

EMBATTLED BODIES, EMBATTLED PLACES

War in Pre-Columbian Mesoamerica and the Andes

DUMBARTON OAKS PRE-COLUMBIAN SYMPOSIA AND COLLOQUIA



Series Editors

Mary E. Pye and Colin McEwan

Editorial Board

Elizabeth Hill Boone

Tom Cummins

Barbara Arroyo

EMBATTLED BODIES, EMBATTLED PLACES
War in Pre-Columbian Mesoamerica and the Andes

ANDREW K. SCHERER AND JOHN W. VERANO
Editors

DUMBARTON OAKS RESEARCH LIBRARY AND COLLECTION
WASHINGTON, D.C.

© 2014 Dumbarton Oaks

Trustees for Harvard University, Washington, D.C.

All rights reserved.

Printed in the United States of America

Library of Congress Cataloging-in-Publication Data

Embattled bodies, embattled places : war in pre-Columbian Mesoamerica and the Andes /

Andrew K. Scherer and John W. Verano, Editors.

pages cm. — (Dumbarton Oaks pre-Columbian symposia and colloquia)

Includes bibliographical references and index.

ISBN 978-0-88402-395-1 (cloth)

1. Indians of Mexico—Warfare—History—To 1500. 2. Indians of Central America—Warfare—History—To 1500. 3. Indians of South America—Andes Region—Warfare—History—To 1500. 4. Indians of Mexico—Antiquities. 5. Indians of Central America—Antiquities. 6. Indians of South America—Andes Region—Antiquities. I. Scherer, Andrew K. II. Verano, John W.

F1219.3.W37E49 2014

980'.01—dc23

2013011916

General editor: Mary E. Pye and Colin McEwan

Art director: Kathleen Sparkes

Design and composition: Melissa Tandysh

Managing editor: Sara Taylor

Volume based on papers presented at the Pre-Columbian Studies symposium “Conflict, Conquest, and the Performance of War in Pre-Columbian America,” held at Dumbarton Oaks Research Library and Collection, Washington, D.C., on October 14–15, 2011.

<caption for cover photograph>

www.doaks.org/publications

CONTENTS

- Preface and Acknowledgments | vii
- 1 Introducing War in Pre-Columbian Mesoamerica and the Andes | 1
Andrew K. Scherer and John W. Verano
- 2 War, Violence, and Society in the Maya Lowlands | 25
Takeshi Inomata
- 3 War in the West: History, Landscape, and Classic Maya Conflict | 57
Andrew K. Scherer and Charles Golden
- 4 Invasion: The Maya at War, 1520s–1540s | 93
Matthew Restall
- 5 Warfare in Late/Terminal Formative Period Oaxaca | 117
Arthur A. Joyce
- 6 Aztec Battlefields of Eastern Guerrero: An Archaeological and Ethnohistorical Analysis of the Operational Theater of the Tlapanec War | 143
Gerardo Gutiérrez
- 7 Sacrifice at the Templo Mayor of Tenochtitlan and Its Role in Regard to Warfare | 171
Ximena Chávez Balderas
- 8 “I against my brother”: Conflict and Confederation in the South-Central Andes in Late Prehistory | 199
Elizabeth Arkush
- 9 Making Warriors, Making War: Violence and Militarism in the Wari Empire | 227
Tiffany A. Tung
- 10 Taming the Moche | 257
Luis Jaime Castillo Butters
- 11 Warfare and Captive Sacrifice in the Moche Culture: The Battle Continues | 283
John W. Verano
- 12 A Materiality of Opposition: On Ancient Andean Conflict and Organization in Northern Peru | 311
George F. Lau

13	The Fall of Kuelap: Bioarchaeological Analysis of Death and Destruction on the Eastern Slopes of the Andes		341
	<i>J. Marla Toyne and L. Alfredo Narváez Vargas</i>		
14	The Scope of Inca Warfare as an Imperial Strategy of Conquest and Control		365
	<i>Dennis E. Ogburn</i>		
15	Some Concluding Remarks: The View from Outside		385
	<i>John Haldon</i>		
	Contributors		403
	Index		409



Warfare and Captive Sacrifice in the Moche Culture

The Battle Continues

JOHN W. VERANO

UNTIL 1995, THE SACRIFICE OF CAPTIVES by the Moche was known only from depictions in Moche art. With the exception of indirect evidence (such as weapons found in tombs), armed combat and the taking of captives—also common themes in Moche iconography—were largely invisible in the archaeological record. This invisibility was in contrast to offerings of human lives in funerary contexts (retainer burials accompanying high-status individuals), which had been documented archaeologically as early as 1946 in the Virú Valley in the Tomb of the Warrior Priest (Strong and Evans 1952) and subsequently at various North Coast sites (Alva and Donnan 1993; Donnan and Castillo 1994; Millaire 2002).

