Walled Settlements, Buffer Zones, and Human Decapitation in the Acari Valley, Peru

Lidio M. Valdez

Department of Archaeology, University of Calgary, 11607 36th Avenue, Edmonton, AB T6J 0C6 Canada. Email: lidio@ualberta.ca

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Severed human heads constitute one of the hallmarks of the Early Intermediate period of the Peruvian South Coast region. The ancient art of this region (including pottery and textiles) frequently portrays severed heads that are often associated with mythical beings. Actual heads, identified as trophies, have also been found in all the valleys of the region, suggesting that human decapitation and trophy head taking were important aspects of Early Intermediate period society on the South Coast. Notwithstanding the occurrence of trophies, decapitated human bodies are seldom found in the archaeological record. Recent archaeological excavations carried out at Amato, an Early Intermediate period site in the Acari Valley, resulted in the unprecedented finding of dozens of decapitated bodies buried inside a centrally located structure. In addition to the heads, several cervical bones are also absent, and the uppermost cervical vertebrae that remain often exhibit unmistakable cut marks. Victims of decapitation represent all ages and both sexes, some of whom had their wrists and ankles tied. Many of the victims exhibit parry fractures, which indicate a violent, face-to-face confrontation. The presence in Acari of several sites with constructed defensive systems (and with buffer zones between them), in conjunction with the evidence of decapitation, strongly indicate that outright violence occurred in Acari and that human decapitation likely was a direct outcome of that conflict.

HUMAN DECAPITATION IS AN ANCIENT AND WIDESPREAD PRACTICE (Chacon and Dye 2007; Harrison 1993; Metcalf 2002; Pearson 2005:17; Rubenstein 2007). Western South America was no stranger to this practice; the earliest evidence for human decapitation in the Central Andes, in the form of severed heads, goes back at least to the Preceramic period (ca. 1800 BC; Proulx 1971, 1999). However, decapitation was more common on the Peruvian South Coast region, particularly during the Early Intermediate period (hereafter EIP; ca. 50 BC–AD 600), than anywhere else in the Andes and at any other time (Proulx 1989:73). Archaeological research in the region has documented such "trophies" (Browne, Silverman, and García 1993; Orefici and Drusini. 2003; Verano 1995, 2003), and the ancient art of the South Coast (including ceramics and textiles) frequently portrays scenes of decapitation or severed heads (Paul 2001; Peters 1991; Sawyer 1961:278). Just what was (or were) the underlying cause(s) that triggered the practice of human decapitation and trophy head taking in this region?

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This paper reports the recent finding of several dozen decapitated human remains at the EIP site of Amato, in the Acari Valley of Peru (Figure 1). The discovery is unparalleled in the entire Andean region and provides for the first time an opportunity to assess, for example, how victims were treated prior to, during, and after decapitation. Additional evidence from settlement data presented in this paper indicates that human decapitation in the Acari Valley was the outcome of outright violence rather than ritual sacrifice.

First, background information on the South Coast trophy heads is provided. Next, the recently uncovered archaeological evidence is described. To contextualize the evidence of human decapitation, settlement patterns as well as the general configuration of sites are also discussed. Then, information from Acari is compared with data from the Nasca heartland to document the substantial differences between these two areas. Finally, the natural environmental setting of the Acari Valley and the South Coast in general are considered to address the issue of human decapitation.

THE TROPHY HEADS

One of the most distinctive features of Nasca culture is the frequent depiction of severed human heads in ceramic and textile art. Referred to as "trophy heads," these objects can be displayed as single elements, held in the hands or attached to the belts of warriors or shamans, or associated with a wide range of mythical creatures who represent spiritual forces (Proulx 2001:121–22).

A trophy head 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). Uhle is acknowledged as the first scholar to document these heads and the first to name them "trophies'" (Browne et al. 1993:275; Forgey and Williams 2005:251). In the Acari Valley, the earliest trophy head was collected by J. C. Tello in 1915 from the walled site of Chaviña (Proulx 1999). Since then, trophies have been found in almost all the South Coast valleys; the heads are recovered as single findings (Baraybar 1987; Drusini and Baraybar 1991; Silverman 1993:220); in small groups, such as those at Chaviña (Coelho 1972; Lothrop and Mahler 1957; Proulx 1999; Neira Avendaño and Coelho 1972–1973) and Tambo Viejo (Baraybar 1987; Kowta 1987:66), both in the Acari Valley; and as larger groups, such as the cache of 48 found in the Ingenio Valley (Verano 1995). Carmichael (1994) asserts that during Nasca times between 5% and 10% of the burial population was decapitated.

Ever since trophies were first documented, scholars have debated the circumstances of the decapitations (Browne et al. 1993; Silverman and Proulx 2002:232; Williams, Forgey and Klasrich 2001; Proulx 1989:78). One school asserts that trophy heads were procured in battlefields as a result of territorial conquest. In addition to studying the connection between Nasca iconography and the heads (Proulx 1968, 1989), proponents of the warfare argument have provided demographic information on the trophies, such as age (mostly young adults) and sex-ratios (mostly males), which they argue are "consistent with the hypothesis that Nasca trophy heads were collected from enemy combatants" (Verano 1995:214).

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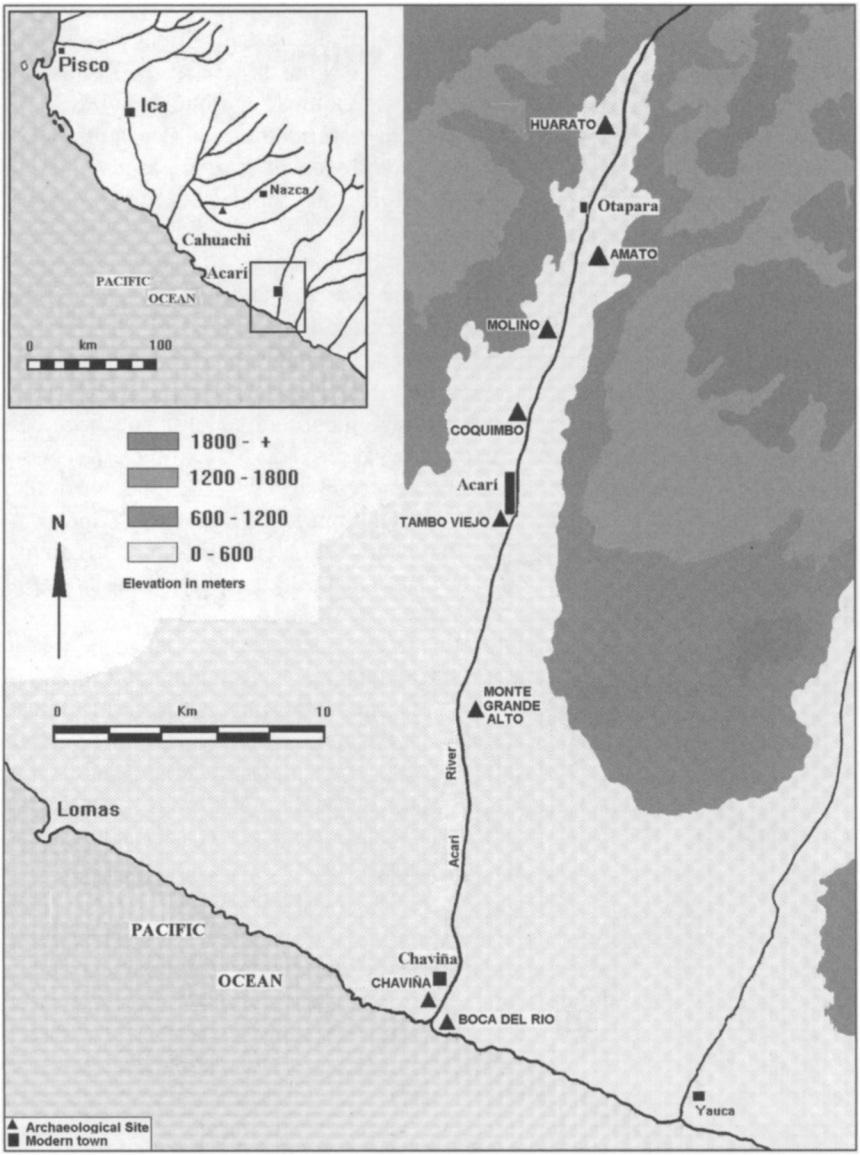

Figure 1. Location of Amato and other early
Early Intermediate period sites of the Acari Valley.

