

BODIES OF EVIDENCE: INTERPRETING HUMAN DECAPITATION DURING THE  
EARLY INTERMEDIATE PERIOD IN THE ACARÍ VALLEY, SOUTH COAST, PERU

by

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## ABSTRACT

The Nasca, who occupied parts of the Peruvian south coast during the Early Intermediate Period (EIP; ca. A.D. 1-750), are famous for their immense ground drawings, elaborate textiles, and attractive polychrome pottery. They are also well-known for their practice of collecting and modifying human heads. Caches of these well-preserved, and often mummified, “trophy” heads have been found by archaeologists working in the valleys of the Río Grande de Nazca drainage, once the heartland of Nasca society. Based on the contexts in which they are found, as well as their depiction in the iconography of the Nasca and earlier Paracas culture (ca. 800 B.C. – A.D. 1), the heads have come to be seen as important ideological symbols, which were likely incorporated in rituals centered on themes of water, fertility, and regeneration.

While the interpretation of the ritual purpose of Nasca “trophy” heads is widely accepted, the nature and context in which the heads were obtained is the subject of much debate. Until recently, however, there has been a dearth of skeletal evidence with which to test the competing hypotheses about the source of Nasca trophy heads. During the 2005 and 2006 field seasons of the Acarí Valley Archaeological Project, investigators found the remains of 54 decapitated individuals at the site of Amato, just 80 km south of the Nasca ceremonial center of Cahuachi. Demographic analysis of the skeletons revealed that both sexes and all age groups are represented. Not only does this discovery represent the largest-known association of its kind in the south coast, but the presence of such a large sampling of the population, including all ages and sexes, is unprecedented in the Andes.

Based on the osteological analysis of the individuals from Amato, and through a parsimonious reconstruction of the events that led to their death and decapitation, I present a case for the non-ritual nature of head taking in the south coast during the early EIP. I propose that decapitation likely took place in the context of raiding, conducted primarily for economic reasons. Furthermore, there is sufficient evidence to suggest that the raiding group was from the Southern Nasca Region. These conclusions are significant not only for our understanding of the nature of warfare and head taking during the Early Intermediate Period on the south coast, but they also inform broader questions about inter- and intra-valley interaction and culture change in this part of the pre-Hispanic Andes.

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## INTRODUCTION

In the central Andean region of South America, evidence of decapitation and the ritual use of human heads is known for a number of cultures beginning as early as the Preceramic period (ca. 1300 B.C.) and continuing into the period of Spanish contact (Benson and Cook 2001; Hill 2006; Ogburn 2007; Tung 2007). Throughout most of the twentieth century, this evidence was limited primarily to iconographic representations in ceramic and textile art. Over the last two decades, however, a fast-growing corpus of archaeological data has been brought to bear on our interpretations of decapitation and other forms of ritual human sacrifice and trophy-taking in the Andes. Some of the most recent developments can be seen in the research dealing with the Moche of the Peruvian north coast (Bourget 2001a, 2001b; Hill 2003, 2006; Verano 2001b, 2001c), the Nasca on the south coast (Forgey 2005; Kellner 2006; Proulx 2001, 2006; Williams, et al. 2001) and the Wari in the central highlands (Cook 2001; Knudson and Tung n.d.; Tung 2007).

Of all the Andean peoples known to have taken and modified human heads, the Nasca, and earlier Paracas culture out of which they developed, are the most well-known. These societies occupied parts of the south coast of Peru during the Early Horizon (EH; ca. 800 B.C. – A.D. 1) and the Early Intermediate Period (EIP; ca. A.D. 1-750; Figure 1; Table 1). One of the most frequently encountered themes in the ceramic and textile art of Paracas and Nasca is the depiction of severed human heads (Paul 2001; Proulx 1989, 2001, 2006). Both cultures appear to have valued these disembodied heads, or “trophy” heads as they are referred to in the literature<sup>i</sup>, as symbolic objects, metaphors for regeneration and fertility (Carmichael 1994; Proulx 2001). This interpretation is based on the correlation of heads with agricultural motifs in iconography (Carmichael 1994; Frame 2001; Proulx 2001). Following their use in ritual contexts the heads were ceremoniously buried (Proulx 2001, 2006).

While the interpretation of the religious significance of trophy heads is now widely accepted, the context in which the heads were collected is a subject of much controversy. Since the initial discovery of the Nasca culture and style by Max Uhle in 1901, three competing interpretations have emerged concerning how and from whom “trophy” heads were procured. One suggests that the heads are trophies obtained in secular warfare or raids over territory and access to vital resources (Proulx 1989, 2001; Roark 1965; Verano 1995, 2001b). The second posits that they are the result of ritual battles in which prisoners may have been captured for later sacrifice (Baraybar 1987; Browne, et al. 1993; Coelho 1972; Neira and Coelho 1972). The third interpretation, put forth by Sonia Guillén (cited in Silverman 1993: 224), suggests that the heads came from venerated ancestors.

As Kellner (2006) and Tung (2007) have pointed out, these interpretations are not necessarily mutually exclusive. Indeed, there may have existed inter-valley variation in the style and context of

taking and preparing heads (Corina Kellner, personal communication 2007), or the practice and its significance may have changed over time. In the case of warfare or ritual battle, combatants may have been fighting against other groups within the same valley system, and likely the same culture, or with outside groups. In any case, it is clear that any further resolution in our understanding of the nature and context of head-taking in the pre-Hispanic south coast stands to ultimately inform broader questions about inter- and intra-valley interaction and cultural processes in the region. Osteological, chemical, and ancient DNA analysis of archaeologically recovered trophy heads over the past decade have certainly contributed significantly to this endeavor (Forgey 2005; Kellner 2006; Knudson and Tung n.d.; Tung 2007; Williams, et al. 2001). Nevertheless, these investigations are limited in that they only have access to the end result of a process that had significant implications not only for the people who collected, prepared, and offered the heads, but also for the people from whom they were obtained.

During the 2005 and 2006 field seasons of the Acarí Valley Archaeological Project investigators uncovered the remains of over 50 decapitated skeletons in the central enclosure at the site of Amato. The site, which is located on an alluvial terrace in the middle lower portion of the Acarí Valley, is roughly 80 km southeast of Cahuachi in the Southern Nazca Region (SNR), once “the ceremonial core of Nasca” (Vaughn and Grados 2006: 595; Figure 1). As the largest known association of its kind on the south coast, the remains from Amato introduce previously unavailable evidence with which to evaluate the nature and context of head-taking in this part of the pre-Hispanic Andes. Whether or not it was a ritual practice, decapitation is one of many potential motivations for or consequences of conflict in the pre-historic past. Thus, it is hoped that this study will also inform our understanding of the nature, causes, and effects of warfare in the south coast, and perhaps in other regions as well.

Although the people that inhabited the Acarí Valley during the period corresponding to Early Nasca (ca. A.D. 1-450; Table 1) possessed their own local style of pottery, architecture, settlement organization, and mortuary practices (Carmichael 1992; Valdez 1998, 2005, 2006), they also shared a set of generalized traits with groups in the Río Grande basin and other peoples of the south coast. Late Paracas and Early Nasca pottery has been found at Amato as well as other Early Intermediate Period sites in Acarí, suggesting there was some degree of interaction and influence between the two areas during the early part of the Early Intermediate Period and possibly the later part of the Early Horizon. This evidence reifies the point made previously by Silverman and Proulx (2002: 12) that, “the Nasca must be contextualized within the larger Central Andean area since various events and processes on the coast and throughout the highlands clearly affected Nasca society and Nasca affected them along several parameters over the many centuries of Nasca’s existence.” Much of what we are

able to learn from the prehistoric settlements in Acarí may contribute to our understanding of cultural processes outside the valley, and vice versa.

Here, I use the osteological evidence from Amato, as well as archaeological and ethnographic evidence of violence and sacrifice from elsewhere in the Andes and beyond, to test current interpretations about the practice of head taking during the Early Intermediate Period on the south coast. I propose that, during the early EIP, this practice took place in the context of internecine conflict, or more specifically raiding, provoked by the needs of groups living in economically limited areas to have access to water and other critical resources (e.g. arable land for food crops, or food stores). Raiding for resources or to eliminate competitors was the most common form of pre-state warfare, and is especially characteristic of tribal and early chiefdom societies (Arkush and Allen 2006; Haas 2001b; Keeley 1996). This kind of conflict was probably common at the end of the Early Horizon and the beginning of the Early Intermediate Period in the lower Ica Valley and the SNR. Van Gijsegheem (2006; see also Vaughn and Van Gijsegheem 2007) has noted that during this period these regions experienced major demographic fluctuation and settlement reorganization, likely in response to population pressure and resource shortages in the upper Ica valley and northern Río Grande de Nazca drainage. At least two cycles of settlement nucleation and dispersal are correlated with rises and falls in the frequency of warfare and trophy head taking during this period (Menzel 1971; Van Gijsegheem 2006: 426). I suggest that the reorganization taking place in the Southern Nasca Region at this time may have had a spill-over effect on groups living in the Acarí Valley, and that this may account for the presence of fortified settlements and skeletal evidence of violence in Acarí, including evidence of decapitation. While it is possible that the people at Amato could have been killed by raiding parties from the Southern Nasca Region, this should not preclude the possibility that the violence evidenced at Amato was the result of intra-valley competition and conflict.

I begin by introducing the regional and local archaeological context, including what we presently know about the Paracas to Nasca transition, the meaning and role of trophy heads in the south coast, and the valley of Acarí. I then present the theoretical framework for my research, in which I address current ideas about the nature and role of warfare (and its causes and consequences) in tribal and early chiefdom societies, and discuss the ways in which archaeologists have interpreted conflict in the pre-Hispanic Andes, including the Nasca region. Following this discussion, I present some hypotheses about the nature of warfare and head taking in the south coast during the early part of the Early Intermediate Period (ca. A.D. 1-450; Table 1). Based on the results of the osteological analysis of the victims from Amato, I attempt a reconstruction of the events that led to their death and decapitation. I then situate those events within the broader developments taking place both in Acarí

and the Southern Nasca Region during the late Early Horizon and the beginning of the Early Intermediate Period. In doing so, I suggest some scenarios for how groups within the Acarí Valley may have been interacting with each other and with their neighbors to the north.

## ARCHAEOLOGICAL CONTEXT

### Regional Archaeological Context

The Nasca culture developed in the valleys of Ica and the Río Grande de Nazca drainage<sup>ii</sup> during the Early Intermediate Period (ca. A.D. 1-750; Figure 1; Table 1). This region of south coastal Peru is characterized as a “subtropical desiccated desert” and receives very little annual rainfall (0.3 mm per annum in the lower Ica Valley; Silverman and Proulx 2002: 43). As a result, many of the rivers in the area have water for only a few months of the year, fed only by runoff from rains in the highlands (Schreiber and Rojas 2003). The rivers of the southern Río Grande drainage, circumscribing the valleys of the Ajá, Tierras Blancas, Taruga, and Las Trancas rivers, have almost no surface water for most of the year. This is because water that would otherwise drain into these valleys from the highlands is effectively cut off by the upper reaches of the Acarí River (Silverman 1993, 2002). Since water was the most crucial limiting factor in the region, it is not surprising that the religious beliefs of the Nasca were centered on concepts of fertility, regeneration, planting and harvesting. This ideology was materialized in the form of geoglyphs on the desert *pampa* (the plains adjacent to the lower river valleys), elaborate textiles, and of course painted polychrome pottery, the iconography of which is replete with “natural and supernatural motifs referring to themes of water, fertility, and propagation” (Vaughn and Grados 2006: 597).

Archaeologists working in this region have long agreed that the origins of Nasca culture can be found in the earlier Paracas culture, which occupied parts of the south coast during the Early Horizon (800 B.C. – A.D. 1; Table 1). Until recently, however, the mechanisms that led to the genesis of Nasca society and the Nasca cult at Cahuachi were not understood. Traditionally, the main difference observed between the two cultures was a shift towards the use of pre-fire polychrome slips on pottery that replaced earlier post-fire resin paints at the end of the Early Horizon (Menzel, et al. 1964; Silverman and Proulx 2002). This change was thought to have taken place “within a context of general cultural continuity” (Van Gijsegheem 2006: 424). From that point Nasca seems to have almost instantaneously fluoresced into a confederacy of “loosely allied” chiefdoms distributed throughout the middle and upper valleys of Ica and the Río Grande drainages, the members of which participated in the regional religious cult at the site of Cahuachi (Silverman 1993; Silverman and Proulx 2002). This model of sociopolitical organization characterizes Nasca society from the Early Nasca period, beginning in the first millennium A.D., until the end of the Early Intermediate Period (ca. A.D. 750)

when Nasca appears to have been conquered by the Wari empire (Conlee 2000; Schreiber and Rojas 2003; Vaughn 1999).

Current research by Van Gijseghem (2006) and Vaughn and Van Gijseghem (2007), drawing on data from settlement pattern surveys, village and household approaches at early Nasca sites, and compositional analysis of transitional ceramics, is shedding new light on the Paracas-Nasca transition and the growth of Cahuachi as a regional religious center. Van Gijseghem suggests that “the genesis of Nasca society was the result of important historical events, one of which was the colonization of perhaps the last available frontier [the Southern Nasca Region] as a means of delaying drastic social reorganization caused by population growth” (2006: 420). During Early Horizon phases 8 and 9 (Ocucaje phases 8 and 9; ca. 300-200 B.C.; Table 1) the lower Ica Valley and northern Río Grande drainage experienced major demographic fluctuation and settlement reorganization (Massey 1986; Van Gijseghem 2006: 426). The nucleation of previously scattered settlements, particularly in the Callango Basin of the lower Ica Valley, is attributed to a rise in warfare and trophy head taking, possibly caused by demographic growth and environmental stress and/or social tensions triggered by the encroachment of the Topará culture and style in the upper Ica Valley (Massey 1986; Menzel 1971). During and following this period of reorganization in the Paracas heartland, populations bearing Paracas traits were moving into and settling the Southern Nasca Region (SNR; Figure 1). This is evidenced by a rapid increase in the number of settlements in the SNR<sup>iii</sup>. During Early Horizon phase 10 and Early Intermediate Period phase 1 (Ocucaje 10 and Nasca 1; 100 B.C.-A.D. 1; Table 1), settlements were dispersed primarily in the upper valleys in predominantly defensive locations, suggesting an increase in conflict in the SNR at this time (Schreiber and Rojas 2003). This defensive posturing was almost certainly related to population pressure in an already economically limited environment.