While the archaeological evidence of captive sacrifice by the Moche is now unequivocal (Bourget 2001; Verano 2008), debate continues over the context in which captives were taken (warfare or ritual combat), the source of captives (locals or

outsiders), and larger issues such as the ritual and political significance of prisoner capture and sacrifice in Moche society. New approaches, including mitochondrial DNA comparisons between victims and local population samples, other biodistance estimates based on dental morphology, and stable isotope analyses of bone and teeth, have been used in an attempt to identify the source of captives. The analysis of skeletal trauma, both healed fractures and injuries associated with the time of death, has been used to explore the life history of victims and to reconstruct the events leading to their capture and sacrifice. Finally, careful documentation of the archaeological context of these discoveries and the postmortem treatment of victims' bodies provides additional insight into how Moche captives may have been perceived by their captors. This chapter will examine the issues of Moche warfare and the sacrifice of captives and critically review the models that have been developed to explain them.

Warfare in Andean South America

Identifying warfare in the archaeological record is a challenging task, and Andean South America is no exception to the rule (Arkush and Allen 2006; Arkush and Stanish 2005; Nielsen and Walker 2009). While fortified sites and piles of sling stones may survive for millennia, battlefields and war dead are more ephemeral. Even where there is rich ethnohistoric documentation of warfare and conquest, such as in the case of the Inca (Ogburn, this volume; Rostworowski de Diez Canseco 1999; Rowe 1946), little archaeological evidence of the battles described by native and Spanish sources has been found (Andrushko and Torres 2011; Murphy et al. 2010). And for time periods extending back beyond the range of ethnohistory, we must rely on archaeological evidence alone. Along with fortified sites, weapons buried in tombs and evidence of trauma in skeletal remains may indicate periods of increased warfare, but these must be evaluated carefully (Härke 1997; Martin and Frayer 1997). The Moche of northern coastal Peru represent the complexities involved in using archaeological and iconographic evidence to reconstruct such behavior. While the Moche left an extremely rich and detailed iconographic record of combat and militarism, direct evidence of warfare has been largely elusive. The archaeological evidence is now growing, however, although it is variably expressed across time and space.

Warfare and Moche Iconography

The highly representational art style of the Moche has long provided scholars with rich and abundant visual material for study. Moche art clearly celebrates militarism; it is unique among pre-Hispanic Andean art styles for its frequent and detailed representations of warriors, combat, and the capture and killing of opponents (Figure 11.1; Alva and Donnan 1993; Castillo Butters, this volume; Donnan 1997; Quilter 2008). In a survey of Moche iconography, Christopher Donnan (2010:60) estimates that more than 60 percent of Moche art depicts warriors, combat, captive sacrifice, and associated symbols such as weapon bundles and decapitator deities. This emphasis on warriors, weapons, and captives no doubt inspired Rafael Larco Hoyle (1945) to conceptualize the Moche as a quintessentially militaristic society (Castillo Butters, this volume).

While the great majority of depictions of warriors and combat are known from portable art (ceramics, metalwork, carved wood and bone), recent excavations at the Pyramids of Moche and El Brujo have uncovered depictions of combat, the parading of prisoners, and the decapitation of victims on a monumental scale (Franco et al. 1994; Uceda 2010). These larger-than-life displays on the facades of major platform mounds and on the walls of temples effectively proclaim the ritual, political, and military power of these ceremonial centers

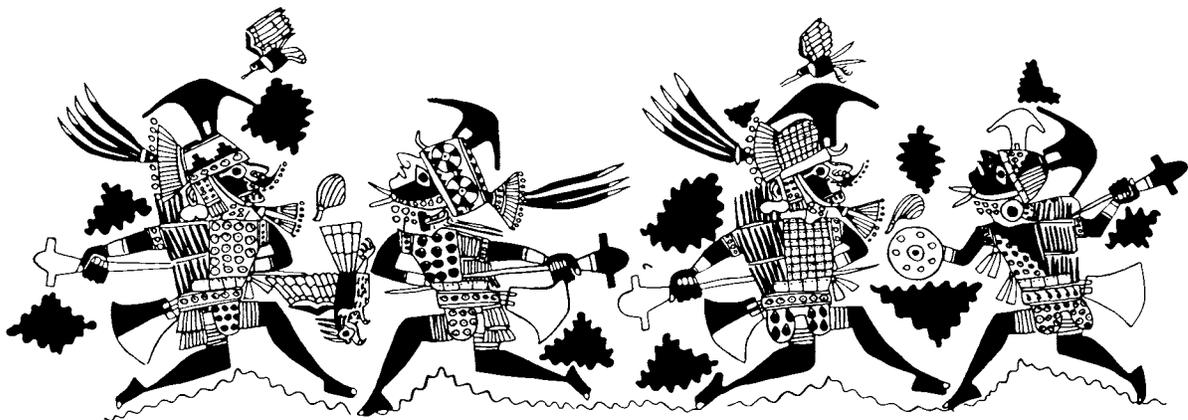


figure 11.1

Rollout drawing of a Moche combat scene. (Drawing by Donna McClelland.)