A second school considers trophy heads as ritual in nature and/or secured in a context other than battlefields. The presence of women's and children's heads is argued not to be expected in the context of organized warfare (Coelho 1972; Neira Avendaño and Coelho 1972–1973). Baraybar (1987), who was among the first to document fine cut marks on the external surface of the scalps, argued that trophy head taking likely included intentional bleeding and blood-taking in

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a ritual context. Likewise, Drusini and Baraybar's (1991:255) study of 78 trophy heads supports "a human sacrifice origin rather than a battle field decapitation of the victims." Drusini and Baraybar (1991:262) conclude that the heads were likely the outcome of what they term "raid for victims." Carmichael (1988:426–27) also argues against the idea of formalized confrontation (warfare); instead, in his view, trophy heads could have been taken by small raiding parties.[1] Despite the disagreements, there can be little doubt that the trophies are the outcome of human decapitation.[2]

Previous discussions about the trophies have implied, or may have allowed the reader to assume, that the reasons for trophy head taking remained constant through time and across the South Coast. Considering that the EIP lasted several centuries, during which cultural and ideological changes probably occurred, the assumption that trophies were secured only by means of warfare, for example, is problematic. Indeed, several scholars have identified "significant diachronic changes" in trophy head taking (Browne et al. 1993:276). During early Nasca times, trophy heads were not common (Browne et al. 1993:276), but when they do occur they often represent women and children as well as men (Forgey and Williams 2005:270). Coelho (1972), Baraybar (1987), and Drusini and Baraybar (1991) all studied early Nasca trophy heads and have argued against warfare being the sole cause.

As discussed below, the study of the trophies alone has limited power for determining the likely factors that triggered human decapitation. Furthermore, the paucity of decapitated human remains in the archaeological record has made it difficult to define the context in which and the reasons why human decapitation was carried out (Forgey and Williams 2005:274). Indeed, until recently, only a few headless bodies had been found, and each represented a single individual (see Conlee 2007; DeLeonardis 2000; Kroeber 1956:325; Ubbelohde-Doering 1966:143). According to DeLeonardis (2000:373), eight headless bodies with evidence of decapitation had been identified. One reason for the paucity of headless bodies from Nasca contexts may be the extensive destruction of Nasca cemeteries.

The few headless bodies that have been excavated archaeologically date to different times within the development of the Nasca culture. For instance, the single headless bodies uncovered by Ubbelohde-Doering (1966) and DeLeonardis (2000) date to early Nasca times (i.e., early EIP), while the single headless body recently uncovered by Conlee (2007) dates to the middle Nasca (middle EIP). Perhaps as a result of these chronological variations, the headless bodies exhibit different mortuary treatments. For example, the body of an adult male, uncovered by Ubbelohde-Doering (1966), was wrapped in an embroidered cloth and placed on his side; a polychrome ceramic vessel was left next to the remains as an offering. The body of a young male excavated by DeLeonardis (2000:369) had been placed in a dorsal and extended position, carefully wrapped in cloth, and accompanied by offerings. Finally, the middle Nasca body, a young adult male, was uncovered "in a seated position with crossed legs and facing east" (Conlee 2007:441); a ceramic jar was left next to the seated body as an offering. These three cases exhibit significantly different body treatments. However, they constitute a very small sample that does not provide information on the context in which the acts

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of decapitation were carried out. In the following section, I present new evidence from Amato that is quite different from these cases.

HUMAN DECAPITATION AT AMATO

Recent archaeological excavations at Amato resulted in the unprecedented recovery of several dozen decapitated human remains found in EIP contexts (Valdez 2005c:5, 2006:7, 2008:69–70). The locations were scattered within a rectangular structure (Figure 2). To the best of my knowledge, the work at Amato yielded the single largest concentration of decapitated human remains in the entire Central Andes, and it has provided an unparalleled opportunity for assessing many previously unknown aspects of human decapitation and trophy head taking in this region.

Excavations at Amato were carried out inside a centrally located rectangular structure and uncovered several depositions of human skeletal remains and partially mummified bodies. Figure 3 illustrates the distribution of the findings. Five of these interments consist of single skeletons; two contain the remains of two individuals; and the remaining six deposits consist of several individuals. These remains were found in a non-Nasca context, but they are contemporaneous with early Nasca.

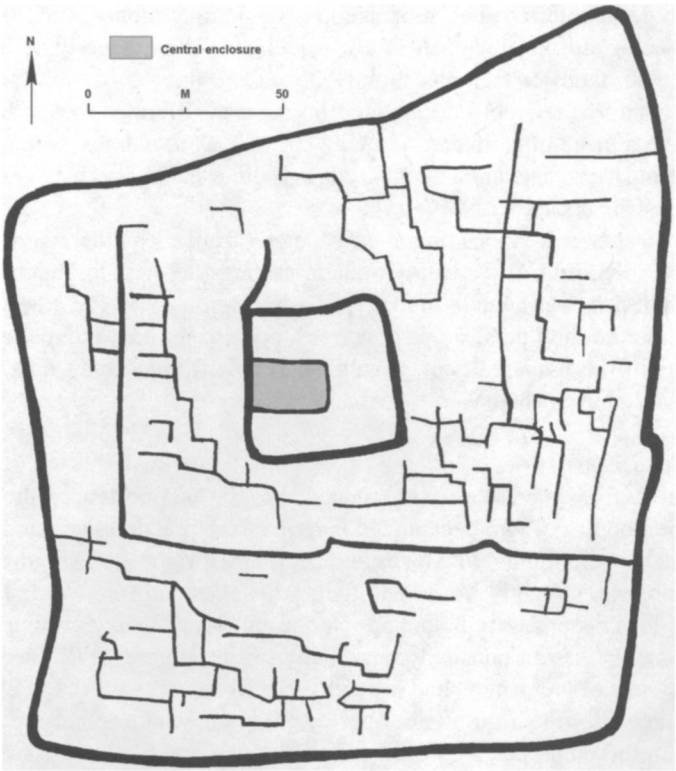

Figure 2. Map of the walled site of Amato.

