over the south coast area by military means.” Elsewhere, Proulx (2006:35) writes that “Nasca were a highly warlike society.” However, there are differences in the iconographic representations

depicted during late Paracas and early Nasca and those depicted during middle and late Nasca. One notable contrast is that during late Paracas and early Nasca war-related images are absent and only emerge during middle and late Nasca (Roark 1965; Browne, Silverman and Garcia 1993:278). Moreover, from the study of Paracas textile iconography, Paul (2000:73–76) questioned the assumption that Paracas was a warlike society. More specifically, Paul noted that there is little representation of violent conflict on Paracas textiles; instead, trophy heads are often associated with finely dressed supernatural beings, who may be persons of prestige. Along those lines, Arnold and Hastorf (2008:173) suggested that those supernatural beings perhaps represent people of power, such as shamans.

In addition to iconographic depictions, archaeological research in the region has documented the physical occurrence of trophy heads (Kroeber 1956:325; Pezzia Assareto 1968:100; Baraybar 1987; Browne, Silverman and Garcia 1993; Silverman 1993; DeLeonardis 2000; Forgey and Williams 2005; Conlee 2007; Knudson, et al., 2009). A trophy is a severed “human head with an artificially enlarged foramen magnum, a hole in the frontal bone, and where preserved, a carrying cord threaded through that hole” (Silverman and Proulx 2002:229; Verano 1995, 2003; Knudson, et al., 2009:245). Trophies come from both late Paracas and Nasca contexts; more importantly, such findings occur along the entire south coast, including the Acari Valley (Lothrop and Mahler 1957; Coelho 1972; Neira Avendaño and Coelho 1972–73; Verano 2001; Williams, Forgey and Klarich 2001). This indicates that the practice of trophy head taking was not only widespread, but it also lasted for several centuries.

As with the case of iconography, Proulx (2006:35, 2008:579) has argued that trophies are

the heads of enemy combatants secured in battlefields. Other researchers have pointed out that the demographic pattern of trophy head taking changed through time (Forgey and Williams 2005:270). Late Paracas and early Nasca trophies included men, women, and children (Drusini and Baraybar 1991:262), a pattern that some suggest likely resulted from raiding (Carmichael 1988:426–427). In contrast, trophies dated to middle and late Nasca are predominantly young adult males, the population segment more likely to be warriors (Verano 1995). Furthermore, trophies are not that common in late Paracas and early Nasca contexts. Because there is no conclusive archaeological evidence of military conquest in early Nasca times, Browne, Silverman, and Garcia (1993:290) have argued that warfare likely was not the source of the early Nasca trophy heads. This may have also been the case for late Paracas trophies.

While late Paracas and early Nasca iconography and the physical occurrence of trophy heads are not supportive evidence for violent conflict on the south coast, one must also consider the settlements established in the region around that time. It was with Paracas that the first known complex architectural structures emerged in the region. For instance, Massey (1991:324–326) reported a series of public buildings at Animas Altas in the middle Ica Valley. The interior walls of some of these buildings were decorated with depictions of anthropomorphic figures. Ritual paraphernalia, such as gold masks, indicates people of prestige or shamans (Proulx 2008:572). Besides sites such as Animas Altas, however, the study of several researchers over several years reveals that late Paracas settlements were small, unfortified, dispersed along the river valleys, and each more likely representing an autonomous farming village (Reindel 2009:451–452; Reindel and Isla 2006:172).

For the particular case of the Nasca region, Van Gijseghem and Vaughn (2008:116; Van Gijseghem 2006:426) also state that late Paracas settlements were typically small villages; however, these researchers have pointed out that sites such as La Puntilla were located in “defensible locations” and “hilltops,” without clear clustering. They also mention “cycles of warfare” and “aggression” among adjacent autonomous villages (Van Gijseghem and Vaughn 2008:116, 124), suggesting that there was conflict. These observations differ from other descriptions for known Paracas settlements. However, more recently Van Gijseghem (personal communication 2012) pointed out that “the term defensive evokes highly perched fortress-type settlements with embankments and fortifications,” but that was not what he and Vaughn implied with “defensive” and “defensible.” They used these terms to note that the sites were built on steep slopes. Hence, there is a strong possibility that those locations were selected to avoid agriculturally fertile land and not for security reasons.

For the Palpa Valley, Reindel (2009:448) reports a major presence of late Paracas settlements in the middle valley in contrast to the few middle Paracas sites. The late Paracas sites were established along and near the valley floor and suggest that local subsistence was valley based. One such site, which Reindel (2009:450, Figure 25.6) identifies as a “characteristic late Paracas settlement,” is Pinchango Viejo established in the middle Palpa Valley. Two walls on the southwest side of the settlement seemingly were built to seal off access from the south. Because the site is located above the valley floor, Reindel interprets the site as being “strategic.” Although no other late Paracas site from the middle Palpa Valley or elsewhere from the valley is mentioned for comparative purposes, Reindel