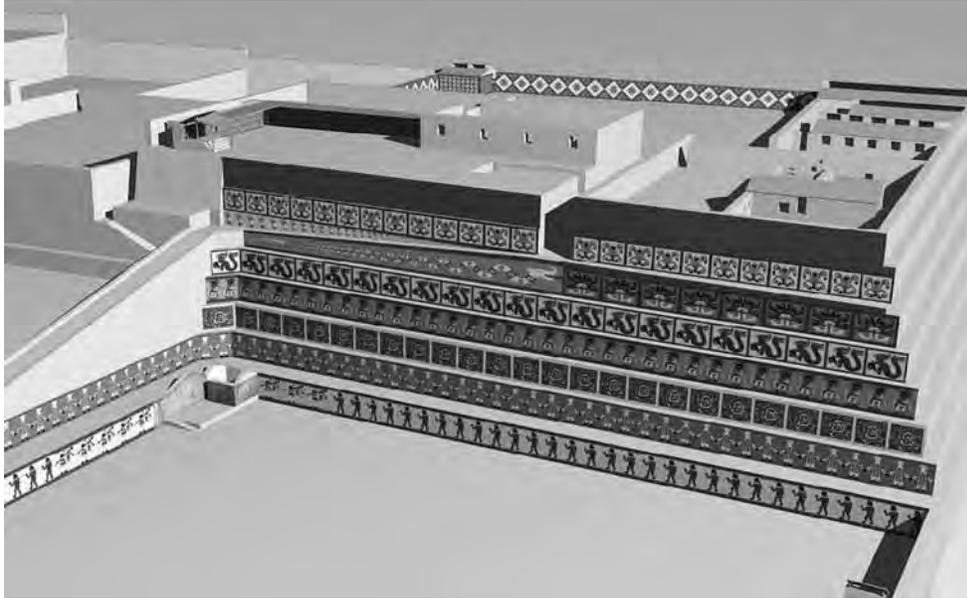


figure 11.2
Isometric reconstruction of the north facade of the Pyramid of the Moon. (Reconstruction courtesy of the Huacas de Moche Archaeological Project.)



figure 11.3
Detail of the north facade of the Pyramid of the Moon, showing a line of nude captives being led by a rope around their necks. (Photograph by John W. Verano.)

(Figures 11.2 and 11.3). Their location (facing plazas that could hold large crowds) and high visibility make it clear they were meant for public consumption, as opposed to portable art, which probably had a limited audience.

The rich artistic record left by the Moche has not, however, led to a consensus on the nature of Moche society and the frequency of and motives for warfare. Some scholars interpret scenes of Moche

combat as not portraying warfare at all, but instead a form of ritual combat between elite members of Moche society (Alva and Donnan 1993; Castillo Butters and Holmquist 2000; Hocquenghem 1987, 2008). Evidence for this view is drawn from the depiction of elaborately dressed opponents who appear to fight one-on-one, wielding only close-range weapons. Their dress, ornamentation, and weapons are in nearly all cases Moche in style,

suggesting that these are depictions of Moche warriors fighting other Moche warriors. The question remains whether these are competing warriors from different Moche polities or from a single site and whether the competition is strictly “ritual” or whether it represents real conflict over resources or territory. Opinions also differ over whether non-Moche warriors can be identified in some combat scenes. George Lau (2004) has published an excellent review of this issue and concludes that weapons and elements of dress worn by warriors in some of these scenes are Recuay in style, suggesting that they depict battles between the Moche and Recuay (see Lau, this volume).

The ritual nature of Moche combat has also been argued on the basis of the apparent goal of combat: the taking of captives rather than the killing of enemies (Castillo Butters, this volume; Donnan 1997). Scholars frequently note that the objective appears to have been to wound one’s opponent or simply knock off his helmet, rather than kill him (Figure 11.4). While this representation may indicate a preference to capture rather than kill, it also may simply be a visual metaphor for a military victory over an enemy or competing polity. The grasping of a political foe (or even a patron deity) by the hair is a common signifier of

military conquest in many cultures, Old World and New (Davis 1996; Scherer and Verano, this volume; Figure 11.5).