At the beginning of Early Nasca proper (or Nasca phase 2; ca. A.D. 1 – 450; Table 1), the region experienced yet another episode of settlement reorganization, during which we see a decrease in defensively located settlements and the spread of populations into the middle and lower valleys of the Río Grande drainage (Schreiber and Rojas 2003; Silverman 2002). It is suggested that this latest period of reorganization is indicative of the “the cementing of a new social order throughout the region that echoes, among other things, a diminution of internecine conflict as well as the start of a period in which Cahuachi’s influence was at its peak” (Van Gijseghem 2006: 426). Vaughn and Van Gijseghem (2007) suggest that the pre-eminence of Cahuachi in Early Nasca grew out of the efforts of Nasca 1 elites living at the site to control the production and distribution of important symbols of Nasca ideology, namely polychrome pottery. Vaughn (2000; 2005) had previously found evidence of the centralized production of Early Nasca polychromes at the site, and recent compositional analysis

of Nasca 1 blackwares from Cahuachi and other sites in the SNR indicates they may also have been produced and distributed from the ceremonial center (Vaughn and Van Gijsegem 2007).

Blackwares, then, appear to be the precursor to Early Nasca polychromes, and the origin of the Nasca cult is pushed back to at least Nasca phase 1 (ca. 100 B.C. – A.D. 1; Table 1).

During the early part of the Early Intermediate Period (ca. A.D. 1-450) the site of Cahuachi served as the “regional seat of power” and “sacred pilgrimage center” of the Nasca (Silverman 1993; Silverman and Proulx 2002; Vaughn and Grados 2006: 597). It is hypothesized that pilgrims to the site participated in elite-sponsored ceremonies and feasting that reinforced their shared religious and symbolic system, and served as arenas for “ritual specialists who gained their status through their access to esoteric and ritual knowledge... related to agricultural fertility, propagation, and water” (Silverman 1993; Vaughn 2005; 2006: 323). Polychrome pottery, and now it seems earlier Nasca blackwares, were integral to these feasts and ceremonies, and served as the primary vehicle of materialized ideology (Vaughn 2005; Vaughn and Grados 2006).

### **Trophy Heads in Nasca Society**

As mentioned in the introduction, severed heads are pervasive in the ceramic and textile art of the Paracas and Nasca cultures. These trophy head motifs are displayed either “individually, in association with mythical creatures, [or] in scenes of warfare and ritual” (Proulx 2006: 9). To date, over one hundred actual human heads have been recovered by archaeologists working in the various coastal valleys of the Nasca region (Proulx 2001; Silverman and Proulx 2002; Figure 2). These heads are found in caches that range from two, to as many as 40 or so heads (Browne, et al. 1993; Orefici and Drusini 2003; Proulx 2001, 2006). Based on comparison of these archaeological specimens it is clear that “the Nasca made a special effort to preserve the face of each individual chosen or taken as a ‘trophy’ head,” (Kellner 2006: 102) and the manner in which they were prepared appears to have been a standardized practice. After the head had been removed from the body, the occipital bone was broken, effectively expanding the foramen magnum. This facilitated the removal of the brain and other soft tissues. A hole was then punched through the frontal bone to allow for the insertion of a carrying cord. The Nasca also “cut away the facial muscles and soft tissue, sometimes filling the cheek and eye areas with cotton or textiles” (Kellner 2006: 102; Verano 1995; Williams, et al. 2001). In many cases the lips were also pinned using thorns of *huarango* (Proulx 2001).

Baraybar (1987) has suggested that perimortem scalp incisions found on a number of trophy heads, including the example in Figure 2, were the result of bloodletting rituals, and were inflicted on sacrificial victims prior to the removal of their heads. Because of the nature of perimortem trauma, it is impossible to say whether these wounds were inflicted prior to or shortly after the decapitation of

the individuals. My own view is that, due to the standardized nature of head preparation, scalp incisions were employed as a method of preserving the visage of the donor during the mummification of the head, since uneven drying of the skin would have caused it to tear and crack<sup>iv</sup>.

The meticulous treatment of trophy heads was an important step in preparing them for use in Nasca religion and ritual. This process preserved the vitality of their donors, converting the heads into objects of great spiritual power. As Proulx (2006: 9) suggests, "The removal and group burial of the heads of enemies were closely linked to agricultural fertility and regeneration," and this idea is supported by their portrayal in the ceramic iconography where they are often depicted in association with plants. There are many examples of heads with plants sprouting from their mouths, and they may also even be substituted for plants (Carmichael 1994; Proulx 2006: 9; Figure 3). Some authors have noted specifically the "substitutability of germinating beans and trophy heads in both Paracas... and early Nasca iconography" (Lapiner 1976; Peters 1991; Silverman and Proulx 2002: 230). From the iconography alone, it is clear that the Nasca "visualized a continuity involving sacrifice and death, the burial of human trophy heads, and the regeneration of agricultural plants" (Carmichael 1994; Proulx 2006: 9).

While the interpretation of the ritual function of Nasca trophy heads has been able to rely on archaeologically recovered specimens, interpretations about how and from whom these heads were taken have been made almost entirely on the basis of iconography. This is due to the scarcity of headless bodies and direct evidence of decapitation in the archaeological record (DeLeonardis 2000). It is therefore not surprising that a number of interpretive scenarios have been proposed to explain the taking of human heads in Nasca society. One of these scenarios posits that trophy heads were obtained in the context of warfare or raiding over territory and access to vital resources (Proulx 1989, 2001; Roark 1965; Verano 1995, 2001b). Proponents of this argument highlight the importance of warfare in Nasca society. "Nasca warriors holding clubs, spears, spearthrowers, and slings are portrayed on some of the earliest Nasca pottery," (Proulx 2001: 125), and these objects have also been documented archaeologically.

The second scenario posits that the heads are the result of ritual battles "ideologized in terms of religion and its ritual" (Silverman and Proulx 2002: 232), in which prisoners may have been captured for later ritual sacrifice (Baraybar 1987; Browne, et al. 1993; Coelho 1972; Neira and Coelho 1972). Neira Avedaño and Coelho (1972) support this hypothesis, and although they do not actually specify how the heads were taken, they do suggest that they were not procured through secular warfare (Silverman and Proulx 2002: 233). As noted above, Baraybar (1987) specifically argues that they are the result of sacrificial rituals carried out on captives. However, the evidence he

uses to support this argument – the scalp incisions – is more indicative of postmortem treatment of the heads.

A third scenario, put forth by Sonia Guillén (cited in Silverman 1993: 224), suggests that the heads belonged to venerated ancestors. Adine Gavazzi, from the *Centro Italiano Studi e Ricerche Archeologiche Precolombiane*, sides with Guillen suggesting that the elaborate treatment of the heads could have only been afforded for donors that were very important to the living (personal communication 2007). Gavazzi makes this case with the assumption that enemies are afforded little respect in times of war. This, however, is not always the case, and the Jívaro of southeastern Ecuador provide a contrary example. Following the taking of enemy heads in a raid, Jívaro men must immediately process their trophies (or *tsantsa*) (Harner 1972). The careful preparation of the widely publicized Jívaro shrunken heads involves, among other things, sewing shut the eyes and mouth of the victim. This ensures that the victim's *muisak*, or avenging soul, is unable to escape, and possibly harm or kill its taker. The thorns used to pin the lips of Nasca trophy heads is thought by some to possess a similar meaning (Proulx 1989, 2006).

#### **Amato and the Acarí Valley**

Amato (PV74-19) is one of five early EIP settlements in the lower Acarí Valley located in the modern province of Caraveli, department of Arequipa, Peru (Figure 1). The site is situated on an alluvial bluff at the foot of Cerro Lucasi on the eastern side of the river, directly above the flood plain (Figure 4). Amato, along with Huarato, Coquimbo (formerly Chocavento) and Tambo Viejo in the Acarí Valley were first described by John H. Rowe following his survey of the south coast as part of the fourth University of California Expedition in 1954-5 (Rowe 1963; Silverman and Proulx 2002; Valdez 1998). Based on the apparent “intrusion” of Nasca phase 3 pottery at these sites, in addition to their presumed fortified nature (all of the sites have surrounding walls), Rowe concluded that the Nasca invaded and occupied the valley during this part of the Early Intermediate Period (Rowe 1963:12). This hypothesis formed part of the then current reconstruction of Nasca political organization as a centralized state, which expanded from its urban capital at Cahuachi into the adjacent valleys of Ica and Pisco (to the north) and Acarí (to the south) through military conquest (Proulx 1968; Rowe 1963; Strong 1957).

The state hypothesis carried through into the early 1980s when Helaine Silverman (1986) and Giuseppe Orefici (Buono and Orefici 1984; Orefici 1987) both began long-term research at Cahuachi. Their investigations failed to find evidence of major domestic activities that would be characteristic of an urban capital. The lack of permanent domestic foci, combined with the discovery of an abundance of ritual paraphernalia, has led to the recent interpretation of the site as a sacred

ceremonial center (Orefici and Drusini 2003; Silverman 1993; Silverman and Proulx 2002). In addition to the work carried out by Silverman and Orefici at Cahuachi during the 1980s, a number of other survey and excavation projects were initiated by researchers working in the different valleys of the Río Grande de Nazca drainage as well as on the intermediate pampas (Aveni 1990; Browne 1992; Carmichael 1988, 1995; Isla, et al. 1984; Schreiber 1999; Schreiber and Rojas 2003; Silverman 2002). The data yielded by these and other ongoing investigations (see Van Gijseghem 2006; Vaughn 2005; Vaughn and Grados 2006; Vaughn and Van Gijseghem 2007) support the current reconstruction of the Nasca political realm as a series of independent and relatively undifferentiated residential communities that shared a common religious/ritual tradition for which Cahuachi served as “the ceremonial core” (Proulx 2006; Silverman 1993; Silverman and Proulx 2002; Vaughn and Grados 2006: 595).

Lidio Valdez (1998) has further contributed to the deflation of Nasca’s pan-regional status through his work in the Acarí Valley as part of the California Institute for Peruvian Studies (C.I.P.S.). Founded in 1984 by Francis A. Riddell, C.I.P.S. began long term archaeological research in Acarí with the goal of assessing the relative chronology and detailing the pre-Hispanic occupation of the valley (Valdez 1998:82-83). In addition to surveying the valley, most of their initial work consisted of salvage investigations at the Early Intermediate Period settlements, as these were the sites most disturbed by looting (Valdez 1998). These projects resulted in the publication of a number of field reports (Belan and Riddell 1987; Kent and Kowta 1994; Menzel and Riddell 1993; Riddell 1985, 1986, 1987, 1989; Riddell and Valdez 1988; Robinson 1994). Inspired by Patrick Carmichael’s (1992) perspective on Acarí as representing a local, non-Nasca tradition, Valdez (1998) chose to focus his Ph.D. research on revisiting these earlier studies and, in addition, re-surveyed the whole lower portion of the valley. His analyses found no evidence to support a Nasca invasion and/or occupation of Acarí. Nasca pottery was not the dominant style in the valley, nor does it seem to have replaced the local Acarí wares. Rather, it seems more likely that early Nasca pottery was introduced from the Río Grande de Nazca heartland through trade with the local culture in Acarí, which Valdez (1998) has named *Huarato*.

The research carried out by Valdez and other members of C.I.P.S. during the 1980s and 90s introduced a significant body of new data (compared with what was previously known) concerning the Early Intermediate Period occupation of the Acarí Valley, including information on settlement patterns, site sizes, architecture, mortuary practices, and the distribution of pottery styles. However, as productive as these investigations were for reconsidering Nasca sociopolitical organization, they afforded a very limited description of ancient life in Acarí and offered little in the way of understanding the nature of the relationship between the local Early Intermediate Period occupants of

the valley and the Nasca. The primary reason for the speculative nature of the Acarí data was that the need for artifact recovery at vandalized sites prevented research-oriented excavations (Kent and Kowta 1994; Riddell 1989; Valdez 1998:84-88). This resulted in a lack of contextual data, including absolute dates, for materials recovered through survey and in looted contexts.

### **The Acarí Valley Archaeological Project**

In 2004 Lidio Valdez initiated new research in the Acarí Valley with the goals of synthesizing the earlier data and discovering the specific processes by which Early Nasca pottery was introduced into Acarí. The Acarí Valley Archaeological Project (A.V.A.P.) began its first field season excavating areas at the sites of Huarato (PV74-20) and Monte Grande Alto (PV74-59), in addition to carrying out a brief salvage excavation of a looted tomb at the site of Tambo Viejo (PV74-1). Before 2004, very little was known about the Early Intermediate Period sites of Acarí, except that they shared several common features, the most distinctive of which was their surrounding walls. The others included the presence of a central enclosure, agglutinated rectangular structures, open plazas associated with small artificial mounds, common mortuary patterns with burials being placed below and along walls, a shared local ceramic tradition, and the likely affiliation of these sites with Nasca (Valdez 1998:88-94).

One of the primary objectives of the Acarí Valley Archaeological Project's first season of work was to investigate further the modes of construction and the function of these features. Valdez placed cuts across the surrounding walls at Monte Grande Alto and Huarato which yielded information on building techniques, and allowed him to establish a temporal window on their dates of construction (see Valdez 2006 for the publication of these dates). In addition to the wall cuts, units were also established along a wall and adjacent room at Huarato, as well as inside the central enclosures at both sites. The excavations at Huarato proved to be the most significant in that they exposed several unlooted tombs dating to the late Early Horizon and early Early Intermediate Period. The mortuary patterns observed in these burials reinforce the argument that the materials in Acarí represent a local, non-Nasca cultural tradition (Valdez 2006).

During the 2005 field season of the Acarí Valley Archaeological Project, Valdez shifted his focus to the site of Amato (PV74-19; Figures 4 and 5). Parallel with the overall goals of the project, work at Amato aimed to determine the character of the ancient occupation of the site (specifically the Early Intermediate Period component), and assess its relationship with neighboring valleys to the north (Valdez 2005:4). Valdez sought to determine the functions of the different internal divisions at the site and proposed to answer the question of when and how Nasca artifacts were introduced at the site (Valdez 2005:4). Parts of the site's central enclosure, surrounding wall, and two smaller

precincts were excavated during the 2005 field season, in addition to two areas in the Middle Horizon cemetery located adjacent to the site (see Figure 5). Within the first month of fieldwork, fragments of a *Spondylus* shell necklace, panpipe fragments, and a number of headless bodies were discovered in the excavation units at the center of the site. The immediately obvious significance of this area prompted the placement of additional units adjacent to these, to the point that, by the end of the field season, all operations had converged on the central precinct. In 2006, Valdez continued investigations at the center of Amato, establishing new units next to those excavated in 2005 and also placing a large unit over the west wall of the central precinct with the hopes of discovering a stairway or entrance.