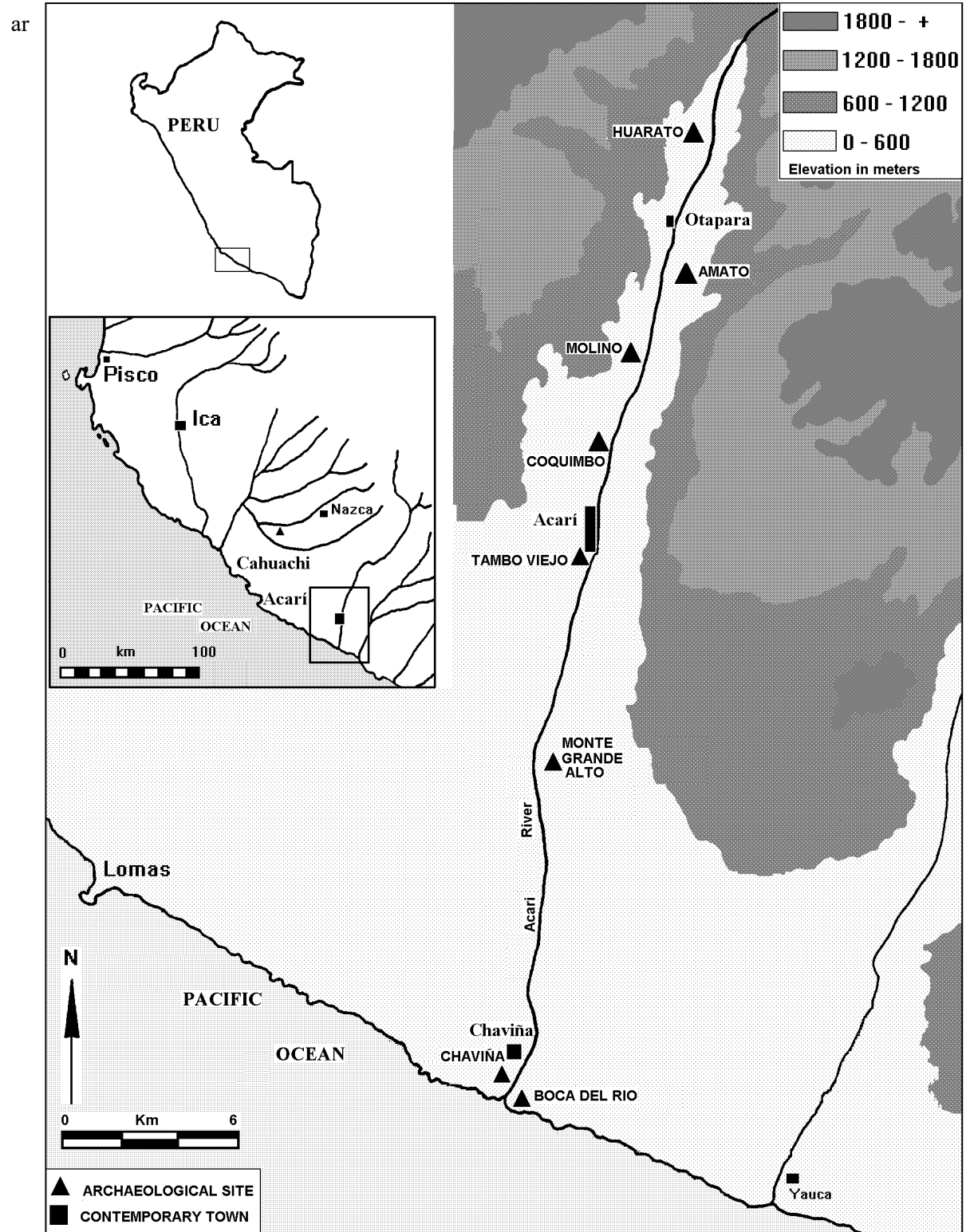


Figure 1: Location of Early Intermediate Period settlements of the Acari Valley.

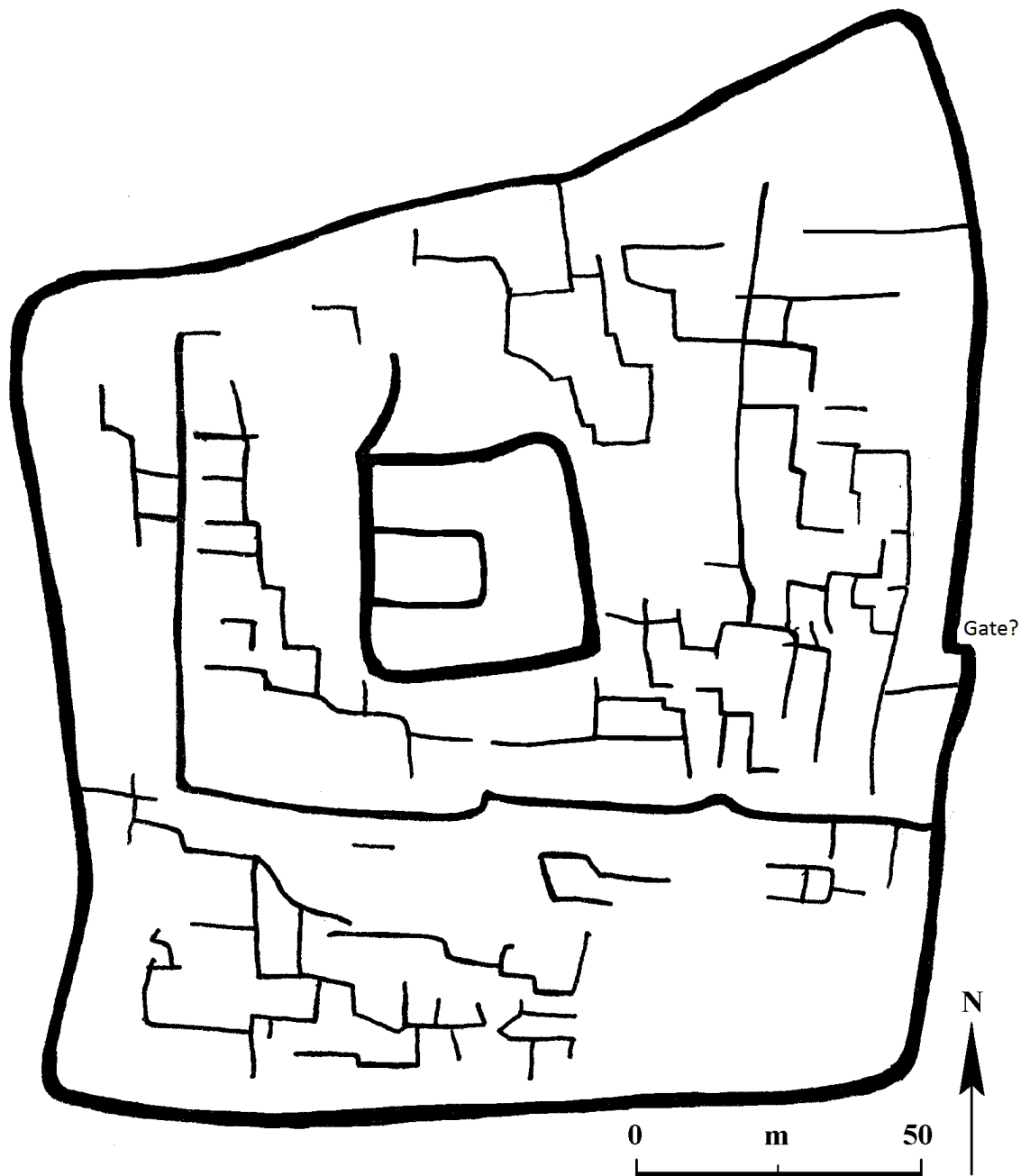


Figure 2: Layout of the Early Intermediate Period settlement of Amato.

gues that the walls and the location of Pinchango Viejo are defensive features that represent a “typical trait of late Paracas settlements.”