Some scholars have proposed that highland Andean ritual battles—known by various names, including *tinku*, *tinkuy*, *juego de pucara*, and *ch’iaraje* (Orlove 1994; Urton 1993)—might serve as models for interpreting Moche combat (Hocquenghem 1987, 2008; Topic and Topic 1997, 2009). However, extending interpretations based on highland traditions across such a significant amount of time and space to the Moche (or to any other pre-Hispanic coastal group) is problematic on many levels. But more importantly, the archaeological evidence we have of Moche captive sacrifice is not consistent with that of ritual battles such as *tinku*. In ethnographically documented Andean ritual battles, minor injuries are common, and occasional deaths occur from beatings or sling-stone wounds to the head. Captives may also be taken, but in most cases they are held only briefly. Importantly, individuals who die in ritual battles are returned to their communities for proper burial.

The fate of Moche captives was very different. Warriors were stripped of their weapons, clothing, and adornments and were physically abused, publicly displayed, and then executed. Perhaps



figure 11.4

Moche combat scene showing one warrior striking another and knocking off his helmet, while another grabs his opponent by the hair. (Drawing by Donna McClelland.)

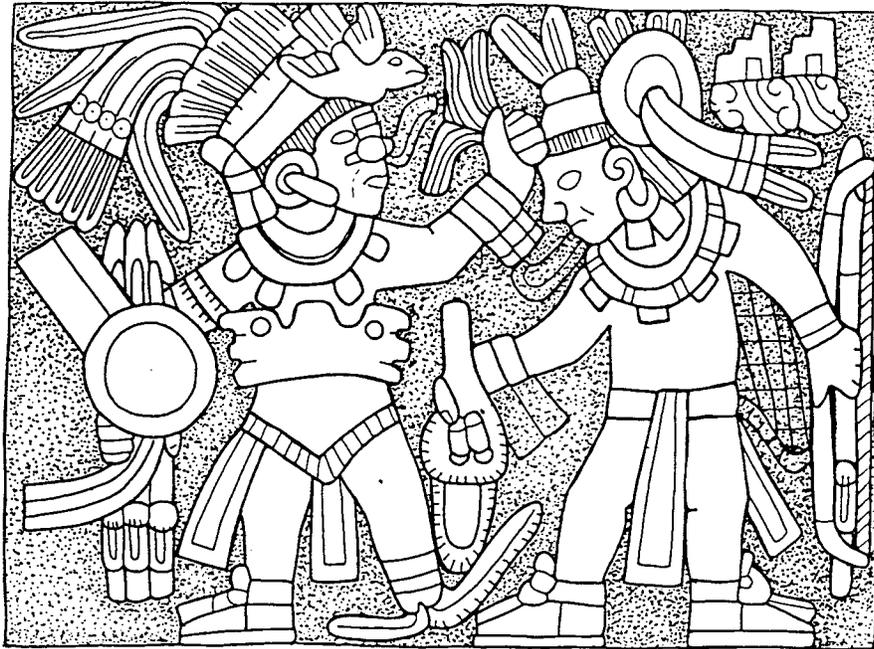


figure 11.5
Detail from the sacrificial stone of Motecuhzoma I, illustrating the conquest of Tenayuca by the Aztec ruler: Motecuhzoma I, shown as the Aztec war god Huitzilopochtli, grasps the god of Tenayuca by the hair; while this scene is metaphorical, it documents a historic military conquest. (Drawing by Emily Umberger.)