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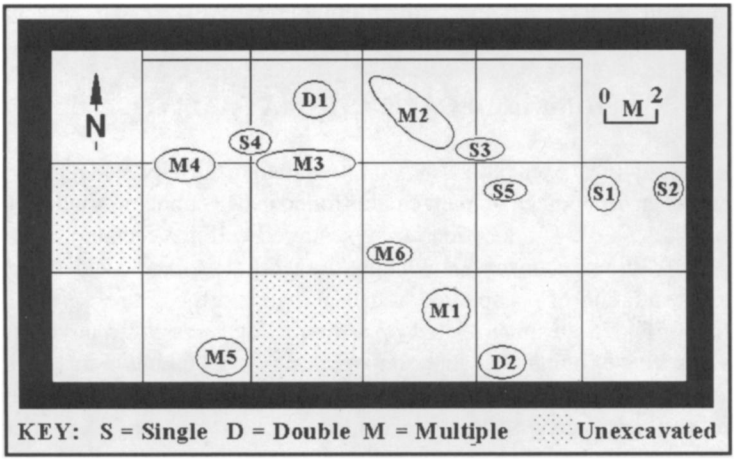

Figure 3. Drawing of the central structure of Amato indicating the location of the findings.

Single Interments

Five decapitated bodies representing single interments were uncovered. All but one of the skeletons were fully articulated. Three were lying in a dorsal position, with their lower limbs slightly flexed and their arms next to the chest. Though none of the single decapitated bodies had offerings, a quartzite flake, wrapped in a piece of cloth and tied with string, was found next to one of them. The flake is 10 cm long, and one of its edges is quite sharp—perhaps this tool was used during the decapitation.

The other two skeletons, found only a meter from each other, were lying in a ventral position, fully extended, with their arms resting next to the chest. In one case the left arm was actually under the body (Figure 4); in the other the hands were next to the shoulders, palms down, in a posture similar to that of a push-up.

Three of the five single interments had textiles around their hips; the other two appear to have been naked.

Double Interments

Two double interments were uncovered. In one instance, the partially mummified bodies of two decapitated individuals, a preadolescent and a young-adult female, were found lying by each other on their right sides (Figure 5). Their lower limbs were slightly flexed and their arms extended frontward. The young woman's lower limbs were bound around the ankle, clearly suggesting captivity. In addition, she has an unusually large belly, which suggests that she was in an advanced state of pregnancy, had just delivered a baby, or suffered an abortion or miscarriage/stillbirth shortly before her death. No newborn/infant remains were found with the mummies; however, only 6 m away lay the headless remains of a fetus/newborn. Whether the woman and the fetus/newborn were genetically related has yet to be determined.

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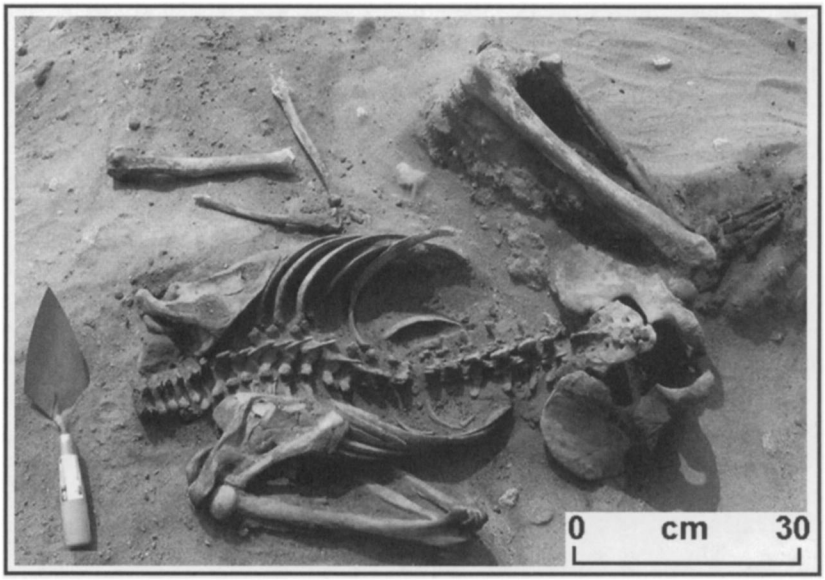

Figure 4. Single interment of a decapitated body from unit N15W27 (S5 in Figure 3).

Figure 5. Double interment of decapitated bodies from unit N14W27 (D2 in Figure 3).

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The young-adult female and the preadolescent were apparently naked since no evidence of clothing was uncovered. The two bodies were partially covered with fiber mats. A single pottery sherd decorated in the local Huarato style was found under the bodies, and fragments of panpipes, also manufactured in the local style, were found immediately to the west.

The second double interment is interesting because of the contrasting mortuary treatment of the two individuals. First, the remains of an adult male about 50 years old were placed in a seated position, with his lower limbs flexed toward the chest, the entire body wrapped in a plain textile and tied with a long rope. This is the only individual found in the centrally located structure at Amato that was not decapitated (Figure 6). As with the other complete EIP interments from Acari (Valdez 2005a, 2005b), the body was seated facing north. The individual had poor dentition and may have been unable to move around by himself since his three lower lumbar vertebrae and his sacrum had fused. His sacrum had also fused to his right pelvic bone. Though he was older and likely disabled, there were no signs of malnutrition, suggesting that he had been looked after.

Highlighting the possibly unique status of this individual—and perhaps explaining why he was not decapitated—a beautiful necklace made of several dozen small wing bones and shell beads was found around his neck (Valdez 2005c). In addition, to the right of his body had been placed five young camelids, as well as several worked pieces of *Spondylus* shell and shell beads. Finally, a gourd and several peanut pods were found next to the right foot. Because offerings are not a recurrent component of known EIP burials from Acari (Valdez

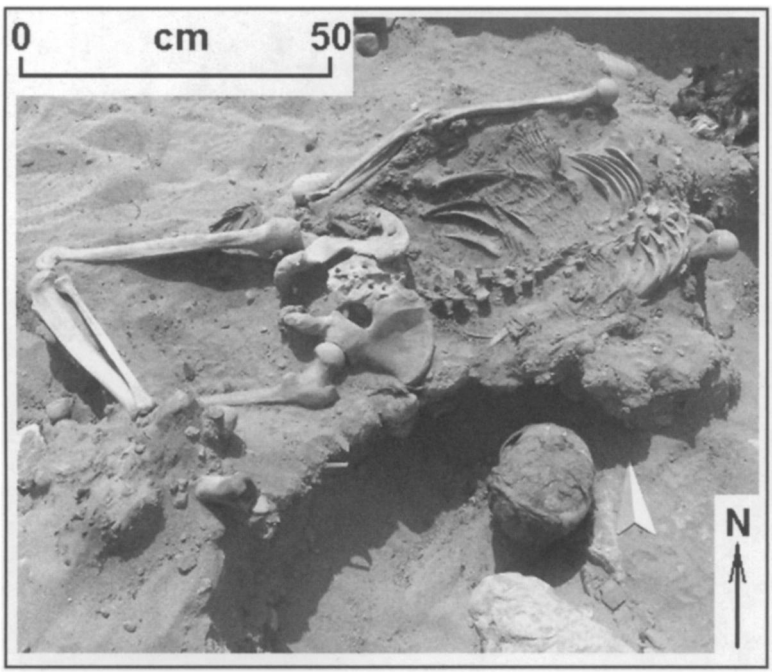

Figure 6. Double interment uncovered in unit N16W29 (D1 in Figure 3).

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2006), the fact that this adult individual was accompanied by a variety of ritual paraphernalia, including exotic goods such as *Spondylus* shell, strongly indicates that he may have been of high status. A charcoal sample collected from near the gourd offering produced a radiocarbon age of cal AD 20 with a probable range of 45 BC–AD 75 at a 68.3% confidence interval (2040 ± 60 BP ; TO-12432).