Except for the two isolated walls at Pinchango Viejo, there is a similarity between this and the site of La Puntilla described by Van

Gijseghem and Vaughn (2008). Both were built above the valley floor and near agricultural land, but neither was enclosed by defensive structures that can be identified as a fortification. Other late Paracas and early Nasca settlements are also located near agricultural fields, such as Marcaya

(Vaughn 2009), but above the valley floor. Such locations, however, likely had nothing to do with conflict; they probably were part of an effort to avoid building settlements on arable land. More recently, in a personal communication (2012), Johny Isla pointed out that although Pinchango Viejo had walls, it was not a fortification, and the walls were not for defensive purposes; instead, Isla noted that the walls were built to block access to the gold mine found above the site (Unkel et al. 2012:2298). Thus, one can argue that fortified settlements were not common during late Paracas.

Likewise, after decades of fieldwork, researchers have not identified a single early Nasca fortified settlement. Instead, early Nasca settlements were small, unfortified villages, established along the course of the rivers (Conlee and Schreiber 2006:97; Proulx 2006:35, 2008:575; Silverman 2002:147; Reindel 2009:451–452; Reindel and Isla 2006: 172; Vaughn 2009; Van Gijseghem and Vaughn 2008:117; Beresford-Jones 2011:49, personal communication 2012; Johny Isla, personal communication 2012; Ann Peters, personal communication 2012). It was not until middle and late Nasca that large settlements emerged (Schreiber 1999:168; Schreiber and Lancho Rojas 2003:157); however, none of these settlements were walled or established in locations that could be interpreted as defensive.

From this overview, the fortifications—the obvious material manifestations of warfare—are notably absent. Furthermore, other signatures of violent conflicts, such as buffer zones and violence-related trauma, are unknown for late Paracas and early Nasca contexts. Does this suggest that both the late Paracas and the early Nasca were peaceful cultures? Or, is it that, contrary to archaeological expectations, warfare does not necessarily result in fortifications? As

pointed out at the onset, warfare occurs at different scales (Elliott 2005:298); perhaps such variability has something to do with the absence of fortifications in this region. More specifically, small-scale conflict (Elliott 2005:299; Carmichael 1988:426–427), which has the potential to be as deadly as large-scale violent conflicts (Ferguson 1984:5; Webster 2000:72), might result in different types of material evidence that is not necessarily visible. Moreover, all over the region, archaeological sites have been looted and destroyed.

In this overview, I refrained from discussing the Acari Valley, regarded as the southern boundary of the Peruvian south coast region (Lanning 1967:32; Menzel 1959:125; Silverman 1996:96–97), because the available archaeological evidence coming from Acari contrasts with the information for the valleys to the north (Valdez 2006, 2009a). Thus, to compare the late Paracas and Early Nasca settlements just discussed, now I turn to consider the case of Acari.

### **The Early Intermediate Period in the Acari Valley**

Early in the history of archaeology in the Acari Valley, researchers observed aggregated settlements surrounded by large walls that were established during the first half of the Early Intermediate Period (Rowe 1956:137, 1963:11; Menzel 1959:128; Valdez 1998). More recent research has determined that during this period a total of eight aggregated settlements existed in the lower section of the Acari Valley (Figure 1) (Valdez 2009b:402–403). Note that these settlements are different from the countless small late Paracas and early Nasca villages that were scattered along the course of the rivers.

In the best-preserved sites of Acari, such as Amato (Figure 2), it is clear that the settlement





*Figure 3: Southern wall of Amato (west – east view).*

was protected by massive walls (Figure 3) built of cobblestones and adobes mortared with mud. Others settlements, such as Monte Grande Alto (Valdez 2010b:136) and Tambo Viejo, were established near cliffs that functioned as natural barriers, while the most accessible sections of the sites were protected by large walls built of adobes and cobblestones (Figures 4 and 5). In some instances, more than one wall was built. Furthermore, Monte Grande Alto was built not only next to a natural barrier, but also on a high plateau that provided better visibility over a large area.

Unfortunately, contemporary activities such as road construction, irrigation canal

development, agricultural field expansion, and modern town growth have damaged most of these sites. This is the case of Huarato (Valdez 2005, 2009a:261), Coquimbo, and Tambo Viejo, sites initially reported by Rowe (1956:137, 140). For instance, archaeological reconnaissance of the fields east to Huarato revealed the foundation of a large wall that is part of the northern wall of the site. Next to the wall foundation there are ceramic sherds that on stylistic grounds date to the first half of the EIP. Thus, what remains at present at Huarato is only a small section of a large site. It appears that the walls of Huarato were linked to a cliff found east of the site.

Due to the environmental constraint of the





*Figure 4: The walled settlement of Monte Grande Alto built next to a cliff.*

valley, for instance, the lack of arable land and water, the sites were established along the course of the river (Rowe 1956:137; Valdez 2000a, 2007). Such a site distribution indicates that the

inhabitants of these settlements were valley oriented (Valdez 2009a:263–265, 2010a). Furthermore, sites were often established at a deliberate distance from their nearest neighbors



*Figure 5: Location of Early Intermediate Period settlements of the Acari Valley.*

and, when possible, to control the opposite bank (Valdez 2009b:404). Exceptions are Chaviña–Boca del Río and Tambo Viejo–Coquimbo. In the first case, these sites were established on opposite sides of the mouth of the Acari River. Tambo Viejo and Coquimbo, on the other hand, were built on the same side of the river, possibly because this section of the valley has the most extensive farmland—at least in modern times.

Likewise, between Amato and Coquimbo, there was the site of Molino. Here the large walls were intended to surround a large area. However, whether the walls enclosed the area and whether the area was actually occupied remains uncertain.