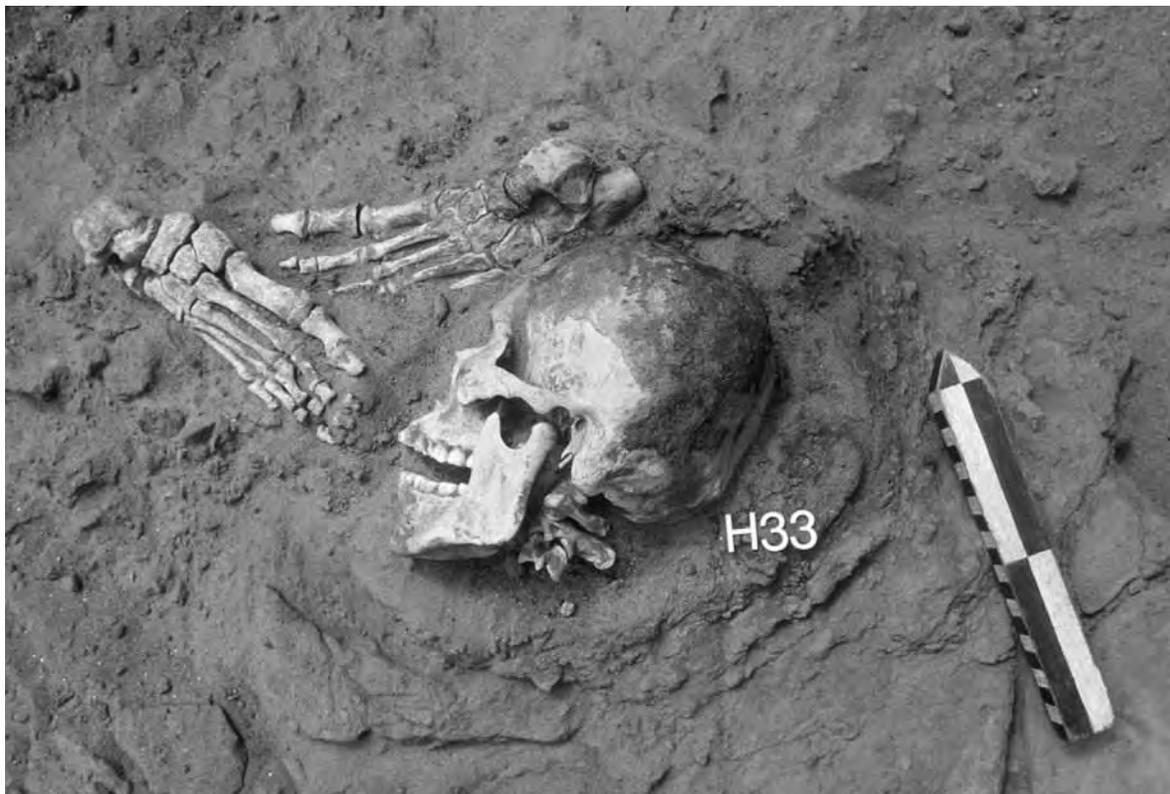


figure 11.6
Severed head and feet of a Moche sacrificial victim found in Plaza 3C of the Pyramid of the Moon; cut marks on the cervical vertebrae and ankle bones (tali) indicate that the head and feet were amputated from a fleshed body. (Photograph by John W. Verano.)

most importantly, they were denied proper burial. Bodies of victims were typically left exposed to be fed upon by flies, beetles, and probably vultures.¹ Some were decapitated and buried with other severed body parts (Figure 11.6); others were dismembered or defleshed. The vaults of some skulls were broken open or cut away to create trophy vessels. The disrespectful treatment of bodies and the collection of body parts as trophies are commonly associated with warfare and the killing of enemy captives in many societies (Andrushko et al. 2010; Chacon and Dye 2007; Otterbein 2000) but are not consistent with ethnohistoric and modern accounts of Andean ritual battles (for a more detailed critique of tinku as a model for Andean warfare, see Arkush and Stanish 2005).

Interpreting Moche Combat

A number of scholars have cautioned against overly literal interpretations of Moche combat as depicted on ceramic vessels (Bourget 2001; Lau 2004; Shimada 2010; Verano 2001). Jeffrey Quilter (2002, 2008) has presented the most detailed arguments that Moche depictions of combat are highly formalized and selective and that these scenes cannot be assumed to represent accurately and completely Moche armed conflict. Quilter notes that in Moche art (as is the case in many societies ancient and modern), elite actors are privileged in combat scenes, although this privileging does not necessarily imply that common foot soldiers did not exist. But it does make sense, of course, since the finely made ceramic



figure 11.7

Polychrome mural in Plaza 1 of the Pyramid of the Moon, showing repetitive depictions of paired combatants: the figures are highly formalized in pose and attire with only minor variations in clothing and head ornaments. (Photograph by Moisés Tufinio, courtesy of the Huaca de la Luna Archaeological Project.)

vessels with depictions of combat were produced for and consumed by the Moche elite.

Like other scholars, Quilter notes that close-in, hand-to-hand combat is also privileged in Moche combat scenes. The Moche possessed medium- and long-range weapons, but these are rarely shown being used in combat. Spear-throwers and darts were standard weapons carried by Moche warriors, and they are displayed prominently in Moche weapon bundles, which often stand alone as symbols of armed combat (Donnan 2010; Donnan and McClelland 1999). Spear-throwers and darts are also shown as part of the booty collected from defeated opponents, yet these weapons are only rarely depicted being used in combat. Interestingly, spear-throwers and darts do figure prominently in Moche deer-hunting scenes, which Donnan (1997) has shown to have strong parallels to human combat and the taking of prisoners. Slings and sling stones—also medium- to long-range weapons—are rarely seen either; when shown they are usually isolated, seemingly discarded elements rather than weapons actively being used. Thus, although the Moche possessed and carried lethal mid- and long-range weapons to battle, and they stored piles of sling stones at their defensive sites (Castillo Butters, this volume), their artists rarely depicted these weapons being used; the focus is instead on highly formalized scenes of hand-to-hand combat between paired opponents (Figure 11.7). Of course, spear-throwers and slings would not be particularly useful for close-in fighting, which may be the simplest explanation for their absence.