Overall, the excavations carried out over the 2005 and 2006 field seasons led to the discovery of the remains of over 50 persons, some fallen over top of one another, lying in small groups at the center of the site (Figures 6 and 7). Based on the absence of people's heads and some of their cervical vertebrae, and the presence of cut marks on the remaining cervical vertebrae of many of the skeletons, it is clear that they were decapitated (see Verano 2001b). The presence of rope fragments around the wrists and ankles of some individuals, in addition to evidence of perimortem trauma, further suggest these individuals met a violent and bloody end. Demographic analysis of the skeletons revealed that both sexes and all age groups are represented. Not only does this discovery represent the largest-known association of its kind in the south coast, but the presence of such a large sampling of the population, including all ages and sexes, is unprecedented in the Andes. Of the 70 sacrificial victims found at the Moche site of Huaca de la Luna on the north coast by Steve Bourget (2001a; Verano 2001c), no remains of females or children were present. Similarly, of the 14 individuals found in a mass burial at the site of Pacatnamu, also on the north coast, all were adolescent and young adult males (Verano 1986, 2001b).

### **Chronology**

The recent work at Amato has also led to the resolution of a more detailed site chronology. In his first discussion of the Early Intermediate Period sites in Acari, John Rowe (1963) suggested that Amato, Huarato, and Coquimbo were established and quickly abandoned sometime during Nasca Phase 3 (ca. A.D. 200-350; Table 1). During the 1990s Carmichael (1992) and Valdez (1998) proposed somewhat different chronologies for the valley, but both placed Amato further back in time. For Valdez (1998), the period corresponding with Nasca Phase 1 (ca. 100 B.C. – A.D. 1) remained uncertain, but the period corresponding with phases 2-4 (ca. AD 1-450) were assigned to the *Huarato* style, and this style is represented at Amato. Carmichael, on the other hand, proposed an Amato phase (corresponding to Nasca phases 1-2), a Monte Grande phase (phases 3-5/6), and a Chaviña

phase (representing phases 7-8)(1992:5). Both chronologies were developed on the basis of surface survey alone, but Carmichael's association of the earlier Phase 1 (or Proto-Nasca) with Amato seems to have come the closest, especially in light of the recent work at the site (Table 1; but see also Riddell and Valdez 1988).

Current evidence now suggests that Amato was settled sometime before or during the first century of the Early Intermediate Period, corresponding to Nasca phase 1 (ca. 100 B.C. - A.D. 1; Table 1), when groups bearing Paracas traits had already populated the southern Río Grande drainage, and sites in the region were defensively located throughout the middle and upper valleys. This period is also characterized by the early formalization of the Nasca cult at Cahuachi and perhaps, with that, the emergence of a Nasca cultural identity (Van Gijseghem 2006; Vaughn and Van Gijseghem 2007). A sample of charcoal taken from the central enclosure at Amato provided a date of 15 cal A.D., suggesting the underlying structure had been built sometime earlier. This inference is supported by the presence of Ocucaje 9/10 or Nasca 1 pottery (Figure 8) and Nasca 1 needlework (specifically cross-knit looping; Figure 9) at the site. In summary, we now know that there was some degree of interaction between the Nasca in the Río Grande drainage and people in the Acarí Valley, and in the case of Amato this interaction dates back to Nasca phase 1 (ca. 100 B.C. – A.D. 1). The present study on the nature and context of human decapitation in the region should help to resolve the nature of this relationship.

## **THEORETICAL FRAMEWORK**

### **The Archaeological Study of Warfare**

Warfare is a fascinating topic for archaeologists, perhaps because “organizing the practice of violence, armed conflict, and the taking of human life for whatever purpose transcends everyday modes of social interaction and expectation” (Lau 2004: 163). At the same time, “war alter[s] peoples’ fates, shape[s] their worldview, and affect[s] their decisions large and small” (Arkush and Allen 2006: 1). Yet, prior to the 1990s, many archaeologists were reluctant to recognize the prevalence of warfare in prehistoric societies, and even less willing to acknowledge the important role it played in the evolution and operation of complex chiefdoms and states (Arkush and Allen 2006; Carneiro 1970, 1994; Haas 2001a). In the almost twenty years since, great strides have been made in our ability to detect and explain the origins, evolution, causes, and consequences of warfare in pre-history, and this is seen in the massive body of literature published by researchers working in diverse regions and time periods (Arkush and Stanish 2005; see, e.g., Arkush and Allen 2006; Billman 1997; Carneiro 1994; Haas 1990, 2001b; Keegan 1993; Keeley 1996; Lambert 2002; LeBlanc 1999; Owsley and Jantz 1994; Redmond 1994; Topic and Topic 1997a; Verano 2001c; Walker 2001; Webster 1998,

2000). It should be noted that these advances have had as much to do with our willingness to see the evidence, as they have with our ability to detect it.

My intention here is not to engage in an exhaustive review of the above-cited sources. Rather, I would like to explore briefly the generic features of warfare in early chiefdom societies, since this is the degree of sociopolitical integration that characterized Early Nasca society (Silverman and Proulx 2002; Van Gijseghem 2006; Vaughn 2004), and possibly the groups inhabiting the Acari Valley as well. Chiefdoms, as defined by Earle (Earle 1991b: 1), are those societies “that organize centrally a regional population in the thousands... [and that have] some degree of heritable social ranking and economic stratification.” While this is true, societies grouped within this social category may also include relatively small-scale autonomous communities (with populations in the hundreds) that lack an institutionalized social hierarchy, and within which the sources and transfer of power and leadership, and the degree of centralization were negotiable and shifting (Earle 1991a; Feinman and Neitzel 1984; Price and Feinman 1995) (see also Cobb 1996; Stein 1998).

Here I address the preconditions for, motivations behind, and outcomes of warfare in these kinds of societies. I then outline some of the ways archaeologists identify warfare in the archaeological record. This will eventually facilitate comparison with the evidence found at Amato. For the purposes of this paper, warfare is defined as “organized, purposeful group action, directed against another group that may or may not be organized for similar action, involving the actual or potential application of lethal force” (Ferguson 1984: 5). This definition is useful in that it does not discriminate between the levels of sociopolitical complexity or cultural relatedness of the groups involved, and makes allowance for violence between groups that may or may not have been equally matched.

## **Warfare in Early Chiefdom Societies**

### **Preconditions for war**

As mentioned in the introduction to this section, there are a number of recent regional studies that address the evolutionary patterns of social conflict and their role in the development of complex societies and incipient states. Although each region has its own “unique and complex history of warfare, with significant variability in the origins, nature, intensity, and ‘waves’ of conflict over time” (Haas 2001b: 336), certain patterns seem to emerge in all areas (Ferguson 2006; Haas 2001b). While there is undeniable evidence of warfare in pre-agricultural, non-sedentary societies, human conflict among these societies was neither endemic nor ubiquitous, but rather highly episodic. While this kind of intermittent conflict did have an impact on social organization, settlement, and demography among hunter-gatherers and other highly mobile tribal societies, the impact is slight when compared to the

role of warfare among more complex, sedentary societies. The ephemeral nature of evidence for violence in pre-agricultural, non-sedentary societies, however, may have to do more with their significantly greater antiquity and the associated problems of preservation of material remains in the landscapes they inhabited, than with the actual frequency of conflict in these periods (Keeley 1996).

Without question the evidence for, and frequency of conflict increases as people become more sedentary. "The first appearance of warfare in the historical sequence of an area often coincides with the initial transition from a mobile hunting and gathering subsistence strategy to a more sedentary strategy of intensified production of domesticated resources... or intensified procurement of concentrated natural resources" (Ferguson 1984, 2006; Haas 2001b: 336). This transition contributed to some groups becoming more invested in specific areas, leading to a rise in territoriality. "With some locales significantly more productive than others, under certain environmental and demographic conditions there would be positive economic reasons for both defending and attacking those locations" (Dyson-Hudson and Smith 1978; Haas 2001b: 335). This dynamic is observed especially in regions where water and cultivable land, critical resources for the practice of agriculture, are significantly limited, such as the American Southwest and the coast of Peru.

While incipient sedentism and territoriality represent two of the potential preconditions for more frequent and patterned warfare, communities that eventually settled into subsistence regimes capable of providing stable food sources for their dependent populations would have actually minimized some of the initial economic reasons for conflict (Haas 2001b; LeBlanc 1999). However, subsequent increases in population density, storable surpluses, and environmental fluctuation, compounded by increasing trade, competition, and other social, political, and religious motivations created a new climate for warfare to emerge. Indeed, as societies become more complex, so do the ways in which individuals and groups use and are affected by violence (Arkush and Stanish 2005; Haas 2001a; Redmond 1994). The resulting long-term pattern is one of alternating periods of war and peace (Carneiro 1994).

### **The motivation for warfare**

The motivation for warfare in early chiefdom societies is essentially economic or acquisitive (Haas 2001b; Keeley 1996; Redmond 1994). Groups raid one another to steal resources or else to kill, thus eliminating competition. Repeated raids may be carried out in order to intimidate and drive other groups out of a specific territory. In any case, this form of warfare differs from that in tribal societies, in which the primary motivation was blood revenge (Chagnon 1983; Harner 1972; Redmond 1994; Rosaldo 1980). Nevertheless, revenge may be one means by which warfare, which may have originally started for economic reasons, is perpetuated (Haas 2001b; Redmond 1994).

Raiding parties organized for the purposes of revenge usually draw their members from the immediate community in which the aggrieved individual lives, whereas raiding parties organized for more economic or territorial reasons may involve the organization and cooperation of allied communities.

Comparing the size of raiding parties in tribal versus chiefly societies in northern South America, Elsa Redmond notes that raiding parties organized in tribal societies “can consist of as few as five or ten men from a single village, to allied war parties of 50 to 100 warriors,” whereas the size estimates of war parties organized by chiefdoms “range from as few as 100-500 warriors to as many as 10,000- 20,000 men” (1994: 51). Although the potential military force capable of being mobilized by complex chiefdoms was most certainly greater than that organized by tribal societies, the groups that Redmond was comparing – the Jívaro and Yanomamö and the circum-Caribbean chiefdoms of Columbia and Panama – exist at either end of a continuum of political complexity the more intermediate societies along which may have had less differentiable modes of military organization. In other words, some complex tribes may have been capable of organizing raiding parties in the hundreds, while some early chiefdoms may have mobilized relatively small war parties of around 40 or 50 men.

### **The outcome of warfare**

Because the most common forms of warfare in early chiefdom societies were raids or massacres aimed at killing the members of other groups, human casualties are the most significant consequence. These raids are often carried out at dawn for the sole purpose of surprising the target communities, and as suggested by both Keeley (1996) and Redmond (1994), attacking groups usually killed anyone they encountered. The immediate response of the victims of raids is to flee to areas of refuge, often in the areas surrounding their settlements, and those who didn't were most likely killed. Everyone, including women and children, was a potential target. The results of course could be devastating for a community, especially if their numbers had already been decimated by earlier episodes of raiding.

Once they had achieved their original objective of killing or driving out the members of a given community, raiders would often resort to ransacking the homes of their victims, stealing valuables as well as stores of food. The taking of human trophies was also a common practice following the defeat of a community. “By far the most common and widely distributed war trophy was the head or skull of an enemy” (Keeley 1996: 100). This is confirmed both ethnographically (Harner 1972; Morren 1984; Murphy 1960; Rosaldo 1980) and archaeologically (Bonogofsky 2006;

Chacon and Dye 2007; LeBlanc 1999; Proulx 2001) for a number of world areas. As Keeley (1996: 101) succinctly states:

The symbolic significance of trophies varied enormously from one culture to another. In some, they merely provided a tangible numerical measure of warrior's prowess. In others, they possessed magic powers or transferred the victim's spirit to the victor's benefit. They might be necessary paraphernalia for rituals honoring deities, initiating youths, or cleansing their taker of the spiritual pollution of homicide.

The taking of captives rarely occurs in warfare among early chiefdom societies. Where it does occur, the purpose of this practice seems to have been restricted to the acquisition of slaves or wives, rather than for later torture and/or ritual sacrifice as occurs in many complex chiefdoms and states.

### **The Archaeological Correlates of Warfare**

There are a number of comprehensive discussions on the archaeological indicators of prehistoric conflict (Haas 2001b; Lambert 2002; LeBlanc 1999; Redmond 1994; Vencl 1984). Four basic categories or lines of evidence are commonly cited, including information from settlement patterns and site markers, skeletal data, weapons, and iconography. Indicators of warfare at the settlement level typically include defensive site design or architecture, such as the use of parapets or bastions, the establishment of sites in inaccessible locations (such as hilltops), or hastily constructed walls. Settlement patterns are indicative of conflict if sites show evidence of frequent abandonment, destruction or burning, or if settlements are separated by large buffer zones or, conversely, if allied communities are tightly clustered. Some of the best evidence of conflict is derived from bioarchaeological data (Verano 2001a, 2001b; Walker 2001). Important indicators include patterns of skeletal trauma, uneven sex ratios in burial populations (often in favor of males between the ages of 15 and 40 (Redmond 1994; Verano 2001c), mass burials, and the absence of parts commonly taken as trophies, such as heads.

Among sedentary pre-state societies, weapons used in warfare were often derived from implements used in hunting, especially projectile or "missile" weapons such as spears, *atlatls*, bows and arrows, and slings (Keeley 1996). Interpretations that propose the use of such implements in warfare are often aided by evidence from skeletal remains, in the form of embedded projectile points in bone (Walker 2001), or from sites where the stockpiling of weapons appears to have occurred. A prime example of such stockpiling in the Andes is the caching of slingstones along walls for use in defending sites (Topic and Topic 1987). Caches of slingstones have been noted by Van Gijseghem (2006: 426) at many Nasca 1 sites in the Southern Nasca Region. River-rolled cobbles, the preferred form for slingstones, are also found at sites in the Acarí Valley a fair distance from the river's

floodplain. However, actual caches of the stones have not been found. This does not necessarily discount their use as weapons. The presence of militaristic themes in iconography may also be incorporated in interpretations of conflict, but, as Verano (2001c) and Arkush and Stanish (2005) caution, this must be done carefully (see below).

When and where these features are well-defined and clustered, warfare is a given. But what about in cases where these features aren't as pronounced in the archaeological record? Indeed, as pointed out by Haas (2001b: 331), "the absence of warfare is somewhat more difficult to recognize archaeologically... It cannot necessarily be inferred that society is at peace if all of the markers of war are absent from some sample of the archaeological record."

### **The Interpretation of Warfare in the Ancient Andes**

In a recent paper in *Current Anthropology*, Arkush and Stanish (2005) use the Andes as a case study for rethinking the archaeology of warfare. The authors critically address the reluctance of many archaeologists to see evidence of conflict in the cultures they study, and the issues they address have important implications for reassessing the evidence of conflict during the Early Intermediate Period in the south coast, as well as other periods and regions characterized by regional, or pre-state social organizations. They see the rejection of militaristic explanations in the Andes as being tied to two primary courses of reasoning. Warfare is dismissed on the grounds that (1) the sites under investigation demonstrate an apparent lack of, or inadequacy in defensive architecture, and/or (2) the evidence is more indicative of ritual activity.