First, the southern side of the site is an agricultural field that makes it difficult to determine if the site was fully walled. If there was a wall, it has been demolished. Second, my inspection of the site did not find any material culture or structures that would suggest that it had been inhabited. It appears, therefore, that the site was never fully established, as its builders likely were forced to abandon their project. Since the site was too close to Coquimbo and Amato, perhaps those who intended to build a new settlement were stopped by their neighbors. The identification of Molino as an EIP site is based on the construction materials, such as conical

adobes, used to build the main wall. After the first half of this period, the use of conical adobes to build the south coast is unknown.

From this consideration, as early as the first half of the EIP walled settlements were already established in the Acari Valley (Valdez 2010b, 2012a). Though information of an earlier occupation in the Acari Valley is far from clear, sherds resembling late Paracas ceramics have been found at some of the walled sites such as Amato, leaving open the possibility that some of these sites may have already been established before the EIP (Valdez 2012b). Nonetheless, the situation of the Acari Valley during this period is different from the one known for the valleys further to the north. The presence of Acari settlements that were aggregated, walled, and separated by vacant lands that likely functioned as buffer zones indicates that they were established under a different set of condition (Valdez 2009c, 2012c).

Furthermore, other material evidence shows that the cultural dynamics in the Acari Valley were different from late Paracas and early Nasca. For instance, ceramics produced during this period in Acari were different from those manufactured in the adjacent valleys further to the north (Valdez 2000b, 2009d). As already pointed out, late Paracas and early Nasca ceramics were masterfully made and elegantly decorated with a range of fine designs that included human trophy heads (Carmichael 1998; Sawyer 1961). There is nothing comparable in Acari, as the ceramics never achieved the high quality of late Paracas or early Nasca ceramics. Nevertheless, the inhabitants of Acari and their neighbors from the valleys to the north interacted, allowing the flow of ideas and some artifacts, such as the early Nasca ceramics that found their way to the Acari Valley (Valdez 1998, 2006, 2009d). As a result, across the south coast, there

were shared beliefs and shared cultural practices that include the making of conical adobes and the taking of human heads (Valdez, et al., 2010).

To comprehend the complexity of the Acari settlements, especially their layout, in the following section I offer a closer examination of Tambo Viejo, a site often referenced in the specialized literature (Lanning 1967:20–121; Proulx 1968:98; Lumbreras 1974:123–124; Moseley 2008:199; Silverman 1988). Rowe (1956, 1963) provided the brief references currently available more than half a century ago.

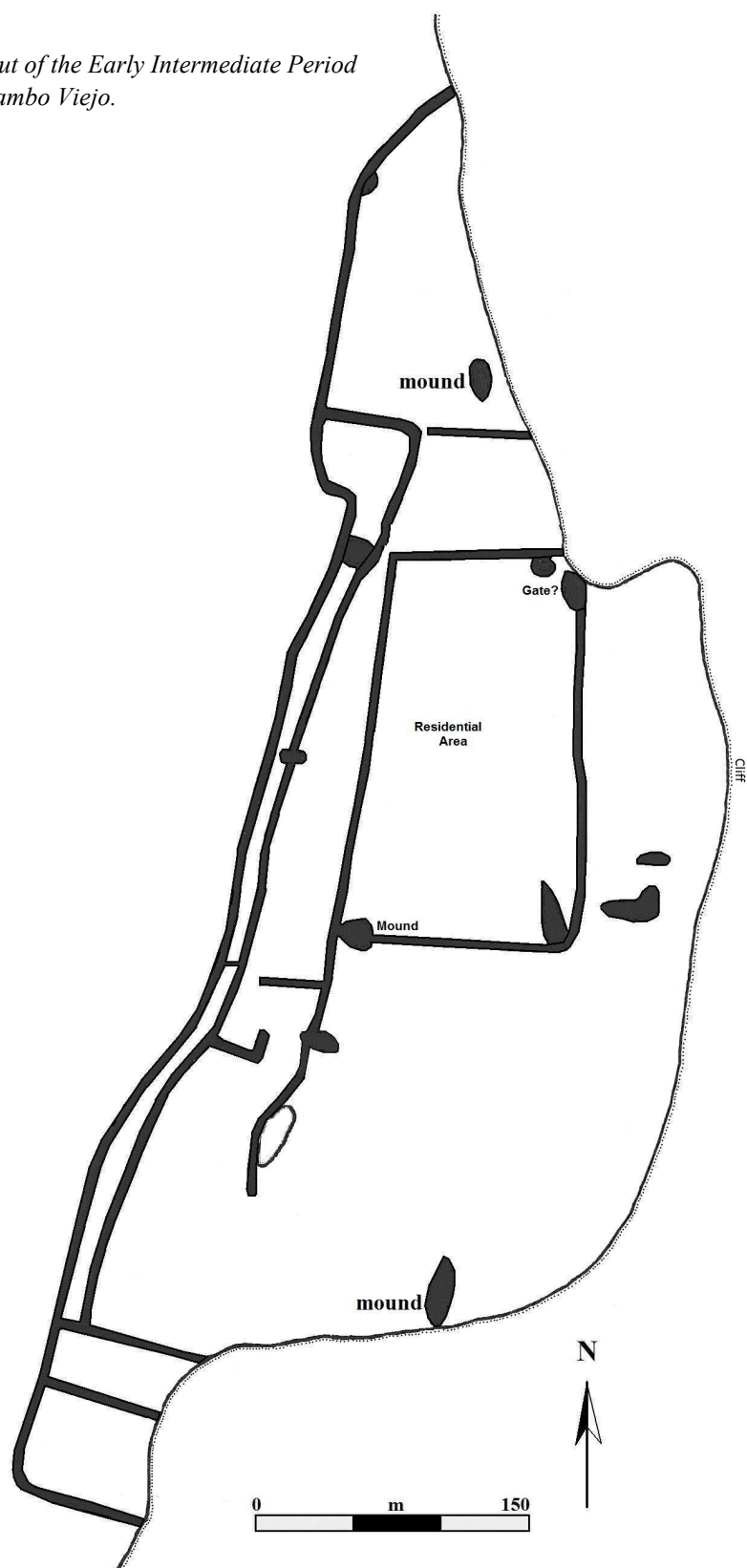
### **The Walled Settlement of Tambo Viejo**

The first settlement in the Acari Valley to be recognized as a fortification was Tambo Viejo. In 1954, Menzel and Riddell carried out the first archaeological studies at this site. After realizing the enormous size of the site, which extended 1.5 km from north to south and 0.5 km from east to west, these researchers decided to map the entire site (Figure 6). At the same time, they took ceramic collections from the surface. Based on ceramic style differences and architectural variations, Menzel and Riddell were able to infer that Tambo Viejo was occupied continuously since the EIP until the arrival of the Spaniards (Menzel, Riddell and Valdez 2012:409).