Quilter notes that the iconic Moche weapon shown in combat scenes—the large two-handed Moche war club—was equipped not only with a head for striking blows, but also with a pointed end (possibly tipped with metal) that would make it an effective stabbing weapon. While no combat scenes show an actual stabbing of an opponent with the pointed end of a club, Quilter describes several examples where the club appears to be held in a “ready” position to deliver such a strike (see Figure 11.1).

Some have questioned the practical effectiveness of the small shields carried by Moche warriors

(Bourget 2005:77). I would argue that their small size makes sense for combatants fighting with large clubs that required two hands to wield. The shields carried by Inca soldiers were of similar size (Rowe 1946:275), but to my knowledge no one has suggested that these were symbolic items that were of no practical use in battle.

Archaeological Evidence of Combat and Prisoner Sacrifice

As I have argued elsewhere (Verano 2001), interpreting Moche warfare based solely on iconography is problematic, since we must decipher the motivations and graphic conventions of Moche artists. Archaeological finds of sacrificed captives and the osteological analysis of their remains provide independent evidence that can be used to test hypotheses developed from iconographic study. This evidence adds to our knowledge of the demographic profiles and life histories of those sacrificed, the manner in which they were killed, and the treatment and final disposition of their remains. Their cultural affiliation (local Moche/nonlocal Moche/non-Moche) is an important issue as well and is currently an active focus of research.

To date, the most impressive discoveries of sacrificed captives come from Plazas 3A and 3C of the Pyramid of the Moon (Bourget 1997, 1998, 2001; Verano 2001, 2008). Isolated skeletons with traumatic injuries and severed heads, hands, and feet have been found at other major Moche sites such as El Brujo, Dos Cabezas, and Sipán (Cordy-Collins 2001; Verano 1997), but these are rare finds. We do not know whether these finds are an accurate indication of the infrequent practice of captive sacrifice at these centers or simply a reflection of the limited excavations that have been done at some sites.

At the Moche site, remains of sacrificial victims have been found in the urban sector and near the Uhle Platform (Chauchat and Gutiérrez 2008; Delabarde 2006; Verano et al. 1999). These include articulated skeletons, amputated hands and feet, and modified skulls. However, the largest concentrations of the remains of sacrificed captives come