At the level of this apparently high-status individual's head, and oriented in the same direction (north), the body of a middle-aged adult male had been placed lying in a ventral position, with the legs slightly extended and the arms next to the chest. In contrast to the seated individual, this second individual was decapitated and his body was placed on a small fiber mat and partially covered with another similar mat. The remains were in an excellent condition, and there was no evidence of textile or clothing, suggesting that the individual had been naked. The decapitated body was found at the same level as the four young camelids, which suggests that the animal offerings and the decapitated body were buried at about the same time. Owing to its proximity to the seated male adult, it is likely that the decapitated body was placed as an offering.

Multiple Interments

The remaining six depositions, also uncovered inside the central rectangular structure, consisted of multiple interments (Valdez 2007a). The first was a small pit excavated into the natural sandy floor, into which 12 decapitated human skeletons were piled carelessly, one on top of another. Most of the skeletons were still articulated, but others were partially disarticulated. Although no sun bleaching was observed, some skeletal parts were absent, leaving open the possibility that the decapitated bodies had lain exposed for some time and were buried after having at least partially decomposed. Notwithstanding the excellent preservation, no textiles were found, suggesting again that the victims may have been naked.

The second group of multiple interments consisted of 13 decapitated bodies that were carelessly thrown on a sandy surface and in some instances piled on each other. Most of the skeletons were fully articulated and were placed ventrally, dorsally, or on one side in an extended position (Figure 7). Once again no clothing was in evidence, but ropes were abundant. In several instances ropes were found tied around the ankles and wrists, suggesting the decapitated individuals had been held captive. Except for two conical adobes, pottery sherds decorated in the local style, and a wooden stick, no other material remains were found in this context. On one side of the decapitated bodies an accumulation of ash and abundant charcoal suggests that fire was associated with the activities that occurred during the process of decapitation and/or burial.[3] A charcoal sample from this context produced a radiocarbon age of cal AD 15 with a probable range of 45 BC–AD 70 at 68.3% CI (2050 ± 60 BP ;TO-12431).

The third group of multiple interments is composed of 12 decapitated skeletons that were deposited over a sandy floor in a similar fashion to the previous burials. Once again, bodies were deposited ventrally, dorsally, or on their sides and fully extended. Most of the bodies were well articulated, in an excellent state of preservation, and in some instances even mummified soft tissue was still present. Neither textiles nor any evidence of clothing was evident, but ropes were found

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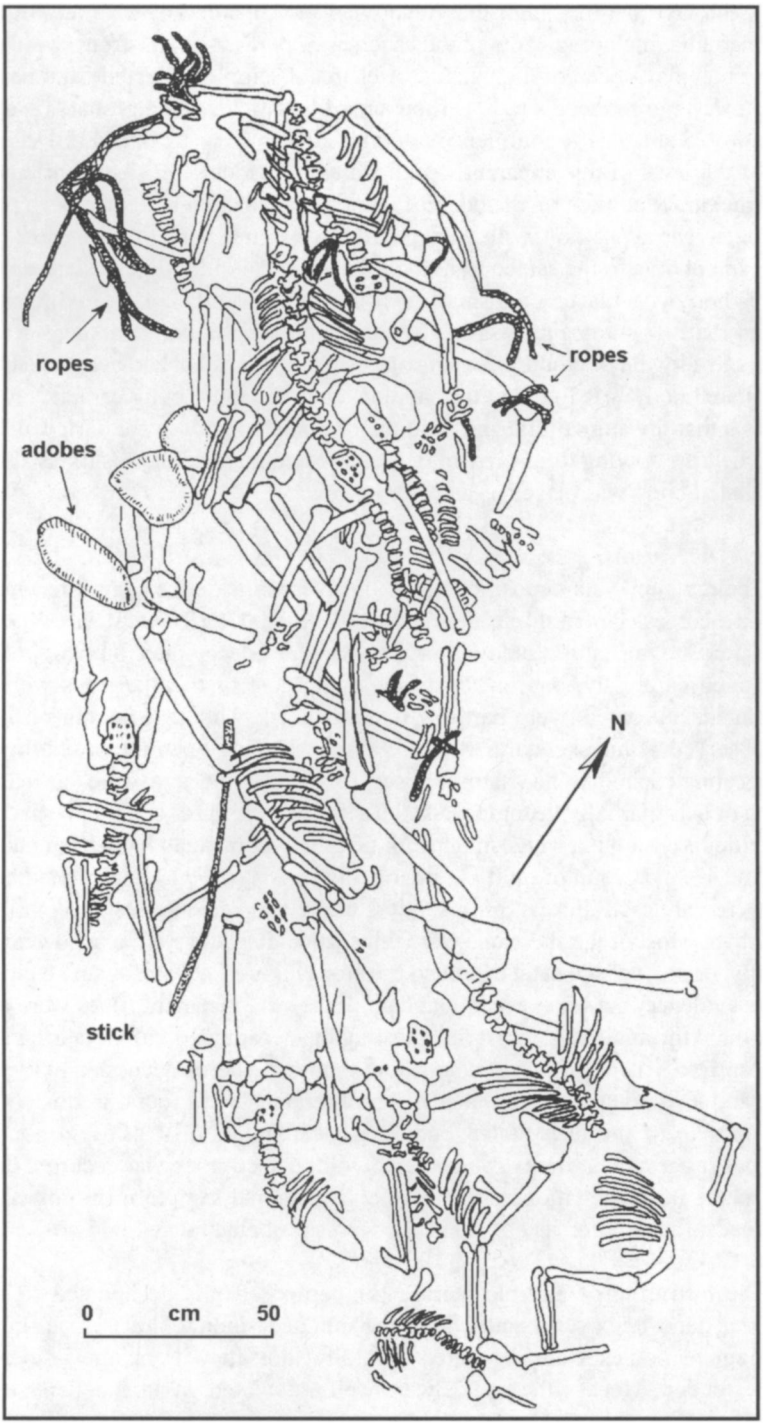

Figure 7. Several decapitated bodies from unit N16W28 (M2 in Figure 3).

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still tied around the ankles. The lack of other artifacts suggests that the deceased did not receive offerings.

The fourth group of multiple interments consists of five decapitated bodies that were also deposited over a sandy surface. Some of the bodies were deposited ventrally, others dorsally. The skeletons were in an excellent state of preservation and fully articulated. Some had textiles around their hips; others appear to have been naked. Ropes also occurred in association with the skeletons, and in one instance a rope was tied to the wrist.

The fifth group of multiple interments, consisting of the remains of 10 decapitated individuals, had unfortunately been disturbed. Only some of the bones were articulated.

The final group of multiple interments consists of 11 decapitated bodies. Except for the body of an adult male, the other remains belong to infants. This is where the fetus/newborn was uncovered. This is the only case in which the decapitated bodies were thrown over a firepit, which resulted in the burning of some skeletal elements. Below the bodies was a concentration of the remains of a plant locally identified as *cola de caballo,* or horsetail (*Equisetum* sp). Bodies were laid ventrally or dorsally, with the lower limbs slightly flexed. Despite the fact that the bodies were laid directly over a firepit, more textiles occur in this location than any other, suggesting that most of the victims of this group were wearing clothing at the moment of decapitation. The remains of a finely made turban and fiber mat were also found, both burned. Around the neck of the single adult male was a piece of worked shell, likely part of a necklace.