More importantly, Menzel and Riddell were able to distinguish among the sectors of the site and associate them with specific periods. For instance, the structures associated with ceramics datable to the first half of the EIP were not only different from the ones established later, but also their walls had been largely demolished. This was the case of a centrally located large rectangular compound that enclosed an undetermined number of structures built of cobblestones that were associated with EIP ceramics, including some early Nasca sherds. Thus, according to Menzel and Riddell, the rectangular compound



*Figure 6: Layout of the Early Intermediate Period settlement of Tambo Viejo.*



represented the EIP—the earliest occupation of Tambo Viejo.

Furthermore, the site map indicates that a large wall with a north–south orientation enclosed the western side of Tambo Viejo. The wall is about 1,700 m long and both of its ends reached the edge of the cliff. The cliff consists of a vertical drop of about 30 m; after the discussion provided by Roscoe (2008:509), there can be little doubt that this functioned as a natural barrier. On the south side, two more short walls with an east–west orientation (parallel to the southern tip of the large wall) were also established (as inner walls) and linked to the main western wall and to the cliff. Near the point where one of the second short walls joins the main western wall, a new large (inner) wall was established maintaining a north–south orientation, and thus parallel to the main (outer) wall of the west. After extending about 1,050 m from south to north, the wall turns west and connects to the main western wall.

The report of the first ever studies carried out at Tambo Viejo only became available in 1986. In that report, Menzel and Riddell (1986:23) described the surrounding walls and mounds of Tambo Viejo noting that “in some sections these eminences are up to 5 m high or higher, [while] in other sections they suddenly shrink to low piles, only to rise again abruptly. Some mounds stand alone, at crucial corners or turns in the ridges, and fade out gradually but rapidly away from their center, usually in small tail to one side.”

At the time Menzel and Riddell carried out fieldwork at Tambo Viejo, Rowe visited Acari and inspected the structures of Tambo Viejo. Rowe, along with Menzel and Riddell, also visited other sites in the lower section of the valley (Rowe 1956:137, 140). Between 1959 and 1962, Rowe returned to Acari on several

occasions and inspected Tambo Viejo as well as the other walled sites such as Huarato, Amato, and Coquimbo (Valdez 1998:44). Based on those field studies, plus the information gathered by Menzel and Riddell, Rowe discussed his main findings in a seminal paper published in 1963. In that paper, Rowe (1963:12) interpreted the surrounding walls of Tambo Viejo (and the walls of the other sites mentioned above) as “fortifications.” In Rowe’s view, the Acari settlements were fortified due to a Nasca invasion.

Unfortunately, the original size of Tambo Viejo has been reduced due to contemporary constructions of roads, irrigation canals, agricultural fields, and residences (Valdez 1996, 2012a, 2013). As a result, most of the northern and western sides of the site no longer exist. The large walls that once surrounded the settlement, as well as their associated mounds, have also been erased, except for small sections to the southwestern side.

In the summer of 2012, shortly after my arrival in Acari, Jesus de La Torre, an Acari resident, informed me that a section of the western wall of Tambo Viejo had been bulldozed to open a road and a drainage ditch. Upon hearing this information, I inspected the bulldozed wall and profile of the cut. To assess wall construction, the type of materials used, associated cultural material remains, and to secure charcoal samples for absolute dating, I proceeded to clear the cut, first at the road level and then next to the ditch. This assessment revealed the complex aspect of this massive structure (Figure 7).

First, at the core of the structure is a 1.10 m thick double alignment conical adobe wall. Second, there is a 0.85 m thick single alignment conical adobe wall. Between these two conical-adobe walls, there was a gap filled with dirt and



*Figure 7: North – South view of a cut of the western wall of Tambo Viejo.*

gravel. Third, next to the first adobe wall, there is a single alignment cobblestone wall that functioned as the inner wall. Between the inner cobblestone wall and the adobe wall, there was also a gap that was filled with dirt and broken adobes. A charcoal sample recovered from the fill at the road level produced a date of  $1890 \pm 25$  B.P. (cal. A.D.  $104 \pm 24$ ). A second sample, which was recovered from the exterior side of the inner wall at the level of its foundation, produced a date of  $1840 \pm 20$  B.P. (cal. A.D.  $173 \pm 34$ ). Fourth, next to the single alignment conical adobe wall there is a single alignment cobblestone wall, established as an outer wall. Between these two walls, there was also a gap filled with dirt, gravel,

and broken adobes. Finally, a fifth wall was established next to the outer wall that consisted of a combination of cobblestones and loaf-shaped adobes. This wall is different from the others and appears to have been built hastily.

It is the sum of several smaller walls that forms the massive structure that protected the western side of Tambo Viejo (Figure 8). At its base, the width of the wall is 6 m and the height is about 3.50 m, although originally it probably was higher. In the filling placed between the walls, there is a good presence of organic remains, especially seashell and plant remains such as maize and peanuts. However, at the level of the base organic and ceramic remains are



*Figure 8: View of a section of the western wall of Tambo Viejo immediately south from Figure 7.*

almost absent. In all the cases, the ceramic sherds found in the filling are in the local Huarato tradition that dates to the early phases of the EIP; next to the inner wall there were also some early Nasca sherds, which confirm that the wall was built early in the EIP.