There are a number of reasons why archaeologists might preclude certain architectural or settlement features as non-defensive. Arkush and Stanish (2005) cite specifically the presence of incomplete walls at sites, a lack of parapets or other forms of wall-top protection, limited evidence of occupation, and a lack of internal water sources as the primary reasons advanced by those working in the Andes. Citing ethnographic, archaeological, and historic data, they present a number of compelling arguments for re-considering the defensive function of these features, the most important lesson being that, "fortifications need not be mighty and impregnable or even continuous to be effective," especially if war parties are small (Arkush and Stanish 2005: 16). They point out that, for all the accomplishments of the great Andean states, these societies

had military technology very different from European and Near Eastern types... In addition, small-scale, decentralized societies and regional chiefdoms flourished before the emergence of Andean states and in the spatial and temporal interstices between them. In these nonstate contexts (as elsewhere in the world) we should expect that war parties would have been smaller, defenses less impressive, and

attacks more likely aimed at raiding, harassment, or the capture of prisoners and trophies rather than the conquest of territory and subjects. (Arkush and Stanish 2005: 7)

The other reason that archaeologists frequently cite in rejecting warfare as an explanation is the identification of ritual elements in the archaeological evidence (including iconography) related to conflict. The presence of such elements is often thought to indicate some form of ritualized combat rather than secular warfare and conquest. This has created a dichotomy between “ritual battle” and “real” warfare wherein the two are seen as mutually exclusive – ritualization often being conflated with inconsequentiality (Arkush and Stanish 2005). There are a number of problems with this dichotomy. First, warfare of all kinds can be seen to possess ritual elements, including modern and Western state warfare. Keegan (1993) specifically refers to the formality and rule-bound nature of warfare in seventeenth- and eighteenth-century Europe.

A second problem pertains to the evidence used to support interpretations of ritual battle. The combat scenes depicted on the distinctive fine-line pottery of the Moche of north coastal Peru (ca. A.D. 1-700) have been interpreted by most students of Moche iconography as representing an elite ritual activity (Alva and Donnan 1993; Bawden 1996; Bourget 2001b; Quilter 2002; Topic and Topic 1997b). These scholars cite a number of common elements in the images to support their arguments, including “the number and placement of figures, their clothing, ornamentation and weapons, the locations in which combat takes place, and the apparent focus on taking captives rather than killing the enemy” (Verano 2001c: 12). These elements are seen to paint a picture in which Moche elites organized elaborate ritual battles in non-urban settings for the purpose of acquiring prisoners for later sacrifice in ceremonies over which they or their attendant priests would have presided. The fact that prisoners were sacrificed is attested to both iconographically, in sacrificial scenes involving bloodletting and dismemberment, and archaeologically, in the form of high status tombs in which the principal individuals are buried with objects matching those worn and carried by officials in these scenes (Alva and Donnan 1993). More recent studies of human skeletal remains found in sacrificial contexts also support interpretations about the sacrifice of captives (Bourget 2001b; Verano 2001a, 2001c). “Despite these recent breakthroughs in interpreting the iconography of Moche warfare and human sacrifice,” John Verano cautions that, “there remain some potential pitfalls in the interpretive scenarios generated from them” (Verano 2001c: 122). Of primary concern for Verano is the “intense inward focus” that has characterized research on the Moche. There has been little exploration of parallels beyond the Andes. Drawing on depictions of combat from central Mexico and the Maya area, Verano warns against the unqualified acceptance of a strictly ritual model of Moche warfare.

Maya and central Mexican depictions of warfare and the capture of prisoners are strikingly similar to Moche iconography. Features such as stereotyped one-on-one confrontations, the elaborate dress and ornamentation of the combatants, the use of short-range weapons, and the taking of captives all closely parallel what is seen in Moche art... In the absence of other sources of information, one could use [these] examples... to argue that Maya and Aztec warfare was a ritualized activity limited to members of the elite class... and not the conquest of one polity by another. In fact, the latter is *precisely what these figures record*. (Verano 2001c: 122)

We know that many portrayals of interpersonal violence from the Aztec and Maya regions document specific historic conquests because they are accompanied by hieroglyphic inscriptions giving the names and dates of these events (Webster 1998, 2000). This information is lacking in pre-Hispanic South American societies like the Moche. Nevertheless, in light of these comparative examples, it is necessary to explore other interpretive scenarios for Moche warfare. A few scholars working in the north coast have proposed that warfare was carried out in the context of inter-polity competition for territory, resources, and power (Billman 1997; Lau 2004; Proulx 1982). Donald Proulx and David Wilson have both suggested that the boundaries between the Moche and their highland neighbors, the Recuay, were shifting and conflict-prone (Proulx 1982; Wilson 1988). This is attested to in the highlands where defensible architecture and location are very common among Recuay sites, and include mountaintop locales, perimeter walls (some parapetted), moats, ditches, and areas of restricted access (George Lau, personal communication 2007). There is a comparative lack of such evidence at Moche sites in the lower coastal valleys, however, but this absence may be the result of the destruction caused by erosion and looting, or, as Arkush and Stanish (2005) maintain, the preclusion of identifiable architectural features as non-defensive. Verano (2001a; 2001c) has examined the skeletal remains of sacrificed individuals from Plaza 3A at the site of Huaca de la Luna in the Moche Valley. The presence of a number of healed fractures in the skeletons of these individuals suggests that they were involved in frequent violent encounters in the past. In addition, all individuals were males between the ages of 15 and 39 when they died, suggesting that they may have been members of a select Moche fighting class (Bourget 2001a; Verano 2001c). Whether these men were professional warriors or experienced ritual combatants remains unclear. In order to more fully understand the nature of Moche warfare, more substantial archaeological evidence as well as comparative data from cultures outside the Andes is needed.

### **The Nature of Nasca Warfare**

The problematic dichotomy between “ritual battle” and secular warfare has also plagued those working in the Nasca area. As I have already pointed out, of the three competing interpretations on the source of Nasca trophy heads, one posits that the Nasca engaged in ritual battles in which the sole purpose was the taking of heads (Baraybar 1987; Coelho 1972; Neira and Coelho 1972), while another presents the case for a more secular form of warfare in which trophy heads were a secondary outcome. Both of these hypotheses make use of the iconographic data, as well as archaeologically recovered heads, but until now, there has been a dearth of post-cranial evidence for warfare. Donald Proulx (2006) has presented the most thorough treatment of Nasca ceramic iconography. Not surprisingly, he has also presented the most extended argument in favor of secular warfare as the likely explanation for the source of Nasca trophy heads (Proulx 1989, 2001, 2006). Given that Nasca political organization was characterized by a number of independent chiefdoms located in the valleys of the Río Grande de Nazca drainage, he suggests that aggressors were either fighting members of opposing chiefdoms (people who shared the same cultural affiliation) or other non-Nasca groups whose goods or territory they coveted. In any case, Proulx suggests that “the victims of decapitation were members of neighboring groups who were killed in battle and beheaded during warfare or, if taken prisoner, shortly afterward” (Proulx 2006:104). His interpretation is based on the frequency with which battle scenes occur in Nasca art, some of which specifically portray victims being beheaded in the context of fighting (Figure 9). In addition, the ubiquity of slings, spears, spear-throwers, clubs, feathered banners, helmets, and other military accoutrements in the iconography suggest the existence of military specialists. I should note that many of these features, especially the depiction of specific military dress, occur more frequently on pottery from the Middle and Late Nasca phases (ca. A.D. 450-750; Table 1), suggesting that the emergence of military specialists and an increased emphasis on the importance of warfare occurred only at the end of the Early Nasca period (ca. A.D. 1-450). This is confirmed by settlement data gathered by Schreiber and Rojas (2003) in the Río Grande drainage. They observe significant “population aggregation and perhaps increased sociopolitical complexity” (Schreiber and Rojas 2003: 148) during the Late Nasca period (ca. A.D. 550-750; Table 1).

The frequent depiction of warriors and military themes in the art is enough to suggest that the Nasca were preoccupied with warfare, but it does not tell us whether the battles fought by Nasca warriors were ritual or not. If combat was a ritual practice then we might expect to see similarly dressed fighters in staged environments, as has been forwarded for arguments in favor of ritual battle among the Moche (Bourget 2001b). In Nasca vessels that do depict scenes of battle, this is not the case. In many of the battle scenes that I have observed, the fighting appears to be one-sided.

Elaborately dressed Nasca warriors are pictured subduing and decapitating more simply dressed, and in some cases unarmed opponents, and this can be seen on the vessel pictured in Figure 9.

An analysis of age and sex distribution in 84 Nasca trophy heads has also led John Verano (1995) to draw the same conclusion as Proulx about the source of Nasca trophy heads and the nature of Nasca warfare. Of the 84 heads he examined in the earlier 1990s, Verano found that at least 85% were adult males, and reasoned that “Nasca trophy heads were collected from enemy combatants” (1995:214). Citing Verano’s results, Proulx (2006) has further argued that if the practice of decapitation was a ritual event as some have argued, then we might expect to see a more balanced sex and age distribution. Proulx’s assertion, however, appears to be based on a hypothetical scenario of armed conflict between equally equipped “enemy” combatants. However, based on current theory about the nature of warfare in non-state societies, raids and massacres appear to have been much more common than all out war involving the mobilization of armies, and such attacks often result in the death of women and children, as well as males.

In her recent analysis of 151 archaeologically recovered Nasca trophy heads, Tiffany Tung (2007), divided her sample according to four temporal phases: Early Nasca, Middle Nasca, Late Nasca, and Middle Horizon (see Table 1 for the corresponding dates to these phases). The heads were grouped according to these phases based on their associated archaeological contexts as reported in the literature. Tung found that, although “adults were more common than juveniles and males were more common than females for all temporal phases... there is a significant difference in the demographic profiles of disembodied heads from earlier versus later eras” (2007: 12). Juveniles made up 25 percent of the Early Nasca sample, whereas they comprised only four percent of the following Middle Nasca group. In addition, of the adults in each of these two sample groups, females comprised almost 30 percent of the Early Nasca cases, but only 2 percent of the Middle Nasca specimens (Tung 2007: Table 16.2). This more recent, contextual analysis of Nasca trophy heads seems to fit more with our expectations of the nature and consequences of warfare among early chiefdom societies.

## **HYPOTHESES**

### **The Nature of Warfare and Head Taking in the South Coast**

The purpose of the present study is to develop a better understanding of head taking as a practice during the Early Intermediate Period (ca. A.D. 1-750) in the south coast of Peru. The primary question guiding my research pertains to the context in which the individuals found at Amato lost their heads: What were the circumstances in which the victims from the central enclosure were decapitated? Based on the above discussion, and preliminary observations of the skeletal remains

from the central enclosure at Amato, I hypothesize that head taking in the south coast, at least during the early EIP, took place in the context of internecine conflict, or more specifically raiding, conducted primarily for economic reasons. The decapitated individuals found in the central enclosure at the site of Amato were most likely local inhabitants of the settlement who were captured and killed in this context by members of another, non-local group. Their decapitation was probably not ritual in nature, but rather an act of violence carried out on a defeated community.

A reappraisal of the architecture and settlement patterns in the Acarí Valley in light of current theory on the nature of and evidence for warfare in early complex sedentary societies presents the definite possibility that the Early Intermediate Period walled sites were in fact defensive settlements. The surrounding walls of these sites averaged at least two meters in height as they stood following their construction (Smith and Valdez 2005; Valdez 1998, 2005), representing a significant physical barrier between raiding parties searching for food and other resources. As suggested by Arkush and Stanish (2005: 7), "Fortifications are scaled to the level of the attacker's tactics and technology rather than to the available base of defensive knowledge." The walls at sites like Amato would have been well-suited for defense against spears and slings, which were the most common weapons used by people during the Early Intermediate Period on the south coast (Proulx 1989, 1999, 2006; Silverman and Proulx 2002). Defenders positioned behind and atop these walls would have made approaching and scaling them a difficult task, especially if they were using similar weapons. This, of course, is assuming they were aware of an impending attack, which, in the event of a raid may not have been the case.

As mentioned above, the Early Intermediate Period walled sites in Acarí were interpreted early on by Rowe (1963) as "Nasca 3 habitation sites of an intrusive and fortified nature" (Silverman and Proulx 2002: 8). Although it is now accepted that these sites, as well as their associated artifact assemblages, constitute an ethnically distinct non-Nasca population (Valdez 1998, 2006; Vaughn 1999), this does not however preclude the defensive nature of the walls. If the walls were indeed built for defensive purposes, who were the people of Amato and other sites in Acarí defending themselves against? Did the threat come from other groups in the valley, or from populations in the Río Grande drainage to the north? These are some of the questions that I attempt to answer following the analysis of the remains from the central enclosure at Amato.

## **MATERIALS AND METHODS**

The skeletal remains of 54 decapitated individuals were excavated from the central enclosure at Amato during the 2005 and 2006 field seasons of the Acarí Valley Archaeological Project (Lidio Valdez, dir.) (see Figures 6 and 7). Osteological analysis of the remains was carried out by the

project's Lab Director (Amy K. Raes) and lab assistants in our field laboratory while investigations were ongoing at the site. Age and Sex determinations were made with the goal of reconstructing the demographic profile of the victims, and macroscopic observations were recorded on the presence and condition of cut marks, perimortem fractures, sharp or blunt force trauma, and healed fractures. Evidence of taphonomic processes such as surface exposure or possible scavenging was also recorded. Photographs were taken of all pathological features, including trauma.

Sex of adults was assessed based on the sexually dimorphic elements of the pelvis, excluding the skull for obvious reasons (Bass 1995; Brothwell 1981; Ubelaker 1989; White 2000). The age of adults at the time of death was estimated using rates of epiphyseal fusion outlined in Buikstra and Ubelaker (1994), and refined through comparison with the age phases established by Brooks and Suchey (1990) for the pubic symphysis and Lovejoy et al. (Lovejoy, Meindl, Mensforth, et al. 1985; Lovejoy, Meindl, Pryzbeck, et al. 1985) for the auricular surface. The age at time of death of juveniles was estimated using Scheuer and Black (2000). Further estimation of age from dentition was impossible due to the absence of crania.

The description, classification, and analysis of cut marks and other trauma followed methods outlined in the literature (Buikstra and Ubelaker 1994; Merbs 1989; White 2000), with particular attention being paid to the articles by Lovell (1997) and Walker (2001:577; see also Walker and Long 1977). Following Lovell (1997:139), trauma was defined as any "injury to living tissue that is caused by a force or mechanism extrinsic to the body." Analysis of injuries followed a two-step process beginning first with the identification of the type and mechanism of injury, and concluding with the interpretation of proximate (direct) and ultimate (indirect or cultural) causes. Reconstructions of the behavioral implications of injuries was aided significantly by the comparison of cut mark and trauma patterns in the Amato population with those observed in skeletal populations from other parts of the Andes and elsewhere (Andrushko, et al. 2005; Bourget 2001b; Hamilton 2005; Kuckelman, et al. 2002; Owsley and Jantz 1994; Verano 2001a, 2001b, 2001c). All pathologies were diagnosed from Ortner (2003) and Roberts and Manchester (1997).