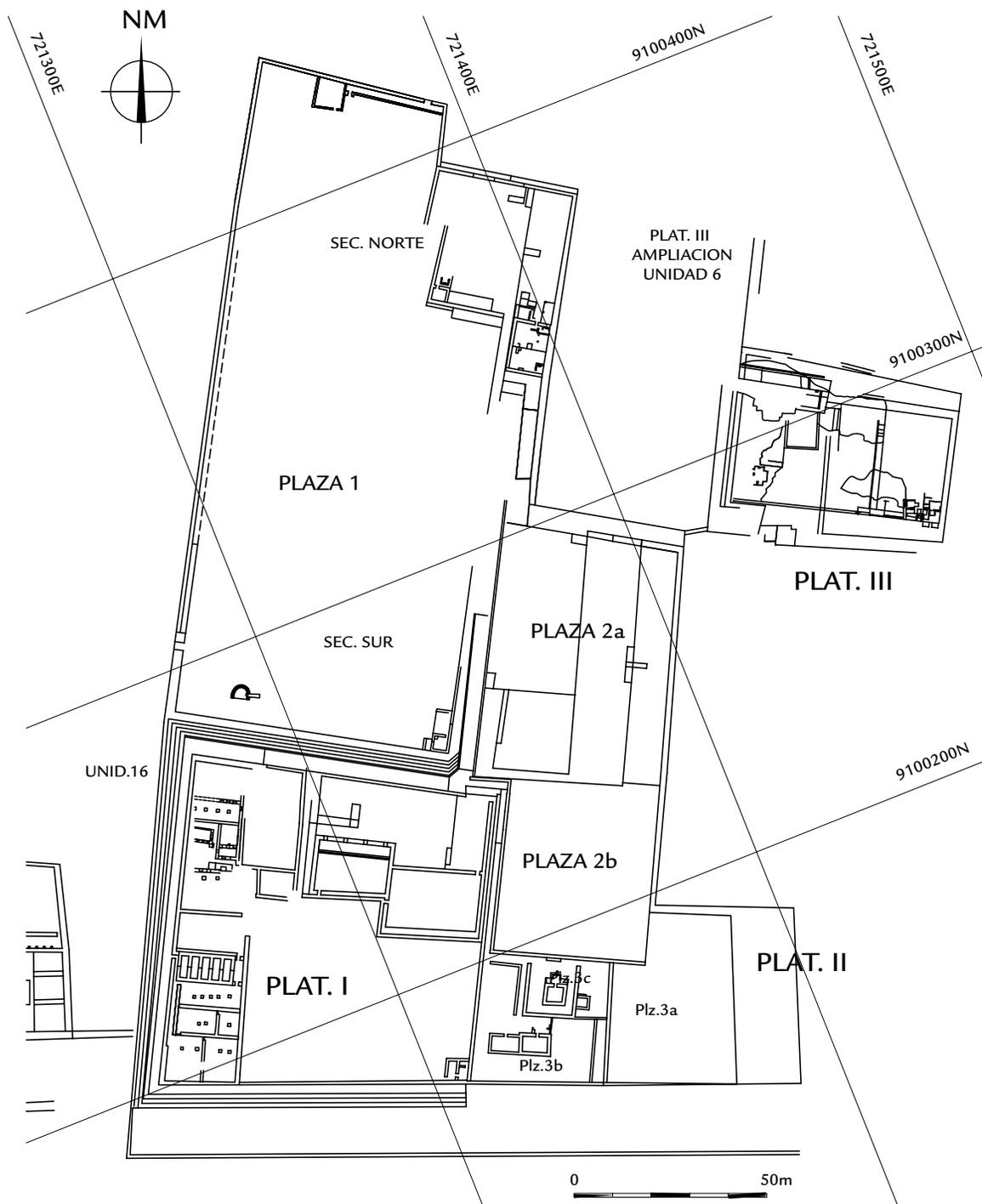


figure 11.8

Map of the Pyramid of the Moon, its associated plazas, and Platform III (the New Temple); sacrificial victims have been found in Plazas 3a and 3c and along the base of the western side of Platform I, as well as along the north, south, and west sides of Platform III. (Map courtesy of the Huaca de la Luna Archaeological Project.)

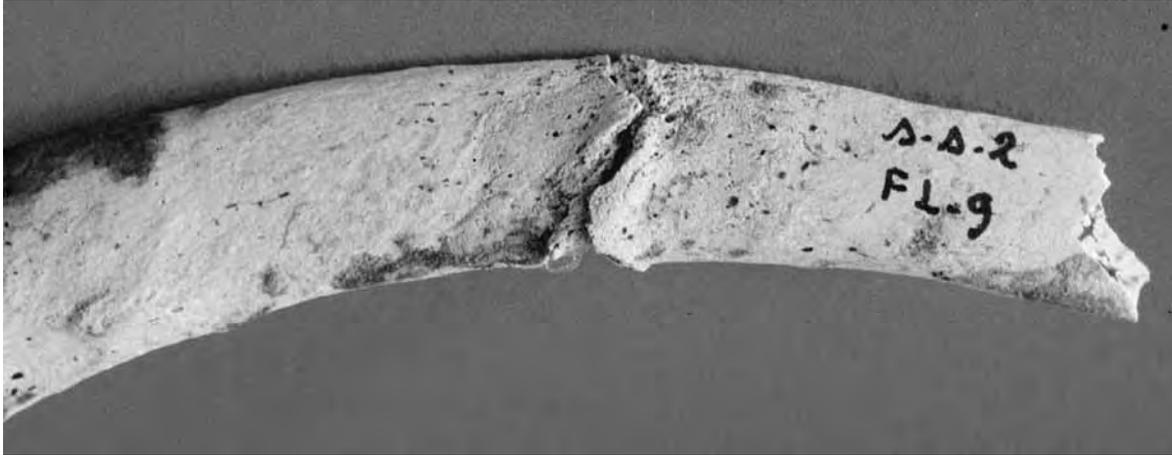


figure 11.9

Healing rib fracture in an individual from Plaza 3A. (Photograph by John W. Verano.)