Further south from the cut just described, the western wall was previously cut at several locations. One such cut is about 200 m south. In contrast to the first cut, there is more moisture because agricultural lands are right next to the wall, while on the exterior side there is a marsh formation. As a result, it was challenging to locate adobe walls. Even so, as the profile was

cleared, it was possible to find a double alignment cobblestone wall built as the outer wall and a single alignment cobblestone wall that functioned as the inner wall. Next to the outer wall, there was an adobe wall; the shape of the adobes could not be determined because of moisture damage. The width of the adobe wall is 1.35 m, which is the same for the outer wall. Between the adobe wall and the single alignment cobblestone inner wall, there was a large gap filled with gravel. Organic remains, especially shellfish, and ceramic sherds in the local Huarato style, occur in the filling. A charcoal sample was collected from the fill and produced a date of



1870  $\pm$  20 B.P. (cal. A.D. 135  $\pm$  41). On the exterior side of the inner wall, there was also a fill of gravel. The total width of this wall is 5.60 m, while the height is 2.30 m. However, the base of the wall was not determined after excavating 50 cm below the surface. The original height of the wall probably was like that noted above.

At the opposite side of this cut, only about 4 m distance from the previous cut, a third profile was equally cleared and the result was similar. A double alignment cobblestone wall (1.40 m wide) functioned as the outer wall, while on the other side there was a single alignment of cobblestone wall built as the inner wall. On the interior side of the outer wall, there was a 1.30 m wide adobe wall. Between this wall and the inner wall, there was a fill of dirt and broken adobes, but no gravel. Ceramic sherds occur also rarely.

Assessing the three cuts produced in the western wall of Tambo Viejo illustrated that the entire wall was not built following the same pattern. Instead, the cuts assessed in a small segment of a large wall show significant differences. For instance, the fifth wall noted in the first cut is absent in the second and third cuts. Such variation opens the possibility that the wall was built by several working groups, perhaps simultaneously, but without following a single model. This observation is of interest because it would be expected that a wall would be constructed in a consistent way along its length, but that is not the case. It is of interest to note that a similar case was noted for the northern wall of Huarato (Valdez 2009b:403). An alternative possibility is that the walls, to be effective, were rebuilt over the years.

As noted, two large walls protected the western side of Tambo Viejo. Recent bulldozing had also exposed the second wall; this is comparatively smaller than the former. At the location of the road and the ditch, the distance

between the two walls is 30.50 m. In contrast to the previous wall, this second wall consists of two single alignments of cobblestones mortared with mud, with a 1.10 m gap in between. The gap was filled with gravel and is also where ceramics in the local Huarato style occur. A charcoal sample recovered from the fill produced a radiocarbon date of 1870  $\pm$  25 B.P. (cal. A.D. 140  $\pm$  47). At the level of the road, the width of the wall is 1.60 m. Meanwhile, at road level, the height of the wall is 1.20 m, but originally it was probably higher. It is of interest to note that the wall was covered with gravel, and it seems that this was done to make the structure invisible from a distance.

Further east from the two walls mentioned here, one finds the rectangular compound that encloses a large number of cobblestone walled structures that have been identified as a residential area of the EIP occupation of Tambo Viejo (see Figure 6). The compound was walled and its western wall extended further south, perhaps reaching the edge of the cliff. The western wall of the compound consisted of a double alignment of conical adobes, flanked by a single cobblestone alignment wall on each side (Valdez 2009b:403). As in the other instances noted here, between the cobblestone alignments and the conical adobe wall there were gaps filled with dirt, thus transforming the three walls into a single large wall that had an average width of 2.80 m and a height that exceeded 3 m.

As discussed elsewhere (Valdez 2009b:403, 2010b:134–137), the walls of Huarato, Amato, and Monte Grande Alto (see Figure 5) have been the subject of archaeological investigation. Recently, in addition to Tambo Viejo (discussed above), the walls of Molino and Coquimbo (Figure 9) were assessed. Therefore, it is now possible to compare the way the walls of the various Acari settlements were built. First, the



*Figure 9: West – East view of a section of the wall of Coquimbo.*

surrounding walls of the Acari sites were built differently. Although in all the known cases the same construction materials were used (Valdez 2010b), there is some variation in the way the materials were placed when erecting the walls. For instance, at Molino and Coquimbo there was greater use of fieldstones than cobblestones; whether such differences denote chronological differences remains difficult to determine. Second, in some instances (Amato and Huarato), the aim was to build a single wall, while in others (Tambo Viejo and Monte Grande Alto) several walls had to be constructed. Such differences indicate that the residents of some settlements

invested more time and energy erecting the walls. Whether such differences signify periods of major political unrest, and therefore time differences, cannot be determined at present. Third, within the same site, the walls were not built following the same pattern. This is the particular case of the three main walls of Tambo Viejo, each built in a unique manner. Finally, as illustrated with the western wall of Tambo Viejo, even the same wall was erected in different ways and not following a single model or criteria. Such variation opens the possibility that the wall was built in segments and each segment was erected by different groups of working parties. Absolute

dates suggest that walls were built around the same time.

Absolute dates (although still limited) and the ceramic sherds found in the walls confirm that these structures were built early in the EIP. The oldest date has been determined for the northern wall of Huarato, with a radiocarbon age of  $2030 \pm 60$  B.P. (cal.  $55 \pm 77$  B.C.), followed by the date for the wall of Monte Grande Alto, with a radiocarbon age of  $1950 \pm 60$  B.P. (cal. A.D.  $44 \pm 60$ ). The third oldest date is for the northern wall of Amato, with a radiocarbon age of  $1990 \pm 60$  B.P. (cal. A.D.  $183 \pm 70$ ), followed by two dates for the wall at the road and ditch side of Tambo Viejo, with radiocarbon ages of  $1890 \pm 25$  B.P. (cal. A.D.  $104 \pm 24$ ) and  $1840 \pm 20$  B.P. (cal. A.D.  $173 \pm 34$ ). The cut further south in the same wall of Tambo Viejo produced a radiocarbon age of  $1870 \pm 20$  B.P. (cal. A.D.  $135 \pm 41$ ), while the single date secured for the inner wall of Tambo Viejo produced a radiocarbon date of  $1870 \pm 25$  B.P. (cal. A.D.  $140 \pm 47$ ). Finally, the only date available for the wall of Coquimbo is  $1790 \pm 20$  B.P. (cal. A.D.  $214 \pm 36$ ).

This discussion highlights the most obvious architectural features of the walled settlements of the Acari Valley (Valdez 2010c). A detailed examination of these settlements reveals features that—although not obvious—were critical elements of a designed site layout. In the following section, I describe some of these features to illustrate that these were more than just walled sites.