## **ANALYSIS**

### **Osteological Analysis of the Decapitated Individuals from Amato**

All of the skeletal remains from the central enclosure were complete and articulated with the exception of two areas where remains were disarticulated and commingled. Based on the presence of a number of weathered skeletal elements in the most superficial layers overlying these areas, and the fact that none of the disarticulated remains showed evidence of cut marks that would be associated with perimortem dismemberment (as is the case for Moche; see Bourget 2001b; and Hamilton 2005),

it is likely that they are the result of later disturbance of the burial area. Although the disarticulation of some of the remains complicates estimation of the total number of individuals present, careful counts of the elements recovered, in addition to the number of complete articulated skeletons indicates a minimum of 54 individuals.

All of the remains were well-preserved and permitted detailed observations of cut marks, fractures, and other skeletal pathology. All bone surfaces, with the exception of those elements encountered on the surface, show little to no evidence of exposure or weathering. Damage from scavenging by dogs, foxes, or other carnivores is absent. However, this does not preclude the presence of airborne scavengers such as vultures and sarcophagus flies. Because of the open-air nature of the central enclosure, these opportunistic scavengers would have certainly had access to the remains, so long as their activities were not discouraged. In his analysis of the human remains recovered from Plaza 3A at the Moche site of Huaca de la Luna, John Verano noted that scavenging by black vultures (*Coragyps atratus*) “does not appear to leave marks on bone, so their presence cannot be confirmed osteologically” (2000:4). Although they do not appear in Nasca iconography, vultures do inhabit the south coast and may have played a small role in the disturbance of some of the remains. Scavenging by flies did occur at Amato, and this is evidenced by the presence of puparia among the remains.

### **Demographic characteristics**

Contrary to other pre-Hispanic sites in the Andes that have yielded evidence of mass human sacrifice, the skeletal remains from the central enclosure at Amato are not restricted to a single age category or sex (Figure 10). Nearly half (45 percent; N=25) of the skeletal population is comprised of sub-adults (< 18 years) for whom sex was indeterminate, and most of these victims (N=21) fall within the youngest age category (0-10 years). Males make up the next largest percentage (34 percent; N=18) of the population, and although they are represented in all age classes, the majority of males fall into the middle adult categories (25-45 years). Females, on the other hand, comprise only 13 percent (N=7) of the skeletal population and most fall into the category of young middle adult (25-35 years). There were no females identified in the late middle adult category (35-45 years). There were some adults (8 percent; N=4) for whom sex characteristics could not be assessed.

In summary, the evidence indicates that the violence carried out at Amato was not directed at a specific group within the settlement population, but rather included individuals of both sexes and all ages. Moreover, those responsible for dispatching the victims in the central enclosure appear to have targeted the most productive and active members of society – children, young women, and middle-aged males. The fact that very few young adult males were represented in the skeletal population

might indicate that these members of the community were killed elsewhere, perhaps in battle, leaving the rest of the resident population vulnerable. That being said, the demographic composition of the victims may just as well represent random selection, and depends heavily on the circumstances surrounding their deaths.

### **Cut marks**

Cut marks to the cervical vertebrae (Figure 11) were the most common perimortem injury encountered in the remains. Approximately 40 percent (N=22) of the skeletal population possessed cut marks (Table 2), and these most commonly occurred on the 4th and 5th cervical vertebrae. In addition, nearly 75 percent (N=39) of the individuals were missing anywhere from two, to all seven cervical vertebrae. This evidence is consistent with the intentional decapitation of living individuals (Verano 2001b).

In an impressive study of the morphology and patterning of cut marks on sacrificial victims from Huaca de la Luna, Laura Hamilton (2005) noted a strong preoccupation with throat cutting in the sacrificial remains from plazas 3A and 3C (see also Verano 2001c:219). This conclusion was based on the predominance of cut marks high up on the neck, with most cuts occurring on the anterior surface of the vertebral bodies or on the transverse processes. In the Amato population, however, most cuts occur on the lateral and posterior aspects of the articular processes, with some showing up on the lamina and spinous process. This provides additional support that the primary objective was decapitation, and that the cuts were inflicted from beside or behind the victims. As was the case with the individuals from plazas 3A and 3C, any of the cuts sustained by the individuals from Amato would have been fatal, and death was most likely caused by exsanguination (Hamilton 2005:244; Verano 2001c:219). However, this conclusion must remain tentative, since the absence of crania among the remains in the central enclosure prevents us from assessing any potentially fatal head trauma.

The morphology and patterning of cut marks were also used to determine the type of tool and material used to sever the victims' heads. Keeping in mind the potential for morphological variation from the amount of force applied by the decapitator and the sharpness of the tool(s) used, the cut marks exhibited by the individuals from Amato are generally coarse and wide, and this is consistent with marks made by stone rather than metal tools (Hamilton, personal communication 2005; Walker and Long 1977). Cut marks made with metal tools made of copper or copper alloy (the most common metals in pre-Hispanic Peru) are typically narrow, possessing "v-shaped grooves with straight, sheer walls" (Hamilton 2005:254), and tend to leave bone "overhangs" where the periosteum has been lifted slightly (Hamilton 2005:254). These overhangs are a hallmark of cuts made by metal tools and

are never associated with cuts from stone tools (Binford 1981:105). They do not occur in the cuts marks on the Amato victims. It is also worthwhile to point out that “no known metal knives or daggers are present in Nasca culture” (Proulx 2006:177).

Given that the cut marks appear to have been made using a stone tool, the question remains as to what kind of material was used. One obvious resource is obsidian. Obsidian artifacts make up a large part of the lithic assemblages from Early Nasca sites (Proulx 2006; Silverman 1993:285; Silverman and Proulx 2002:65; Van Gijseghem 2004; Vaughn 2000), and it has been suggested that this was the most likely material used to make the knives used for decapitation (Proulx 1989, 2001; 2006: Figure 4.7; Silverman and Proulx 2002). Although obsidian was in use in Acarí, as is evident at the Initial Period site of Hacha (Riddell 1986; Riddell and Valdez 1987; Robinson 1994), it is rarely found at the Early Intermediate Period sites in the valley (Riddell 1986, 1989). Furthermore, comparison of the cut marks from the central enclosure with those identified in the skeletal remains from a Native Californian cemetery (Andrushko, et al. 2005), in which there was direct evidence that obsidian implements were used, revealed slight differences in cut morphology. Overall the cut marks from the Amato skeletons were coarser than those in the California sample, suggesting that another material was probably used. Basalt tools are much more common than obsidian in the south coast, and although basalt “knives” have not been found in Acarí, it is not unreasonable to suggest that this material could have been used.

The most persuasive evidence for tool type, however, comes from the very strata in which the actual remains were found. At least five wedge-shaped unifacial “knives” (Figure 12) were found next to the remains in unit N14W30. Two of these were manufactured from quartzite, while the rest were made of a fine-grained silicate material (e.g. chert or chalcedony). The sources of these materials have yet to be determined. All of the knives possess a single sharp cutting edge and certainly could have produced the cut marks found on the victims. Therefore, it is probable that these tools or ones like them were used to decapitate the individuals found in the central enclosure. Further immunological analysis of these artifacts for any blood or organic residues would be able to confirm this hypothesis.

### **Other perimortem injuries**

Although cut marks were the most common form of perimortem trauma among the remains, other injuries were also observed. Nine of the skeletons had sustained fractures to one or more bones, and seven of these nine exhibited transverse or comminuted fractures of the left and/or right ulna; in two cases the radius was also involved (Figure 13; Table 3). This type of injury is often attributed to blocking or parrying a blow with an upraised arm during a fight. Lovell (1997:165) and others have

cautioned against the automatic assignment of these so-called “parry” fractures as necessarily indicative of interpersonal violence, and maintain that the same kind of break can also be the result of indirect trauma associated with forced pronation of the forearm (e.g. falling onto an outstretched hand). However, given the number of such injuries exhibited by the individuals from the central enclosure, as well as the presence of the cut marks and other perimortem injuries, the interpretation that they are the result of a violent encounter seems correct.

In addition to the “parry” fractures, four other kinds of injury were observed. Two adult individuals had experienced fractures of the hand bones. One adult had received a transverse fracture of their left clavicle. A child below the age of 10 years suffered a fracture of their right 4th rib. Another child, also under 10 years, sustained a depression fracture on the posterior aspect of their distal right femur (Figure 14). Of these the depression fracture was the most severe, likely resulting in the breaking of the skin and tissue down to the level of the bone (Lovell 1997:146). This injury could have only been caused by a blunt force, such as that produced by a bludgeon, club, fist, or heel. In this case, because the affected area of the bone is the posterior aspect of the femur right above the knee, the child would have had to be positioned prone (face down), or at least facing away from the force of impact. It is likely that they were either struck with a club or else stomped on while on the ground. The injury may also be the result of being struck with a stone fired from a sling (a traditional Andean weapon that appears in Nasca iconography; see Proulx 2006). Only one individual, an adult female (>50 years), showed signs of healed trauma. She possessed a healed fracture of the left ulna.

#### **Associated Materials**

The arid conditions of the south coastal desert facilitated the preservation of a number of non-skeletal materials among the remains, providing significant information on the events surrounding the death and decapitation of the victims. The most notable of these materials are the fragments of rope made of vegetable fiber found around the wrists and ankles of some of the victims (Figure 15). The presence of these rope fragments indicates that the individuals found in the central enclosure were bound at the time of death. Moreover, the manner in which they were tied suggests that people were kept together rather than being bound individually.

In some places the remains were covered with pieces of plain cotton textile or vegetable fiber matting (Figure 16). In one instance, a section of cotton cloth was found wrapped around the proximal femora of an individual just below their pelvis, and it is possible that this had served as a sort of breechcloth. In the rest of the cases, however, the cloth or matting had been placed over top of two or more individuals, and this was likely done posthumously. In two areas large sections of matting made from *tatora* reeds or junco had been used to cover almost the entirety of the remains

below, and this aided in the mummification of the individuals. In one of these cases, the matting concealed the bodies of an adult female and child, the former of which was almost completely mummified and appears to have been pregnant at the time of death, although the distended shape of her abdomen may also be a result of the weight of the sand that had accumulated over top of her burial (Figure 17).

At least three of the units excavated in the central enclosure also yielded evidence of burning at the site coeval with the decapitation event. A fine layer of ash occurs immediately above and on the same level at which the victims were encountered, and this was most observable along the interior face of the wall surrounding the central enclosure. In one unit, N16W28, there was a large burned feature directly adjacent to the remains (Figure 6). A sample of charcoal collected from this feature yielded a radiocarbon age of 15 cal A.D.. This date, as well as the fragment of Late Paracas or Early Nasca pottery (Figure 8) collected from the layers overlying the remains, are currently the only evidence available for timing the event at Amato.

## **DISCUSSION**

### **The Raiding and Decapitation Event at Amato**

Based on data presented above, it is possible to reconstruct the events leading up to the death and decapitation of the victims at Amato. The demographic characteristics of the skeletal population from the central enclosure indicate that the violence carried out was not directed at a specific group within the resident population, but rather included individuals of both sexes and all ages. Nearly half of the skeletons were those of children below the age of 10 years. Since only a few fragments of textile were found among the remains, it is probable that the individuals were naked before they were killed. It is clear that they were bound at the time of death because of the fragments of rope preserved around the wrists and ankles of some of the skeletal elements. Also, most of the victims had been injured, in some cases severely, prior to being decapitated. Many of the perimortem injuries are manifested in fractures of the forearm bones, commonly referred to as “parry” fractures, and other close-range injuries, so it is clear that people tried to defend themselves before being subdued. The lack of healed injuries among the skeletons suggests that these individuals did not have a previous history of violent encounters. The two largest groups represented in the skeletal remains – middle-aged adult males and children – then, may be explained through a scenario in which the males were protecting the juveniles, who were not only unable to defend themselves, but also unable to flee. The limited number of female victims represented in the skeletal remains, may indicate that women were taken as prisoners, although, at this point, there is no way to verify this.

Although airborne scavengers did have access to the remains for some period of time after the event (as indicated by the presence of fly puparia), none of the remains show signs of sun bleaching. In addition, the excavations revealed that soil color was much darker within and surrounding the concentrations of remains (Figure 7). Together, these lines of evidence suggest that the remains were not exposed for a long period of time, and that decomposition took place following burial. The burial of the victims in the central enclosure is convincing evidence that the victims were members of the local residential community, rather than outsiders brought back to the site. The fact that they were not given more formal burial, and that those responsible for their interment used only sand or fragments of vegetable fiber matting may have had to do with the events surrounding their death<sup>v</sup>, or the state in which the community was left following the event. Such a loss would have been devastating to the residents of Amato, and the community would have taken a long time to recover, if it ever did.

All of this is consistent with what might be expected from a raid or massacre. As noted by Keeley (1996: 67), the killing that takes place as part of such attacks is usually indiscriminate, “although women and children evidently escape in the confusion more often than adult males”. Of the total number of adults at Amato for whom sex could be assessed (N=25), 72 percent were males. This not only confirms Keeley’s comment, but the percentage almost exactly matches the demographic profile of Tung’s (2007) Early Nasca trophy head sample. Similar mortality percentages have been documented by ethnographers working among groups in northern South America where raiding was the dominant form of warfare (see, e.g., Cotlow 1953; Ross 1980).

Through comparison of these mortality numbers, and the available base of ethnographic knowledge about the size of raiding parties, it is possible to estimate the number of individuals that would have been required to kill and decapitate the group from the central enclosure. As cited by Redmond (1994: 7), Lewis Cotlow (1953) reports of one raid by a Jívaro group of 20 men that managed to kill at least 18 men, women, and children in a period of fifteen minutes. If this ratio can be used as a reference, it is reasonable to infer that a force of somewhere around 60 to 120 raiders would have been necessary to dispatch the 54 individuals at Amato. This is a conservative estimate given that similar numbers have been suggested by Kuckelman et al. (2002: 506) in order to defeat the Late Puebloan village of Castle Rock, in southwestern Colorado, where the remains of 41 victims were recovered. Given the average size of the Early Intermediate Period sites in Acarí (approx. 1 ha.), it is possible that such a force could have been organized by a single settlement. However, if the raiders came from the Southern Nasca Region, where village sites of the same period were much smaller, an alliance between settlements would have been necessary to muster the requisite numbers.