The various burial deposits described here were scattered at several locations within the central structure, and each interment (or group of interments) was treated differently. The spatial arrangement and differential treatment of the decapitated bodies strongly suggest that these depositions represent separate events, but seemingly within a relatively short period of time. Before decapitation took place the entire rectangular structure was apparently swept clean and the sweepings were placed at the southeast and southwest corners of the structure. The deposit in the southeast corner was burnt, whereas the deposit in the southwest corner was buried with horsetail, conical adobes, and sand. None of the interments show evidence of disturbance from subsequent burials, suggesting that those who buried the decapitated bodies knew the location of the previous deposits. This finding supports the suggestion that each instance of decapitation and subsequent burial took place within a short period of time.

Except for the deposit that was partially disturbed by looters, and the one in which several skeletons had been placed in a small pit, most of the human remains were well articulated. Likewise, they are in an excellent state of preservation, and in several instances mummified soft tissue was noted. Because the bones do not exhibit any signs of sun bleaching and/or evidence of scavenging by carnivores, it seems that most bodies were exposed only for a short period of time before being buried; the others were buried shortly after death.

The results of the osteological analysis deserve separate treatment and will be discussed elsewhere. For the purposes of this discussion, it is sufficient to state that the victims of decapitation included individuals of all ages and both sexes

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(Valdez et al. 2006). Indeed, among the deceased were individuals as young as newborn/infant as well as a young-adult (age 20–34) female, who at the time of decapitation may have been pregnant or had just delivered her infant. Adults (older than 20) outnumber subadults, although this latter category is significantly represented (34%). Among the subadults, infants/children are more numerous than adolescents. Among adults, most of the victims are within the young adult (20–34) and middle-age adult (35–49) categories. Although males are equally represented in both age categories, and there are more males (36%) than females (16%), the highest numbers of females were recorded within the young adult age category. In other words, no specific age group or gender was targeted—rather, the entire population.

The most intriguing aspect of the skeletal remains from Amato is the absence of skulls, indicating that these remains were the direct outcome of human decapitation. Several upper cervical bones, in particular the atlas and axis vertebrae, are also missing , which suggests that they were removed along with the heads.[4] The strongest physical evidence for decapitation is that the C3, C4, and C5 vertebrae often exhibit cut marks (Figure 8). Thus the heads and the attached vertebrae were removed while soft tissue was still present, not as part of postmortem secondary treatment of the remains. The presence of cut marks—in addition to skeletons that are mostly articulated—is consistent with decapitation (Milner 1995:230; Verano 2001:168; Conlee 2007:441; Stodder 2005:240). As mentioned above, a stone knife was uncovered in association with one of the single interments (Valdez 2008); possibly this tool, or a similar one, was used during the act of decapitation.

Figure 8. Cervical bone from N16W28 with cut marks.

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The new evidence from Amato also reveals for the first time the conditions under which the victims were held prior to decapitation. Despite excellent preservation, few traces of clothing were found with the beheaded skeletons, indicating that the victims likely were naked or partially naked prior to decapitation. Because the removal of clothing can be an act of humiliation, the victims were apparently intimidated prior to decapitation. The presence of well-preserved ropes in direct association with the human skeletons is remarkable, especially since they were found around the ankles and wrist bones of the victims, in several cases still tied. This is additional concrete evidence of the victims' captivity, which was unknown until recently. It is clear that the individuals did not offer themselves for sacrifice; securely tied hands and ankles indicate a forced situation and that decapitation was a merciless act.

Further indicating a violent scenario, the skeletal remains exhibit multiple instances of trauma. There are several instances of so-called parry fractures (Figure 9), injuries sustained during an attempt to block, or parry, a blow to the body. Such trauma is considered to be evidence of a protective gesture and would have been sustained during face-to-face combat (Tung 2007:952). Moreover, fractured scapulae, clavicles, and metacarpals were also noted—and almost all of them in the male population. Rib fractures were the most common and were found within individuals of all ages, including a child only 3–5 years old. Only a single fracture of a radius showed evidence of healing, indicating that the vast majority of the trauma was sustained not long before death. Such trauma is an indicator of violent confrontations (Arkush and Stanish 2005:15; Maschner and Reedy-Maschner 1998:25).

Figure 9. Ulna bones from N16W28 with parry fractures.

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Whether the victims were Amato locals or brought to the site from some other settlement is a challenging issue. Arguments can be presented for and against local origin of the victims. In either case, this study demonstrates that victims of decapitation were captured following a violent confrontation, during which they sustained considerable injuries. Thereafter, the captives were taken to the central location of the site, where their clothing may have been removed and their hands and ankles bound to preclude further resistance. Therefore, this study reveals that decapitation was forced on an already injured and defenseless group of people, including a substantial number of children. Because in some instances more than one individual was tied with the same rope, the heads of the victims may have been removed one after another, creating a scenario in which some of the victims had to witness the others being decapitated.

The general absence of healed injuries strongly suggests that the victims had not previously participated in interpersonal violence. Healed fractures are common among survivors of a violent confrontation (Milner 1995:231; Tung 2007:945, 949; Verano 2001:178, 2005:280). Therefore, although conflict clearly existed, and at times it was vicious, violent events were not frequent in Acari. Indeed, the fact that the same pottery style occurs in all the walled settlements suggests that the inhabitants of these settlements had peaceful interactions as well.[5]

Moreover, examination of the skeletal morphology consistently indicates that the victims were healthy and physically active individuals. Osteoarthritis, a degenerative disease linked to age, is present in the adult population and indicates intensive physical activity (Resnick 1995; Rogers 2000; Rogers and Waldron 1995). Entheses, an indicator of repetitious movements likely linked to heavy labor and high levels of physical activity, are also present within the adult and juvenile skeletons. In short, the evidence presented in this section is unprecedented and demonstrates that human decapitation and trophy head taking in the Acari Valley was carried out in a violent context. In the following section I present further evidence that substantiates this argument.

THE EIP SETTLEMENT PATTERNS

During the earlier phases of the EIP (ca. 50 BC–AD 350), several settlements were established along the course of the lower section of the Acari River (Riddell and Valdez 1988; Valdez 2000a, 2000b, 2007a). Three field seasons of archaeological research in Acari, with a particular focus on the EIP walled sites (Valdez 2006, 2007b), have shown that in addition to the walls, other equally important features are associated with the sites. Analysis of the data and a consideration of the physical aspects of the Acari Valley are crucial for comprehending the factors that likely shaped the spatial arrangement and configuration of these EIP sites.

The Walled Settlements

During the earlier phases of the EIP , eight walled settlements occurred along a stretch of about 35 km in the lower portion of the valley, and all shared the same pottery style. The few available radiocarbon dates also show that the sites were inhabited simultaneously. Some of these sites were briefly discussed by Rowe

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(1956, 1963); others were located during the archaeological surveys carried out during the 1980s (Riddell and Valdez 1988). The site of Molino was found during the most recent field studies.

A main feature of all the EIP sites that have been documented in Acari is the surrounding walls which, in the best-preserved sites, totally enclose the settlements. To assess construction methods and materials, some sections of the walls have been excavated at Tambo Viejo, Huarato, Amato, and Monte Grande Alto. Similar construction materials had been used at all of these sites, although from site to site there is significant variation in wall construction techniques. For example, the walls of Amato, with an average width of about 1.60 m and an original height that likely exceeded 2.5 m, are the simplest and consisted of two alignments of cobble stones mortared with mud. A charcoal sample from the lower, interior section of the wall produced a radiocarbon age of cal AD 70 with a probable range of AD 0–125 at 68.3% CI (1990 ± 60 BP; TO-12434).