### **Layout of the Walled Settlements**

The walls and other architectural features described above were only part of a more complex site design that made the Acari sites defense-oriented settlements. Indeed, to ensure the effectiveness of the above-mentioned barriers, other important features were added. For

instance, at Monte Grande Alto and Huarato there are large, deep ditches (dry moats) parallel to the surrounding walls that are always found on the exterior side of the walls (Valdez 1998:90) and are comparable to those found at sites in the Huamachuco area (Topic 2009:216, 218). The ditches were likely produced when soil was removed to build the walls; intentionally placed or not, the ditches probably constituted an important part of the defensive system by making it even harder to overcome (to climb) the surrounding walls (Keeley, Fontana, and Quick 2007:57–60; Parkinson and Duffy 2007:100; Roscoe 2008:514; Trigger 1990:121–123).

Equally intriguing are the two parallel walls on the western side of Tambo Viejo. Such a design probably was strategic, where the outer wall prevented enemy parties from entering while the inner wall obscured the movement of successful intruders, particularly if the attack was carried out at night. Due to the height of the outer wall, perhaps standing about 4 m high, the smaller inner wall was likely invisible from the outside (Valdez 2012c). As noted, the inner wall was covered with gravel likely in a further attempt at camouflage. Thus, attackers who managed to enter the site from its western side not only found an additional unexpected barrier to overcome but also became trapped between the two walls and were unable to escape.

Furthermore, between the two walls just noted, there is a long empty space without an obvious access. A small wall divided this space into two halves; a large mound built between the two parallel walls further subdivided the northern section. Although it is uncertain why the subdivisions were established in the first place, one can argue that the design of the parallel walls and the divided blocked spaces in between were part of the defensive system that, after the discussion provided by Roscoe (2008:513–514;

Keeley, Fontana, and Quick 2007:57–60), featured chokepoints. Indeed, two parallel walls may have been an effective method to obscure the way and slow down the escape of attackers.

If attackers were successful in overcoming the above obstacle, there was another large wall standing in front of them before reaching the well-protected rectangular compound. Between the western wall of the compound and the inner wall noted above there is a second large space; at the mid-southern side of that space, there are two short walls and three mounds nearby. The walls in particular may have been established to force intruders, if entering from the south, not only to turn left and then right and thus be disoriented and vulnerable to defenders standing behind nearby walls (Keeley, Fontana, and Quick 2007:64), but also to force attackers to enter in a single file and be vulnerable (Roscoe 2008:513). Likewise, if intruders moved in from the northern end, they had to pass through two narrow gates, again in a single file. Hence, the site plan of Tambo Viejo appears to have been carefully designed to lead intruders into the space behind the western wall of the rectangular enclosure, a spot where they could have been easily finished off. Roscoe (2008:515) asserts that attackers are aware that narrow gates and chokepoints are dangerous spots. Thus, such features discourage attacks.

In addition, at Tambo Viejo, Coquimbo, and Huarato there are several human-made high platforms, many of them linked to the surrounding walls. In the case of Tambo Viejo, two such structures existed along the two parallel walls. Eleven more platforms were established at crucial corners between the large walls. A basic function of these platforms probably was to allow sentries to gain a better view of the surroundings, particularly in times of potential attacks (Valdez 2012a). Although it remains unknown what

features exist (or existed) at these mounds, besides providing a better vantage point for watching the surrounding terrain, they could have functioned as locations from which to launch a counterattack. Here it is important to emphasize that mound construction required extra effort, which indicates that the mounds were intended to be critical elements of the fortifications.

While the walls, mounds, and ditches are obvious; other possible defensive features remain unknown. For instance, the walled sites possibly had gates that allowed residents to enter and exit the settlements, but this has not been determined. Since all the sites are protected by walls and other natural defenses and all available evidence indicates that the EIP in Acari was not peaceful, entrances were likely designed to restrict access and prevent unexpected attacks (Keeley, Fontana, and Quick 2007:62). At Monte Grande Alto, the far eastern wall seems to have functioned as part of the gateway. In fact, the southern end of the wall is not linked with the cliff probably because the main entrance to the settlement was located here. As one moves north towards the point of juncture with the next wall, it becomes a bottleneck, suggesting the existence of a possible narrow gate at that location. It would not be a surprise if future research at this site demonstrates the existence of a baffled gate. Furthermore, there must have been a second gate somewhere along the main wall of the site, but this has not been discovered yet. Looting and the collapsed walls have obscured the location of that possible gate.

Likewise, for the residential area of Tambo Viejo, not a single access has been determined (Valdez 2013). The compound was walled and, along the walls, there were several mounds. Two such mounds existed at the northeast corner (see Figure 6). Although most of the surrounding walls and the mounds of the northeast corner





*Figure 10: Transporting cobble stones at Tambo Viejo.*

have already been destroyed, it seems that between the two mounds there was a gate that functioned as the only entrance to the site. If this observation is correct, a single entrance implies that access was restricted. The presence of two mounds at both sides of the possible gate suggests that the gate was guarded.

One should additionally note that the surrounding walls are not straight; instead, curves are present and these might be the locations of gates. Indeed, Keeley, Fontana, and Quick (2007:63, Figure 4) note that curved walls could be the locations of baffled gates. The eastern wall of Amato (see Figure 2), halfway to the southern

side, presents a sharp curve that perhaps is the location of a narrow gate. At that location, a person entering the settlement would have been forced to turn right and move forward between two parallel walls for about 50 m. If this observation is correct, it seems that entrance to Amato was designed to stop possible intruders.

To summarize, the presence of aggregated and heavily walled settlements with guarded entrances with each settlement separated by buffer zones suggests that these settlements coexisted in the midst of violence and fear. From this discussion, there can be little doubt that sites such as Tambo Viejo were indeed designed for

defense. Planning and establishing the barriers was a major investment of time and human energy.

Space does not allow me to further discuss the time and energy invested in building such massive walls. Nevertheless, it can be pointed out that the completion of such projects likely was time consuming. For instance, transporting heavy cobblestones (Figure 10), digging dirt, transporting water, preparing the mud mortar, making adobes, and finally erecting the walls and elevated mounds must have consumed an enormous amount of human labor. There can be little doubt that to erect the surrounding walls—and the other structures—of Tambo Viejo was indeed costly, especially considering that this is a small-scale society, with stone-age technology.