The picture that emerges is a gruesome one. The evidence suggests that at some point during end of Nasca phase 1 (ca. 100 B.C. – A.D. 1), or the beginning of the Early Intermediate Period (ca. A.D. 1-450), the residents of Amato were raided by another, non-local group. This group may have been from another community within the valley (e.g. Huarato, Coquimbo, or Tambo Viejo; see Figure 1), but they could also have come from as far as the Southern Nasca Region. The raiders likely moved through the community swiftly, injuring and incapacitating those who were unable to flee. Those who were able to escape would have likely fled up the nearby *quebradas* (or gullies) of Cerro Lucasi (see Figure 4). Because of its central location, and the fact that it is one of the highest points at the site, the central enclosure was a practical location for the assailants to collect their bound captives following the attack, prior to decapitating them. Either that, or some individuals, perhaps those who were unable to escape, chose to stand their ground from this location in hopes of fending off their attackers. Once the disabled residents had been subdued and bound, their attackers proceeded to remove their heads. This *coup de grace* likely occurred while the victims were still alive and tied to one another, hence the manner in which they were encountered. There is symbolic power in killing people in the community's central public space. In doing so, the raiders create a message that could not easily have been forgotten. It is logical to think that, following the decapitation of the victims, and prior to returning to their own community, the attacking group may have ransacked the settlement, taking ownership of any stores of food, water, and other resources and valuables. The evidence of burning in the central enclosure suggests that at least some destruction took place.

This analysis of the decapitated human remains from Amato provides a convincing argument for the non-ritual nature of head taking in the south coast during the beginning of the Early Intermediate Period. Furthermore, both the skeletal and non-skeletal evidence suggest that raiding, as opposed to formalized conflict between equally equipped enemy combatants, was the common form of warfare in the region at this time. This is consistent with the expectations of warfare among early complex sedentary societies. It also confirms my suspicion that the walls surrounding Amato and the other Early Intermediate Period sites in the valley do indeed represent defensive redoubts. Although the victims of the raid have been identified as residents of Amato, the identity of their attackers remains to be determined.

#### **Possible Nasca Identity of the Attackers**

There is sufficient reason to think that the individuals who raided Amato came from the Southern Nasca Region (SNR; Figure 1). The most significant evidence for the Nasca identity of the attackers is the obvious fact that the victims in the central enclosure were decapitated and their heads have not

been found at the site. I have already noted the importance of severed heads in Nasca society. What is even more convincing, however, is the way in which the demographic profile of the victims at Amato corresponds almost perfectly with that of the Early Nasca trophy heads examined by Tung (2007).

Although trophy heads are known for the Acarí Valley, almost all of these heads have come from the Late Nasca site of Chaviña, located in the littoral zone near the mouth of the Acarí River (Lothrop and Mahler 1957; Neira 1990; Neira and Coelho 1972). Most of the heads found at the site are male and exhibit cranial deformation consistent with that observed in Nasca populations (Tung 2007). This evidence as well as the presence of pottery from Nasca phases 6 and 7 (in which we see the proliferation of warfare related iconography) at Chaviña, indicate that the site was populated only near the end of the Early Intermediate Period, during a time of increased, and perhaps more formalized, warfare and sociopolitical complexity in the Southern Nasca Region (Browne, et al. 1993; Proulx 2006; Schreiber and Rojas 2003).

Settlement patterns both in Acarí and the Southern Nasca Region also provide further support for the Nasca identity of the attackers. As noted by Van Gijsegem (2006; see also Vaughn and Van Gijsegem 2007), beginning around Early Horizon phase 8 (ca. 300-200 B.C.) the Ica and Río Grande drainages experienced major demographic fluctuation and settlement reorganization, likely in response to population pressure and resource shortages in the upper Ica valley and northern Río Grande de Nazca drainage. During this time, populations bearing Paracas traits were moving into and settling the Southern Nasca Region. This is evidenced by a rapid increase in the number of settlements in the region. During Early Horizon phase 10 and Early Intermediate Period phase 1 (Ocucaje 10 and Nasca 1; 100 B.C.-A.D. 1; Table 1), settlements were dispersed primarily in the upper valleys in predominantly defensive locations, suggesting an increase in conflict in the SNR at this time (Schreiber and Rojas 2003). This defensive posturing was almost certainly related to population pressure in an already economically limited environment.

As I discussed earlier, the Southern Nasca Region (SNR; Figure 1), which circumscribes the valleys of the Ajá, Tierras Blancas, Taruga, and Las Trancas rivers, was characterized by a very unpredictable water regime compared to the more "normal" hydrographic regime for the Santa Cruz, Grande, Palpa, Viscas and Ingenio rivers in the northern part of the drainage (Silverman 2002). The economic limitations of the SNR would have put considerable strain on groups attempting to establish themselves there. This in turn caused an "increase in such hostile actions as the raiding of neighboring areas for life-sustaining resources" (Schreiber and Rojas 2003: 157). It might also lead to an increased emphasis in ritual activity including the collection and offering of trophy heads

(because of their connection to agricultural fertility) as an attempt to ensure an increase in precipitation and hence water for people and crops.

The earliest date available for the site of Amato was yielded by a sample of charcoal associated with the decapitated individuals in the central enclosure. That sample returned a date of 15 cal A.D.. As suggested above, this would indicate that the underlying structure atop which the residents at Amato were massacred had been constructed some time before the decapitation event. This inference places the construction of the site and its surrounding wall in the earlier Nasca phase 1 (ca. 100 B.C. – A.D. 1; Table 1), corresponding with the period of increased raiding in the Southern Nasca Region. Since the Acari River received more runoff from the highlands than the tributaries in the SNR, the middle and lower portions of the valley would have been more hospitable for the local non-Nasca groups settling there. As a result, sites like Huarato, Amato, and Coquimbo could be established on the alluvial bluffs directly above the river's floodplain in these areas. This location would not have been the most suitable for defense, hence the construction of walls surrounding the sites. This pattern is different from that seen in the upper valleys of the Ajá, Tierras Blancas, Taruga, and Las Trancas rivers, where the defensive position of settlements on steep hillsides likely offset the need to build walls.

In summary, the fortification of sites like Amato in the Acari Valley can be seen as a response by their inhabitants to raiding groups from the Southern Nasca Region. The economic limitations of that region led to an increase in raiding and ritual during Nasca phase 1. Groups from this region, then, were motivated to raid neighboring areas like Acari for valuable subsistence goods like water and food stores, and possibly even herd animals. Neira Avedaño (1990: 63) has noted that the Acari Valley seems to have been “rich in *lomas* pasturelands for three or four months of the year and that there were also *lomas* between Nasca and Acari” (cited in Silverman and Proulx 2002: 89; my italics). *Lomas* are “winter fog meadows” (Silverman and Proulx 2002: 44) typically found in the middle and upper valley areas and in some areas along the littoral zone. These would have been well suited to feeding herd of camelids (e.g llamas and alpacas), which were of vital importance to all Andean peoples. The presence of *lomas* and the more reliable water regime in Acari would have made the valley significantly more productive than the valleys in the SNR, and thus a likely target for raiding. While raiding groups may have been after the life-sustaining resources of their neighbors in Acari in order to deal with the immediate crisis posed by the unpredictable water regime in the SNR and the increasing influx of settlers, the taking of heads was important for rituals that could ensure more rain and crop yields for the future.

### Head Taking as Non-sacralized Violence

A discussion of the nature and context of trophy head taking would not be complete without returning to the heads themselves. Here, I provide further support for the argument that decapitation was not a ritual event, and suggest a possible explanation for how trophy heads were transformed into religious symbols.

Edward Swenson (2003) has acknowledged the “catalytic role” that sacralized violence served in the institutionalization of inequality and the development of many Andean and Mesoamerican societies. The most important monuments in many of these pre-Hispanic societies, the pyramid temples (or *huacas*) and ballcourts, “served as theaters of a highly controlled, socially encapsulated violence,” that was based in consumptive-reproductive worldviews (Swenson 2003: 257). “The reciprocal but asymmetrical relationship envisioned between the natural and supernatural realms... [was] predicated on a ‘consumptive-reproductive dialectic’, wherein human regeneration, agricultural fertility, and socio-cosmic order necessitated sacrifice... [or] the ‘consumption of vitality’” (Swenson 2003: 258). This dynamic is illustrated in the representational art of nearly all Andean and Mesoamerican peoples, including that of Chavín, Moche, Nasca, Inca, Maya, and Aztec (Benson and Cook 2001; Boone 1984; Bourget 2001b; Brumfiel 1998; Burger 1992; Carrasco 1999; Clendinnen 1991; Rostworowski de Diez Canseco 1996; Schele and Freidel 1990; Silverman and Proulx 2002). The sacrificial practices of these societies ranged in both the numbers of victims and the degree of ‘consumption’. Some required bloodletting from the reproductive members of elite individuals, as among the Maya, while others necessitated the torture, decapitation, and dismemberment of numerous non-elite captives, as among the Moche.

Because decapitation is a common form of ritual human sacrifice it is often incorrectly assumed that where there is evidence of decapitation there is also evidence of ritual sacrifice. In the case of Amato, although the victims are missing their heads, this doesn’t necessarily mean that they lost them in the context of a special ritual or ceremony. At the very least I can say that the manner in which people lost their heads did not take the form of an elaborate spectacle like that which is thought to have taken place atop pyramid mounds in other Andean and Mesoamerican societies. This argument is supported by both iconographic and archaeological evidence.

As just mentioned, depictions of sacrificial rituals pervade the artistic traditions of many pre-Columbian societies. These rituals of “consumptive social and cosmic reproduction” are often overseen by high status members of society. Moche fineline pottery, for example, is replete with scenes of bloodletting, sacrifice, and the ritual dismemberment of prisoners overseen by a set of deities or costumed priests (Alva and Donnan 1993; Bawden 1996; Bourget 2001a, 2001b). Imagery of this kind, however, is absent from Nasca iconography. Depictions of violence including the taking

of trophy heads occur separately from depictions of “rituals carried out by shamans related to propitiating and controlling the forces of nature” (Proulx 2001: 135). In the latter, human heads are displayed as already severed and prepared trophy heads in the hands of shamans who appear dressed as supernatural beings. In images that do depict the actual act of head taking, both the decapitator and the victim appear in human form in the context of battle (Proulx 2006).

In addition to the lack of iconographic evidence of rituals incorporating violent or sacrificial practices among the Nasca, there is also an absence of archaeological evidence for sacrifice. Contrary to what has been uncovered at Moche sites in the north coast (Bourget 2001a, 2001b; Verano 1986, 2001b, 2001c) where there is considerable osteological evidence of the sacrifice and dismemberment of numerous individuals of a specific age-sex group at one time, no such evidence has been found at Nasca sites, and the evidence from Amato points more to raiding or massacre. Excluding the recent discovery at Amato in the Acari Valley, headless bodies are rarely encountered in the south coast. Many of these occur in the form of burials, and are afforded similar treatment to the rest of the dead (Carmichael 1988). The absence of iconographic and archaeological evidence that would place the practice of decapitation within a ritual context begs the question of whether or not head taking in the south coast can or should be considered an act of ritual sacrifice. Given that human decapitation during the early EIP in the south coast does not appear to have been a ritual affair, where and when were trophy heads imbued with their importance as ritually significant objects?

In her recent review of archaeological approaches to the study of the body, Rosemary Joyce (2005) highlights some of the ways in which individual human bodies are transformed “through psychical and social inscription” into sacred objects. In her analysis of human sacrifice practiced by the Moche, Erica Hill (2003; 2006) explores this transformation in detail, citing the ways in which the body and its parts are “charged or imbued with emotional or psychic energy and meaning” through the act of dismemberment (Hill 2003: 286). Hill views Moche body parts as a form of material culture and suggests that dismemberment served to “depersonalize” the sacrificed body and transform its parts into sacred, cathected objects. While decapitation may not have been a ritually charged practice on the south coast during the early EIP, I argue that the meticulous preparation of trophy heads may have served the same function as Hill observes for Moche sacrifice and dismemberment, thus converting them into objects of great spiritual power. In citing her own work on performativity and ethnicity as these relate to manners of dress in pre-Hispanic Central American societies, Joyce (2005: 146) identifies an “emphasis on the head as the site of identity.” It is unquestionable that the Nasca and other south coast groups saw heads as both the site of identity and a source of vitality, and this is exemplified in their preoccupation with preparing and offering human heads as evidenced in the iconographic and archaeological records. Indeed, as Proulx (2001: 135) suggests, “Nasca people

must have placed great importance on the human head as a source of power. The burial of caches of trophy heads must have resulted in the concentration of a great amount of ritual power.”

## CONCLUSION

The purpose of this study was to more fully understand the practice of head taking during the Early Intermediate Period (ca. A.D. 1-450) on the south coast. Using the osteological evidence of human decapitation from the site of Amato in the Acari Valley, as well as archaeological and ethnographic evidence of warfare and trophy taking from elsewhere in the Andes and beyond, I sought to test current interpretations about the nature and context in which trophy heads, an important ideological symbol among cultures in the south coast, were obtained. More specifically, I aimed to determine the circumstances in which the people at Amato were killed and beheaded.

In light of current theories about the nature, causes, and consequences of warfare in early chiefdom societies, and the available base of archaeological and iconographic evidence for warfare and head taking in the Andes, I proposed that decapitation likely took place in the context of raiding, conducted primarily for economic reasons. Following my initial observations of the skeletal materials from Amato, I hypothesized further that the headless individuals at the site had been killed in a raid by a non-local group, and that their decapitation was a secondary but important outcome.

Through my detailed analysis of the remains of the 54 individuals from the central enclosure, and a parsimonious reconstruction of the events surrounding their death and decapitation, I have presented a cogent argument in support of these hypotheses. Furthermore, based on my comparison of the demographic characteristics of the skeletal population with Tung's (2007) recent analysis of Nasca trophy heads, and Van Gijseghem's (Van Gijseghem 2006; see also Vaughn and Van Gijseghem 2007) discussion of the historical processes that led to the genesis of Nasca society, there is sufficient reason to believe that the raiding group came from the Southern Nasca Region. These results are significant not only for our understanding of the nature of warfare and head taking during the Early Intermediate Period on the south coast, but they also inform broader questions about inter- and intra-valley interaction and culture change, both in this part of the pre-Hispanic Andes and elsewhere.