At least two construction methods were used to build the large wall surrounding Huarato. First, two adobe walls were built side by side with a gap in between. Once construction of these walls was completed, the gap was filled with dirt, transforming the two adobe walls into a single wall with an average width of about 2 m and an original height that probably exceeded 2.5 m. A charcoal sample from the lower, inner section of the wall produced a radiocarbon age of cal AD 40 with a probable range of 105 BC–AD 25 at 68.3 % CI (2030 ± 60 BP; TO-12208). The other construction method consisted of a single adobe alignment, complemented with a single stone alignment, built as an outer wall. Between these two walls was a gap which again was filled with dirt.

At Tambo Viejo, the wall was built of a double alignment of conical adobes, flanked by a single stone alignment on each side. Between the stone alignments and the adobe wall were gaps that were filled with dirt, thus transforming the three constructions into a single wall that had an average width of 2 m and a height that may have exceeded 3 m.

The surrounding wall at Monte Grande Alto was the most complex. At this site there are three walls, the middle wall being the largest. Excavation reveals that this wall was built of a double alignment of loaf-shaped adobes. In addition, a single-alignment conical adobe wall was built as an inner wall, and a double alignment stone wall was built as an outer wall. Between these three constructions were two gaps that were filled with dirt, transforming the whole into a single and massive wall with an average width of 3 m and a height that likely exceeded 3 m. A charcoal sample obtained from the lower interior section of the inner wall produced a radiocarbon age of cal AD 55 with a probable range AD 0–90 at 68.3% CI (1950 ± 60 BP; TO-12209).

Rowe (1963) was among the first to recognize the walled nature of some of these settlements and argued that they likely played a defensive role. The walls are obvious physical barriers that represent major investments of time and energy. Transporting the stones, digging dirt and making the adobes, and actually building the walls were time-consuming tasks that required the participation of a substantial number of people. Such an investment of time and energy is an indication of stressful periods characterized by conflict (LeBlanc 1999:56; Elliot

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2005:299). In addition, ditches were created just outside the walls when dirt was excavated for the wall construction. Keeley, Fontana and Quick (2007) argue that ditches are important components of fortifications.

With the exception of Monte Grande Alto, built on a high plateau with a natural defense in the form of a steep cliff and surrounded by three large walls, the sites were established on the valley floor, or on low natural terraces overlooking arable land and in the proximity of potable water. In addition to defense and security, this settlement pattern indicates the importance of accessing and controlling fertile lands. This site distribution also suggests that occupation of more defensible locations, such as the hilltops adjacent to the sites of Huarato, Amato, and Coquimbo, or of the desert plain near the other sites, may not have been feasible. Recent research at Huarato and Amato has revealed that local subsistence was based on the cultivation of a variety of crops which could not have been grown in hillop or desert locations (Valdez 2007a, 2007b).

Most of the early EIP Acari sites have been severely damaged by contemporary activities—Huarato, Coquimbo, and Tambo Viejo in particular—making it difficult to assess their original size or population density. However, Chaviña, Boca del Río, Monte Grande Alto, and Amato are more or less equivalent in area, strengthening the possibility that the other sites were of similar size. Numerous structures, some of which likely functioned as residential units, are located within the walled sites. For instance, several hundred rooms have been estimated for Tambo Viejo (Menzel and Riddell 1986; Silverman 1988:413). Likewise, the presence at Huarato of deep and dense refuse middens with many materials, including organic remains, indicates a long and continuous occupation for the site. Similar deposits have been noted in the cuts produced by looters at several other EIP sites. The EIP Acari sites were not only walled, they housed a substantial number of residents as well.

The Buffer Zones

Whereas the presence of walls at the EIP sites was obvious quite early in the history of archaeological research in Acari (Rowe 1963), the existence of buffer zones between sites has been determined only recently. Buffer zones (DeBoer 1981) are the outcome of people aggregating into fewer but larger settlements for defensive purposes (LeBlanc 2006:443–45). Indeed, Haymes (1983:398; Elliot 2005:299) states that larger and more densely occupied sites were established in a defensive effort to discourage aggressive attacks, and this process results in vacant land between settlements. Therefore, buffer zones are an outcome—and an indicator—of conflict (Arkush and Stanish 2005:15; Flannery and Marcus 2003:11803; LeBlanc 2006:443; Redmond and Spencer 2006:342–43).

The spatial distribution of the EIP sites of Acari resulted in a substantial vacant area between sites. The shortest distance is between Chaviña and Boca del Río, both at the mouth of the Acari River but controlling opposite banks (Figure 1). Perhaps because of this proximity, the latter site appears to have been short-lived, whereas the former was occupied through the end of the EIP (Valdez 1994b). Besides Boca del Rio, the nearest settlement to Chaviña was Monte Grande Alto,

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located about 12 km upstream, across desert terrain with no arable land, and on the opposite side of the river.

An additional 9 km farther upstream and on the west bank of the river was Tambo Viejo, a site that likely controlled relatively extensive amounts of arable land, although (at present) a good portion of such land is on the opposite bank. Also on the west bank and 5 km upstream from Tambo Viejo was Coquimbo. The only arable land in the immediate area of the site is across the river. Coquimbo and Tambo Viejo were close to each other and likely shared nearby resources. About 3 km upstream from Coquimbo, and also on the west bank, was the recently discovered site of Molino. Besides the surrounding wall built of conical adobes, there is no other surface evidence at the site, suggesting that Molino had only a short occupation. Apparently not only was Molino too close to Coquimbo, but perhaps conflicts over local resources resulted in Molino's abandonment. Finally, controlling the upper, narrow portion of the valley were the sites of Amato and Huarato. The distance between Coquimbo and Amato is about 6 km, and on the opposite banks of the river. Huarato was about 5 km farther upstream, but again on the opposite (west) bank of the river. Both of these sites have some arable land in the immediate vicinity.

Perhaps as a result of insecurity and/or to minimize conflict, sites were built strategic distances from each other and, when possible, also controlling opposite banks of the river. The only long-lived exception to this patterning is Coquimbo–Tambo Viejo. Because of the abundant streamflow during the summer months (January to April), the river may have functioned as an additional barrier for part of the year. The establishment of neighboring settlements on opposite banks of the river was not only strategic, but also aimed at minimizing conflict. During the months of high streamflow (Schreiber and Lancho Rojas 2003: fig. 2.6), two neighboring sites may no longer be accessible to one another, which in a context of unfriendly relations likely provided periods of low conflict or even peace. For instance, although Huarato was only about 5 km from Amato, a distance that could be walked in less than an hour, during the summer months when the river was full, not only was Amato less accessible to Huarato (and vice versa), but its nearest *accessible* neighbor became Coquimbo, located another 4 km further south. In sum, the presence of buffer zones and walled sites hints that conflict prevailed in Acari.

With the exception of Chaviña, sometime around AD 350 the walled sites were abandoned and replaced by new settlements. The newly established sites, such as Gentilar, were small, with wattle-and-daub (*quincha*) architecture (Valdez 1994b), and more importantly, none of these sites was walled.[6] Likewise, much of the previous vacant areas was occupied, except for the area between Chaviña and Monte Grande Alto. During the following periods, the areas left as buffer zones during the early EIP were fully occupied. Sometime around AD 350 Chaviña may have become the most important settlement of the valley, perhaps rearranging the local settlement pattern. Chaviña is also the site in Acari where the most trophy heads have been found.