What has become evident from the ongoing discussion is that the construction of the surrounding walls of the EIP settlements of Acari was time-consuming and demanded a huge investment of human energy (Valdez 2012c). Obviously, it is difficult to determine exactly how much time and energy were invested in establishing the surrounding walls and other features, such as the platforms, particularly considering that even the same wall was built differently. In addition, despite the fact that most of the walls have already been demolished, it is equally impossible to verify every segment of the walls.

Although Rowe (1956:137) was too quick to label Tambo Viejo as a city, the total number of people living at the site during the EIP probably was only in the hundreds instead of the thousands. Therefore, perhaps the surrounding walls of Tambo Viejo were completed over a long period, although to be effective walls had to be built at once.

There can be little doubt that establishing the walls of the EIP sites of Acari was time

demanding and costly. It appears that the ancient residents of these settlements were aware of such implications and when possible they made deliberate attempts to reduce the labor cost. One such attempt was by establishing their settlements near natural barriers, such as cliffs that were incorporated into the defensive system. Nevertheless, in light of the information discussed here, it is clear that establishing the massive walls (Figure 11) was considered necessary, even though building them represented an enormous investment of time and human energy. The determining factor behind these time and energy-consuming projects appears to be the fear under which the inhabitants of the various Acari settlements coexisted. Research acknowledges that labor-intensive projects such as those noted here often are carried out because of fear (Arkush and Stanish 2005:15; Elliott 2005:298–299; Haas 2001:340; LeBlanc 1999:65, 2006:443; Maschner and Reedy-Maschner 1998:24; Redmond and Spencer 2006:342; Spielmann 1991:7; Solometo 2006:25; Vencel 1984:127; Wilson 1983:240). To illustrate that during the EIP outright violence occurred in the Acari Valley, in the final section I discuss the evidence of conflict discovered at one of the walled sites of Acari.

### **Violent Conflict in the Acari Valley**

Until archaeological excavations were carried out at Amato, the reasons for the defensive aspects of the Acari sites were not clear. Previously, Rowe (1963) had suggested that the walls were fortifications built against the Nasca invasion, but there was no concrete evidence for an invasion, except for some early Nasca ceramics (Valdez 1998). This changed when excavations at Amato uncovered the remains of several dozens of human skeletal remains of individuals who probably had been captured, and who were



*Figure 11: North – South view of the western wall of Chaviña.*

definitely tortured, and finally decapitated (Valdez 2008, 2009b, 2009c). Moreover, bound limbs and unhealed broken bones indicate a violent scenario. The presence of parry fractures, indicative of face-to-face combat (Tung 2007:952), and cut marks in the cervical bones, indicative of decapitation (Milner 1995:230; Verano 2001:168; Stodder 2005), confirm that victims of decapitation were treated violently. As the victims included males and females, young and old, it is also apparent that the purpose of these attacks was to eliminate the entire settlement.

As discussed in more detail elsewhere (Valdez 2009b), the finding from Amato is unprecedented and showed for the first time conclusive evidence that violent conflict had

occurred in Acari and on the south coast of Peru. Such evidence also made it apparent that the walls surrounding the Acari sites were part of a defense system, established because of threat and insecurity. Moreover, site layouts, as those mentioned above, were designed to obscure the way of attackers as well as to discourage possible attacks. From the perspective of attackers, sites such as Tambo Viejo—because of their complex layout—were not only protected by massive walls but were also provisioned with potential traps to prevent the safe escape of attackers. It is evident that large walls were placed to resist an attack (Vencl 1999:67), while the combination of the walls and site layouts were designed to discourage potential attacks (Roscoe 2008:514).

What may have triggered such a violent



situation is a difficult issue to address. However, from the information discussed here and considering that Acari is a typical example of an environmentally circumscribed valley (Carneiro 1970), with limited agriculturally fertile land, a possible reason may have been the shortage of resources, particularly of arable land. Population pressure, years of severe drought (Carmichael 1998:216), or a combination of both, could have resulted in a shortage of resources that eventually created competition (Read and LeBlanc 2003:74; LeBlanc 2006:438). Several researchers point out that indeed resource scarcity results in competition and eventually in violent conflict (Spielmann 1991:7; Abbink 2001:129; Schröder 2001:147). It is clear that communities began competing and fighting as some attempted to access to the scarce resources available in the valley, while others made the effort to defend their limited resources (LeBlanc 2006:441; Flannery 1994:104; Earle 1997:105). In a narrow valley such as Acari, blocked by dry mountains and the desert, the only viable alternative probably was to defend the resources at any cost—because surrendering them had drastic consequences (Carneiro 1970). Therefore, the inhabitants of a walled settlement likely had better chances to resist and deter attacks and hence to defend the precious resources. This appears to be the explanation for the establishment of the fortifications as well as the explanation of why it was necessary to make great sacrifices in erecting the massive walls.

To summarize, based on current archaeological information, it appears that violent conflict emerged early during the EIP as the inhabitants of the various settlements of the valley began competing over resources. The conflict was of local origin, among peoples who likely spoke the same language, and who in times of peace likely intermarried. It was because of

such a competitive situation that fortified settlements emerged first. When the residents of the walled sites of Acari were involved in outright violence, as former friends became foes, nothing similar seems to have occurred in the valleys north of Acari, as the absence of fortified settlements indicates; the reason may be that those valleys are wider and have more arable land than Acari. In those valleys, settlements remained small and unfortified (Reindel 2009:451). It was not until about 200 years later that the inhabitants of those valleys saw the need to aggregate themselves in fewer but larger settlements (Schreiber 1999:168), which suggests that by then the carrying capacity of local resources perhaps had also become scarce resulting in conflict (Proulx 2008:579). An alternative scenario is that such aggregation may have been as a response to the initial expansion of the Wari state. When the Nasca were involved in conflict—if indeed late Nasca iconography indicates conflict—their southern neighbors from Acari were already facing the consequences of years of destruction as a result of violent conflict. Exception for Chaviña, sometime around A.D. 350 the walled sites were abandoned and replaced by new settlements, such as Gentilar (Valdez 1994, 2009b:405). These were small non-fortified settlements, with wattle-and-daub (*quincha*) architecture.

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