Throughout the course of this study, I have attempted to situate the events that took place at Amato within the broader historical processes occurring in the south coast. The episode of raiding and decapitation at the site likely took place either at the end of Nasca phase 1 (ca. 100 B.C. – A.D. 1), or the beginning of the Early Nasca period (ca. A.D. 1-450; Table 1). This period corresponds initially with the spread of Late Paracas populations into the Southern Nasca Region, following which there appears to have been an increase in warfare and trophy taking in the area. This is evidenced by

the defensive location of sites in the upper valley regions of the southern Nasca tributaries. Raiding was the likely mode of warfare practiced by people at this time, as the populations coming from the north attempted to wrestle a living from this already economically limited zone. While the increase in raiding, and hence defense, as exhibited at sites like Amato, may have been tied to the acquisition and control of resources, the taking of heads was grounded in religion. As discussed by Vaughn and Van Gijseghem (2007), Cahuachi may have already begun to emerge as a regional center of worship during Nasca phase 1, and trophy heads would have been an important element in ritual activities, which were focused around themes of fertility, regeneration, planting and harvesting, all important concepts in this arid coastal environment (Proulx 2001, 2006; Silverman 1993; Silverman and Proulx 2002; Vaughn 2004; Vaughn and Grados 2006). The ritual importance of trophy heads in Nasca society, as symbols of agricultural fertility and regeneration, was very likely derived from their earlier significance to Paracas peoples (Paul 2001; Peters 1991).

At the beginning of Early Nasca proper (or Nasca phase 2; ca. A.D. 1 – 450; Table 1), the initial preconditions for conflict appear to have subsided, since we see a decrease in defensively located settlements and the spread of populations into the middle and lower valleys of the Río Grande drainage (Schreiber and Rojas 2003; Silverman 2002; Van Gijseghem 2006). It is suggested that this latest period of reorganization is indicative of the emergence of a pan-regional Nasca identity for which Cahuachi was, by then, a fully functioning pilgrimage/ceremonial center (Van Gijseghem 2006: 426). This period, which Van Gijseghem (2006) has described as representing a “pax Nasca,” may have led to more hospitable relations between the Early Intermediate Period populations of Acarí and the Southern Nasca Region. Indeed, the presence of Late Ocucaje or Nasca phase 1 pottery at Amato suggests that there must have been some degree of interaction prior to the massacre, and the presence of Nasca polychromes from phases 2-4 at some of the other sites in the valley confirms that there was some degree of influence or exchange afterwards.

There are a number of reasons why people in the Río Grande drainage would have wanted to maintain trade relations with Acarí, and vice versa. For the Nasca, there was the obvious economic incentive of the higher productivity in the Acarí Valley, which would have made more subsistence goods available to populations in the SNR. For the populations living in Acarí, trade with the Nasca meant access to elaborate polychrome pottery, as well as other exotic goods such as spondylus and obsidian. Whereas, in the SNR, Early Nasca polychromes “enjoyed unrestricted distribution to households regardless of their status” (Vaughn and Van Gijseghem 2007: 815), they may have represented something of an elite marker in Acarí. It has also been suggested that *Huarato* people may have been taking part in the ritual cult at Cahuachi (Valdez 1998), but Silverman and Proulx (2002) do not see sufficient evidence for this. “Given the absence of complex, supernatural

iconography in the Nasca phase 3 corpus from Acarí,” they think that it is unlikely that people from Acarí were worshipping at the religious center, and suggest that they “took advantage of other opportunities presented by the congregation of multitudes at Cahuachi, such as being able to establish social ties and exchange or trade their goods for lesser Nasca products” (Silverman and Proulx 2002: 88). This suggestion, however, was made prior to the renewed work by Lidio Valdez and the Acarí Valley Archaeological Project in 2004. The work carried out in Acarí since then has led to the recovery of a number of Nasca sherds bearing supernatural motifs. If anything this suggests that more work must be done in Acarí, as well as in the Southern Nasca Region, in order to more fully understand the nature of the relationship between these two areas.

While I have found sufficient reason to think that the people who attacked and beheaded the residents of Amato were ethnically Nasca, this conclusion should not preclude the possibility that the assailants could have been from another settlement within the Acarí Valley. If future work in the valley turns up offerings of heads or more evidence of raiding, then a somewhat different scenario will have to be proposed. It is hoped that further study of the skeletal remains from Amato, possibly employing isotope analysis or ancient DNA, to explore possible migration and bio-distance between the two drainages, will be possible in the near future. These avenues would lend a great deal more to our interpretations about inter-valley interaction in this part of the pre-Hispanic Andes.

## ENDNOTES

- i. Max Uhle was the first to identify Nasca severed heads as “trophy” heads (see Uhle 1906). Even though there is disagreement about the nature in which these heads were removed from their respective bodies as well as their post-mortem usage, many authors continue to refer to them as “trophy” heads (Silverman and Proulx 2002, Proulx 2006). I do the same here despite the fact that the heads may not represent trophies of war, at least not in the common sense of the word.
- ii. Following current practice I use Nasca with an “s” to refer to the archaeological culture and Nazca, spelled with a “z”, to denote the river, modern town, and geographical region.
- iii. There is an apparent gap in settlement of the Southern Nasca Region during the Initial Period and throughout most of the Early Horizon.
- iv. Andrea Drusini, from the *Centro Italiano Studi e Ricerche Archeologiche Precolombiane*, has been closely involved in the analysis of trophy heads and other skeletal remains from Nasca populations, and he has accepted that this was likely the case (personal communication 2007).
- v. In her analysis of burials excavated at Cahuachi, Helaine Silverman (1993) suggests that some individuals who died in unusual circumstances may have been considered “bad deaths,” and were not afforded customary burial.

**TABLES AND FIGURES**

**Table 1.** Chronology for the Peruvian south coast (after Paul 1991; Van Gijsegem 2006; Vaughn and Grados 2006). The area highlighted in gray indicates periods/phases discussed in the text.

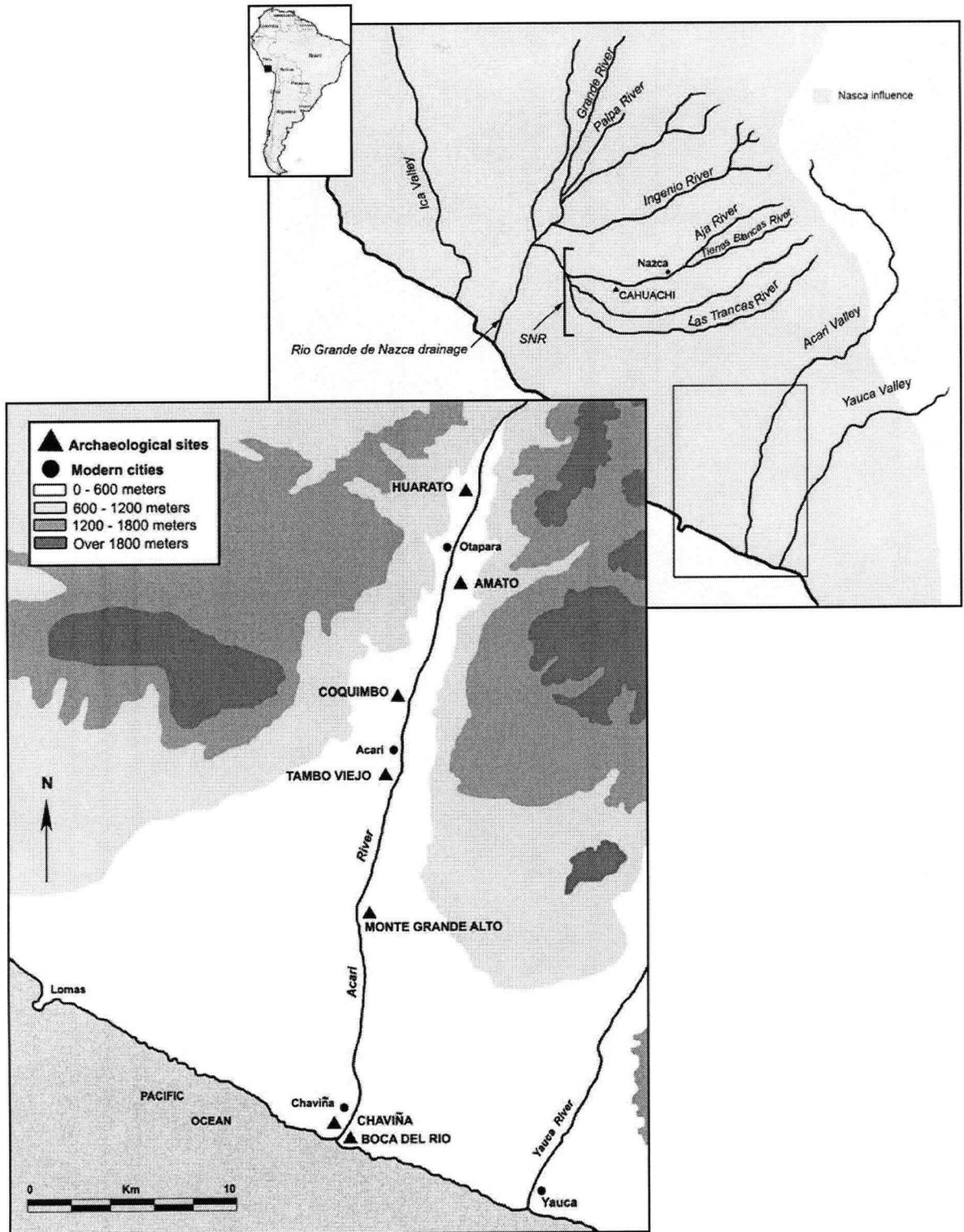
Horizon/Intermediate Period	Culture	Corresponding Ceramic Phases	Approximate Dates
Middle Horizon	Loro, Wari	Nasca 8, MH 1-2	A.D. 750-1000
Early Intermediate Period	Late Nasca	Nasca 6-7	A.D. 550-750
	Middle Nasca	Nasca 5	A.D. 450-550
Early Horizon	Early Nasca	Nasca 2-4	A.D. 1-450
	Proto Nasca	Ocucaje 10 / Nasca 1	100 B.C.-A.D. 1
	Late Paracas	Ocucaje 9/10	200-100 B.C.
		Ocucaje 8	300-200 B.C.
Middle Paracas	Ocucaje 7	400-300 B.C.	

**Table 2.** Age and sex distribution of individuals with observable cut marks (N=54).

Age class	With cutmarks			Without cutmarks			Total
	Male	Female	Indeterminate	Male	Female	Indeterminate	
0-10 years	0	0	6	0	0	15	21
10-18 years	0	0	3	0	0	1	4
18-25 years	1	0	1	0	1	0	3
25-35 years	3	2	0	3	2	1	11
35-45 years	3	0	0	6	0	0	9
45+ years	0	1	0	2	1	0	4
Adult, age indeterminate	0	0	2	0	0	0	2
Total	7	3	12	11	4	17	54

**Table 3.** Age and sex distribution of individuals with perimortem trauma (N=9).

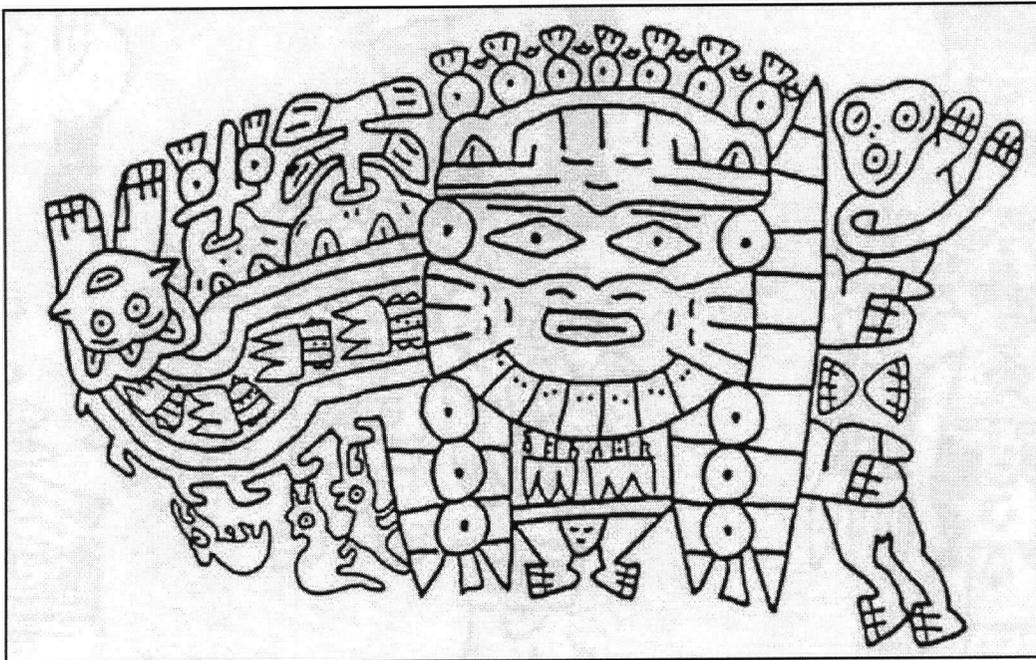
Burial number	Unit number	Age	Sex	Perimortem trauma
103	N14W30	Adult, age indeterminate	Indeterminate	Fracture of left ulna
7	N15W28	45+	Male	Fracture of left ulna and radius
99	N15W28	25-35	Male	Butterfly fracture of right ulna and left second metacarpal
36	N15/16W29	0-10	Indeterminate	Fracture of right fourth rib
39	N15/16W29	25-35	Male	Comminuted fracture of left ulna
4	N15/16W30	18-25	Male	Fracture of left ulna and radius, and fracture of right ulna
11	N16W28	35-45	Male	Fracture of left ulna, comminuted fracture of right ulna
33	N16W28	0-10	Indeterminate	Depression fracture of posterior distal right femur, fracture proximal right tibia
40	N16W28	35-45	Male	Fracture of left ulna, proximal left third phalanx, and right second metacarpal



**Figure 1.** Composite map of the south coast of Peru showing the locations of Early Intermediate Period sites in the Acari Valley, and their relation to Cahuachi in the Southern Nasca Region (SNR).