Conflict influences the spatial patterning as well as the general configuration of settlements. Indeed, site aggregation, fortifications, hilltop locations, and buffer

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zones, in addition to evidence of trauma and weapons, are often acknowledged as the outcome of unsettled periods (Arkush and Stanish 2005:15; Elliot 2005:298–99; Flannery and Marcus 2003:11803; Haas 2001:340; LeBlanc 2006:443–45; Maschner and Reedy-Maschner 1998:24; Redmond and Spencer 2006:342–43; Solometo 2006:25; Venci 1984:127,128; Wilson 1983:240). Therefore, the sites built during the early phases of the EIP in Acari, provided with defensive barriers, coexisted in the midst of violence and it appears that human decapitation was the direct outcome of such a violent scenario.[7] What were the factors that triggered such hostile relationships? In the final section, I will address this critical question.

ACARI VS. NASCA

The various sets of data discussed in the previous sections reveal substantial differences between the Acari Valley and the Nasca region. This critical aspect deserves further consideration before the factors that triggered the practice of human decapitation in this region are discussed. For example, the few decapitated human remains reported from the valleys north of Acari received overall "better" treatment (DeLeonardis 2000; Conlee 2007) than those from Amato. Indeed, bodies that were wrapped in textiles, in some cases even placed inside well-made structures, and accompanied by offerings signal a totally different cultural behavior. In contrast, the remains from Amato, with hands and ankles bound, broken bones, and some even thrown over a firepit, illustrate scenes of resistance, struggle, intimidation, and the overall use of particularly vicious force. Furthermore, the victims may have been naked or partially naked at the moment of decapitation. Once decapitated, some bodies appear to have been buried shortly after, while others were exposed for a period of time and then buried in the simplest fashion, without offerings. These substantial contrasts, in the light of evidence discussed in the previous sections, argue that human decapitation in Acari was carried out in a more violent context than in the valleys north of Acari.

Evidence signaling conflict has yet to be presented for the valleys north of Acari. Skeletal trauma that could result from violent confrontations (Maschner and Reedy-Maschner 1998:25; Venci 1984:126) remains unknown for the valleys north of Acari. Moreover, not one Nasca site can be identified as "fortified" (Silverman 2002:147–48; Van Gijseghem and Vaughn 2008:117). Instead, Conlee and Schreiber (2006:97) have recently asserted that most early EIP Nasca "settlements were small villages scattered throughout the several river valleys." It was not until Middle and Late Nasca that site size increased (Schreiber 1999:168), suggesting concerns over security (Schreiber and Lancho Rojas 2003:157). The absence of clustered and walled sites in the Nasca region suggests that early Nasca society was less violent than that of their neighbors to the south. In addition, most of the Nasca iconographic depictions recognized as "scenes of warfare" date to Middle or Late Nasca (Browne et al. 1993:278; Proulx 1989:78, 2001; Roark 1965). Certainly, trophy heads are well-depicted in Early Nasca art; however, such depictions often show the heads in association with "mythical creatures," symbolizing perhaps their ritual and therefore sacred

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nature (Proulx 2001:122) as well as the ritual context in which they may have been obtained. This may also indicate that Early Nasca trophies have no relationship with conflict at all, in contrast to the evidence from Amato. Indeed, Browne, Silverman, and García (1993:290) assert that "There is little or no archaeological evidence of territorial conquest in early Nasca times . . . and internecine warfare probably was not the source of the rare Early Nasca trophy heads and headless bodies found in Early Nasca cemeteries."

As discussed elsewhere (Valdez 1998, 2005a), other, equally significant differences between Nasca and the EIP occupation of Acari are manifested not only in settlement patterning and site configuration, but also in ceramic style and mortuary patterns. These variations strongly indicate that Acari constituted a separate cultural tradition (Valdez 2000b, 2006). In spite of their differences, the inhabitants of the entire South Coast shared many cultural aspects; one such aspect was human decapitation and trophy head taking. For reasons discussed in the final section, human decapitation in the Acari Valley was carried out in a more violent context. Now I turn to contextualize the particular case of Acari, taking into consideration its particular geographical setting and resource availability.

CONTEXTUALIZING HUMAN DECAPITATION

Each of these valleys, moreover, was backed by the mountains, fronted by the sea, and flanked on either side by desert as dry as any in the world. Nowhere else, perhaps, can one find agricultural valleys more sharply circumscribed than these (Carneiro 1970:735).

Carneiro (1970) was among the first to argue that the Peruvian coastal valleys—flanked by dry and stony mountains, desert terrain, and the sea—were typical examples of "environmental circumscription"—that is, agriculturally productive land surrounded by wasteland. In such a setting, the carrying capacity of available arable land, already scarce, is pushed to the limits by population pressure. Initially such pressure was relieved by bringing previously unusable land under cultivation; however, as population growth continued, communities began fighting each other over land. Carneiro further argued that in an environmentally circumscribed region, settlements under attack had no alternative other than to fight back because other sections of the valley were already occupied and beyond the valley there was simply no arable land. As conflict intensified, those defeated may have surrendered their land or became tribute payers (Flannery 1994:104); others may have been taken as prisoners, some of whom were perhaps even decapitated.

The Peruvian South Coast in general is a hot and dry region with high sand dune formations (Clarkson 1990). This oppressive terrain is relieved by a number of small rivers descending from the highlands that cut into this desert landscape, resulting in the formation of irrigable agricultural land. However, most of these rivers carry water only during the summer months corresponding to the rainy season in the highlands (Proulx 2006:1; Schreiber and Lancho Rojas 2003:24), and the overall availability of arable land also varies substantially from one valley to another (Conlee and Schreiber 2006:96–97).

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Acari is one of these environmentally circumscribed valleys irrigated only a few months (January–April) per year. In contrast to the neighboring valleys of Nasca, Ingenio, Palpa, and Ica to the north (Clarkson 1990; Conlee and Schreiber 2006; Schreiber and Lancho Rojas 1995, 2003), the heartland of the Nasca culture (Silverman and Proulx 2002; Valdez 1994a), Acari is small and narrow due to the proximity of the Andean foothills to the Pacific Ocean. As a result, the river flows between mountains of rocky formation that do not allow the formation of much irrigable land. Only for the last 25 km of its course does the river flow through an open area, but it cuts deep into the desert ,resulting in a canyon-like formation with limited arable land.

As already pointed out, the early EIP sites of Acari were established near arable land and recent research at some Acari sites shows the presence of a variety of plant remains that indicates that subsistence relied on plant cultivation (Valdez 2007b). Further highlighting the importance of arable land and crop cultivation, the early EIP inhabitants of Acari also established storage systems perhaps as part of risk management strategies (Valdez 2007a). Indeed, on the Peruvian South Coast droughts occur frequently (Forgey and Williams 2005:254). In an environmentally circumscribed valley such as Acari, droughts would have resulted not only in water shortages, but more importantly in poor harvest and food shortages. Under such desperate circumstances, the inhabitants of certain settlements may have attempted to take over the land and food reserves of neighboring sites. In such a situation, as Carneiro (1970) suggested, attacked settlements had no other alternative but to defend themselves and their resources. As indicated by the settlement data and site configuration, this is a scenario that very likely took place in this valley. Offensive attacks perhaps produced prisoners who then were sacrificed to deter further attacks. Such an action would have also called for vengeance, thus escalating into a major conflict. Therefore, it appears that shortage of arable land lay at the core of the conflict which manifested itself in the form of walled settlements, buffer zones, and ultimately human decapitation.