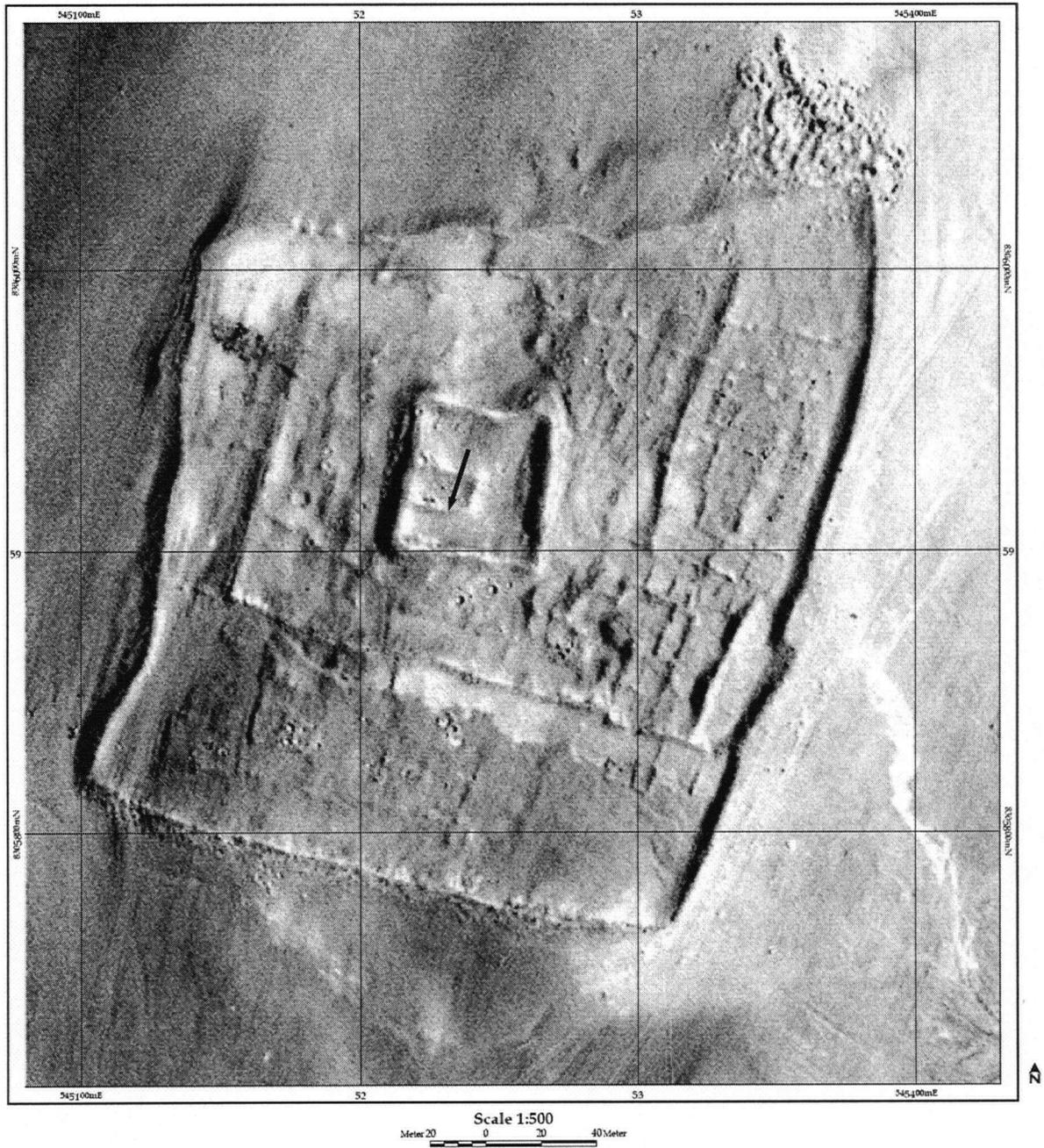
**Figure 2.** Photo of a trophy head excavated at Cahuachi in July 2006 (courtesy of Giuseppe Orefici of the *Centro Italiano Studi e Ricerche Archeologiche Precolombiane*).



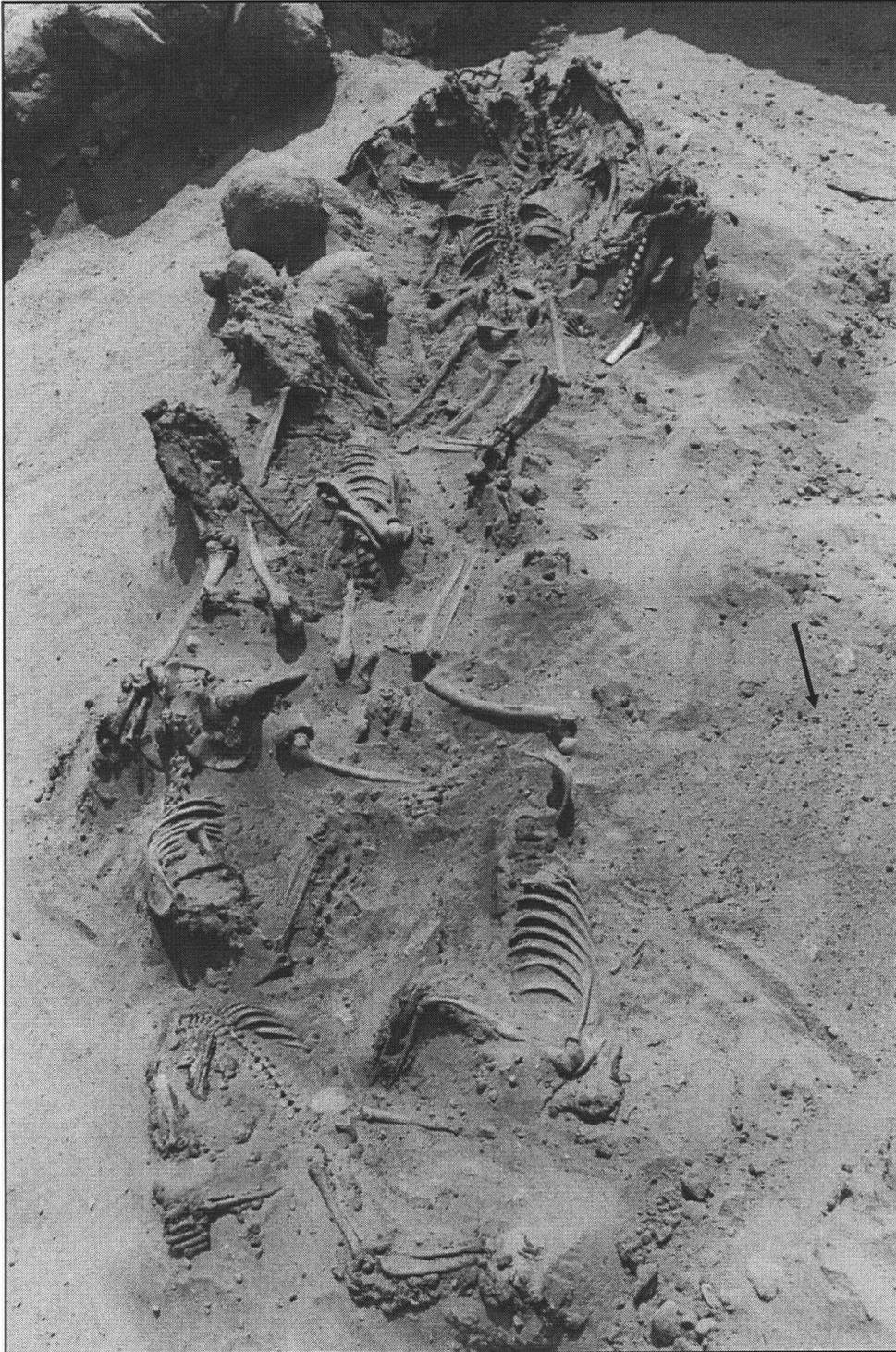
**Figure 3.** Detail of a Nasca 5 vessel (after Townshend 1985: 125; Fig. 6). Note the two heads sprouting plants in the upper left hand corner.



**Figure 4.** Photo of Amato from the west side of the Acarí River. The upper arrow is pointing to Cerro Lucasi. The lower arrow is pointing at the surrounding wall of the site.



**Figure 5.** Satellite image of Amato. The central enclosure is indicated by the arrow. The heavily looted Middle Horizon cemetery is located in the upper right corner of the image, outside of the surrounding wall.



**Figure 6.** Photo of one of the concentrations of human remains found in the central enclosure (unit N16W28). The arrow indicates where the burned feature was found.



**Figure 7.** Photo of the concentration of human remains from unit N15W28 in the central enclosure.



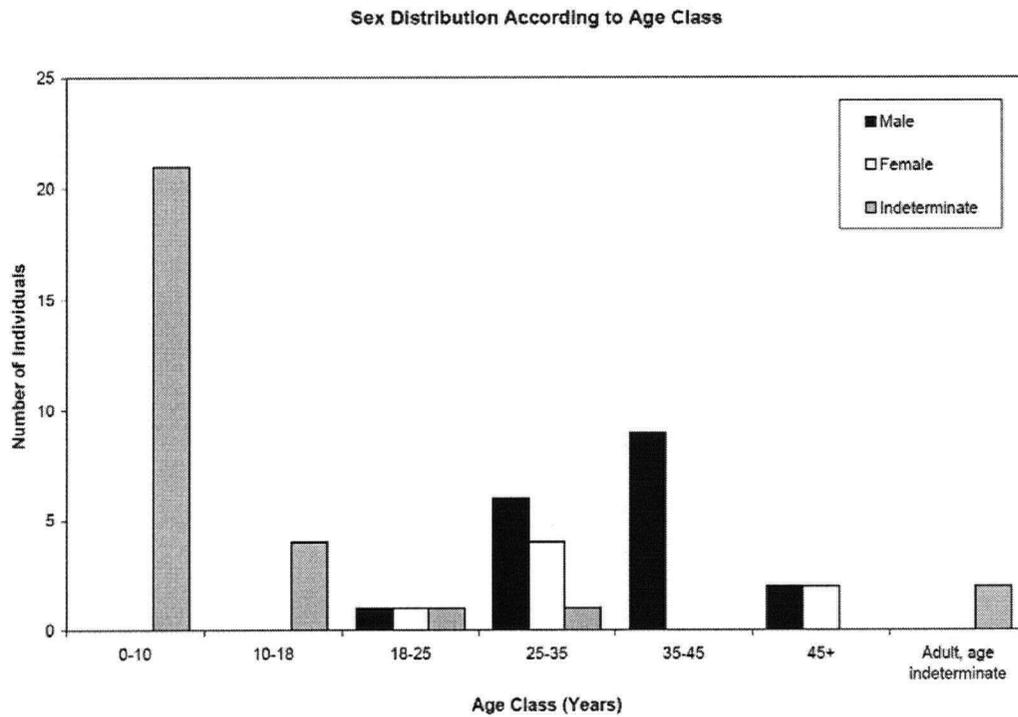
**Figure 8.** Photo of a sherd of Ocucaje 9/10 or Nasca phase 1 pottery. The use of slip painting and incised outlines of the motifs is diagnostic of pottery from these phases.



**Figure 9.** Photo of a fragment of headband from an infant burial found just outside of the central enclosure. The headband was made by cross-knit looping, a diagnostic feature of Early Nasca needlework.



**Figure 10.** Closeup photo of a decapitation scene from a Nasca 7 bottle, Amano Museum, Lima MAR-037 (from Proulx 2001: 128, Fig. 6.10).



**Figure 11.** Histogram showing the distribution of age and sex within the skeletal population from the central enclosure.



**Figure 12.** Photo of the cut marks on C4 and C5 of an individual from unit N16W28.



**Figure 13.** Photo of one of the unifacial quartzite knives found among the remains in the central enclosure.



**Figure 14.** Photo of a comminuted fracture of the right ulna of an individual from unit N16W28.



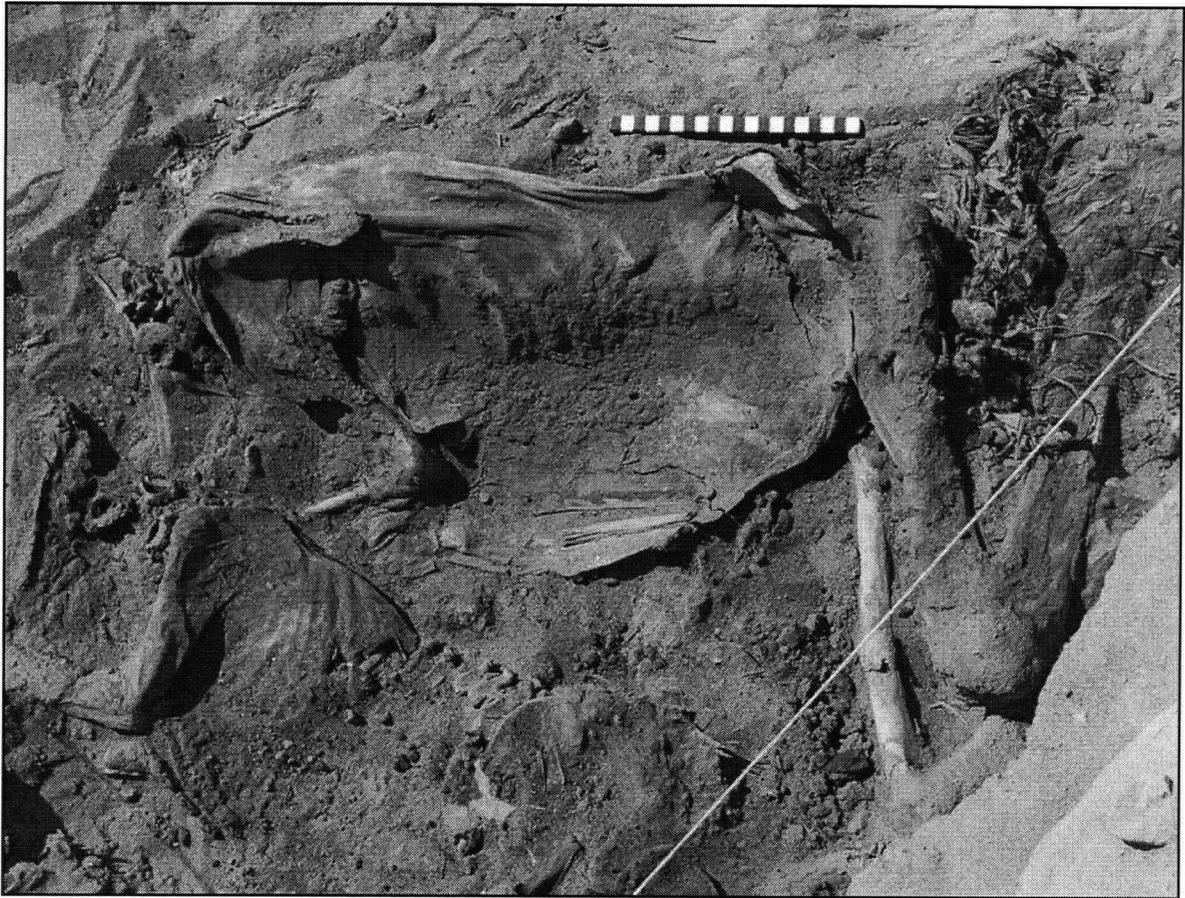
**Figure 15.** Photo of the depression fracture on the posterior aspect of the distal right femur of a juvenile individual.



**Figure 16.** Photo of the rope used to bind the victims in the central enclosure.



**Figure 17.** Photo of matting made of *toton* reeds used to cover some of the remains.



**Figure 18.** Photo of the mummified remains of an adult female and juvenile.

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