Though shortage of arable land would be the underlying cause for conflict, a violent breakout could have occurred due to more immediate reasons. A severe drought or the deaths of individuals of prestige are situations that potentially triggered a violent conflict resulting in the capture of many individuals who then were decapitated. For example, the death of an individual of prestige perhaps was regarded as being suspicious, where members of his community may have blamed neighboring settlements for sorcery causing the death. Such blame would have been sufficient reason to justify a violent attack on neighboring settlements, thus generating conflict. Recall that in front of the old individual who retained his head and received offerings there were the remains of an adult male who was decapitated. This headless individual may have been a high rank individual from an adjacent competing settlement (or perhaps even the accused sorcerer who "caused" the death of the old male individual) who had been captured, defeated, and subsequently decapitated.

But what was the nature of this conflict? From an archaeological perspective, "interpretation of evidence for war is a general problem" (Arkush and Stanish 2005:4), because, among others, conflict occurs at various scales (Elliot 2005:298).

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Indeed, the many manifestations of conflict, such as ritual fight or *tinku* in the particular case of the Andes, make matters more complicated (Topic and Topic 1987). Warfare is generally defined as a "planned," "organized," and "purposeful" action of a group of people towards another group (Ferguson 1984:5; Webster 2000:72). This is a very general definition and excludes any unorganized and sudden interpersonal confrontations that can also generate conflict.

For the purposes of this discussion, I prefer the concept of "small-scale warfare" as defined by Elliot (2005:299) or more precisely the idea of raiding parties as initially put forward by Carmichael (1988:426–427), who asserts that trophy heads likely were collected by raiding parties. Drusini and Baraybar (1991:262) further discuss this idea and argue that the presence of women and children as trophies, in addition to the remains of men, is more congruent with raiding. In this context, the evidence from Amato indicates that undeclared, sudden attacks by raiding parties would take any individual who got in the way (Milner 1995:230; Redmond and Spencer 2006:342), because the aim was not only to capture potential sacrifice victims, but also to secure heads. Furthermore, as opposed to standing armies, raiding parties are more spontaneous and likely used any available tool as potential weapon. This perhaps is one of the reasons why tools used as weapons during "small-scale conflicts" are less visible in the archaeological record and this may also explain why current research in Acari has not found any kind of weapons.

As suggested by the absence of healed trauma, conflict in Acari was not ceaseless. Perhaps in good harvest years, communities lived peacefully and interacted, as the presence of the same pottery style in all the walled sites indicates (Valdez 1998). During such periods, the inhabitants of all the walled settlements were linked to each other and likely participated even in marriage exchanges. The fact that many individuals were never decapitated (Valdez 2006) and likely died due to natural causes also indicates that most perhaps never witnessed human decapitation. However, when conflict broke out, it was clearly frightening and so violent that it even disrupted existing interactions between communities. Such a stressful and unpredictable scenario must have been the reason for the building of walled sites. Hence, conflict was a sporadic event that may have some links with droughts and poor harvest.

As stated earlier, whether the decapitated individuals from Amato were locals to the site or captives brought from some other settlement remains undetermined. Nevertheless, the presence of defensive walls at all the early EIP Acari sites suggests the violence was between these settlements. Thus, the decapitated bodies from Amato were likely residents of some other neighboring site to Amato, who had been captured and brought to Amato by raiding parties. The violent action by the residents from Amato perhaps was triggered by the death of the old male individual who retained his head. It appears that by capturing and sacrificing the members of adjacent settlements, residents of Amato were not only honoring the life of this individual of prestige, but also weakening a neighboring community likely to make their resources accessible to themselves. This scenario indicates, once again, that conflict was internal to the Acari Valley. As noted, in the valleys north of Acari there is no conclusive evidence for violence during early Nasca

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times, suggesting at the same time that conflict over resources perhaps was not the reason for trophy heads in that region, at least during early Nasca times. This observation also opens the possibility that human decapitation and trophy head taking throughout the region were carried out in totally different contexts and likely for, and due to, various reasons. Consequently, the evidence from Acari should not be generalized for the entire South Coast.

A broad discussion about the significance and uses of trophy heads goes beyond the scope of this paper. Nevertheless, as already argued by Browne, Silverman, and García (1993), Proulx (2001) and Verano (1995), the physical removal of the heads had a purpose and there can be little doubt that trophies played a critical role in the rituals of the EIP inhabitants of the south coast. Indeed, heads were processed and received special treatment. Moreover, early Nasca art depicts trophies associated with "mythical beings" (Proulx 2001:122), likely indicating that heads were ritually important. The early EIP art from Acari does not depict trophy heads at all, making it difficult to assess whether the heads had similar meanings in Acari. Nonetheless, it is timely to point out that the trophy heads excavated at the walled site of Tambo Viejo, in the Acari Valley, were also processed, received special treatment, and carefully buried, wrapped in textiles and inside ceramic vessels (Kowta 1987:66). The vessels were placed inside a square structure and just below the floor. Then, in the light of the evidence from Amato, it appears that although human decapitation in Acari was carried out in a violent context and that decapitated bodies were simply discarded, the heads received care. Such care denotes the physical removal of the heads in Acari also had a purpose and this may explain why heads were carefully obtained. Indeed, the study of trophy heads show consistently that captives rarely if ever sustained lethal wounds in the head, which is different from Wari warfare (Tung 2007), for example.

Then, if the argument provided here is correct, that resource shortage was at the core of conflict that resulted in human decapitation, the heads may have played a critical role in the rituals carried out during such periods of stress. This also indicates that raiding parties were not only securing sacrificial victims, but more importantly heads useful in ritual activities. For reasons that remain unknown, such ritually important heads had to be—regardless of age and sex—those of violently captured individuals from some adjacent settlements and not the heads of long dead individuals. After observing how the decapitated bodies were abandoned at Amato, one wonders how the ancient inhabitants of Acari perceived the world and human life, and ultimately how convinced they may have been that the premature ending of many lives was about to materialize economic and social stability.

To conclude, it is evident that archaeologists still have more to learn about ancient cultural practices, and the meaning of many findings, such as the human decapitation and trophy heads taking, remains elusive. Nonetheless, from the evidence discussed here, it is clear that human decapitation and trophy head taking in Acari were conducted in a bloody context and due to the uncertainty of such stressful periods the various sites were provided with defensive systems. It is also apparent that the securing and eventual transporting of heads signaled

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stressful periods that called for more emphasis on security and ritual activities. I am also tempted to argue that their final burial, often carefully wrapped in fine textiles and placed inside ceramic vessels, stresses not only the symbolic power of the trophies, but also the returning of more peaceful periods. Although it remains unknown whether trophy heads were ever returned to their original settlements, it is possible that their burial represented acts of compromise between the sides in dispute and thus the beginning of peaceful relations between the communities.

NOTES

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1. Between these opposing views are interpretations that consider ritual or *tinku* battles as the likely source of the trophy heads (Browne et al. 1993:290).

2. Carmichael (1988:291) has argued that some of the so-called trophies appear to be heads that were removed postmortem without any cutting, from decomposed bodies.

3. Burials excavated at the site of Huarato were also associated with fire, which indicates that fire was an important component of mortuary rituals in Acari (Valdez 2006:9).

4. In the future, archaeological research should be able to locate these missing bones; when that happens, those locations can be identified as places where trophies where processed.

5. It is important to point out that according to Dietler and Herbich (1998:256), "homogeneous style zones may pass across traditionally hostile borders and the boundaries of these style zones may bisect groups with a strong sense of mutual identity."

6. Perhaps as a result of the conflictive situation, the early EIP local tradition of Acari failed to achieve the sophistication mastered by its Nasca neighbor, which excelled in making textiles and ceramics. Acari ceramics are simple and lack the polychrome finishing of Nasca vessels.

7. In addition, Chaviña is one of the few sites where more trophy heads have been found.

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