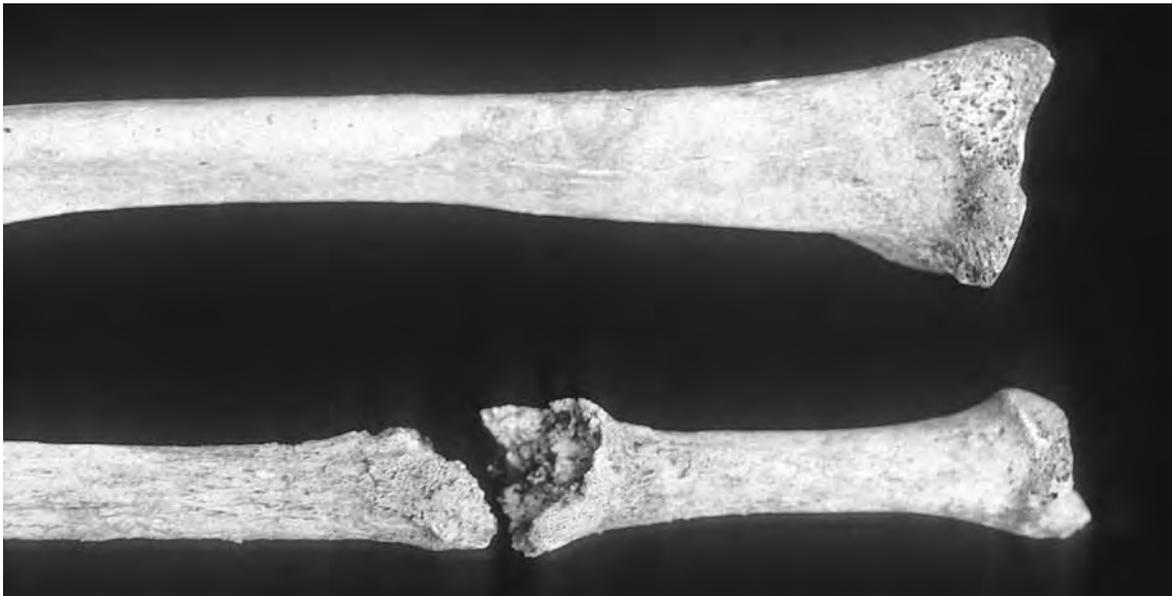


figure 11.10

Parry fracture of the left ulna of a sacrificial victim from Plaza 3C, showing a bony callus in the process of formation at the time of death. (Photograph by John W. Verano.)

from Plazas 3A and 3C, located east of Platform I of the Pyramid of the Moon (Figure 11.8).

The sacrificed captives at the Pyramid of the Moon are a highly selected group. Their demographic profile is restricted to adolescent and young adult males (Verano 2001, 2008), and they show evidence of a particularly active and hazardous

lifestyle. A recent study by Sara Phillips (2009) confirms that the healed fracture frequency in this group is significantly higher than in cemetery samples from other Moche sites (Castillo Butters, this volume; Verano 1997:198–200) and that the locations and types of fractures (skull, ribs, forearms, hands) are consistent with injuries sustained

in violent encounters. These were young men with prior combat experience.

Importantly, at the time of death some victims had fractures in the early stages of healing—apparently wounds suffered in combat or following capture. They include fractures of the forearm, shoulder blades, ribs, nose, and bones of the hand (Figure 11.9). The three forearm fractures found in Plazas 3A and 3C are transverse fractures of the distal third of the left ulna, classic examples of what are known clinically as “parry” fractures (Figure 11.10; Judd 2008). Parry fractures typically result when the arm is raised in an attempt to block a blow. Scapula, rib, hand, and nasal bone fractures also commonly result from physical violence (Walker 1997). While we do not know how long victims lived after suffering these fractures, modern clinical data on fracture repair—the degree of healing present—indicate a minimum of several weeks (Ortner 2003; Sauer 1998). Thus, it is clear that at least for some victims, death did not promptly follow defeat in combat. Wounded captives may have been brought to the Pyramids of Moche from distant locations, as is implied by Moche depictions of captives being forced to march across deserts and over hills (Makowski et al. 2011:241). Extended ceremonies associated with the presentation and display of captives also may have delayed their deaths.

Identity of Victims

Key to understanding sacrificial practices at the Pyramid of the Moon is the identity of the victims. Were they captives taken in battles distant from the Pyramids of Moche and brought back for sacrificial rituals? Or were they members of the local Moche ruling class who fought one another in one-on-one duels? A study of Moche portrait vessels by Christopher Donnan (2004) has shown that some portraits appear to depict the same individual at different ages, marking distinct moments in their life history: as a youth, as a high-status individual wearing elaborate headdresses, and finally as a captive stripped of emblems of rank and presumably

awaiting sacrifice (Donnan 2004). Unfortunately, the identity of these individuals and the significance of these portraits are unknown.

Ceramic vessels in the form of bound prisoners are common at the Pyramids of Moche. Broken fragments of them were recovered in direct association with sacrificial victims in Plazas 3A and 3C, and dozens of whole vessels have been found as funerary offerings in tombs at the site. Most of these appear to be generic depictions of captives rather than portraits of specific individuals (Figure 11.11), although according to Donnan (2004:137), the fifty-two unfired prisoner vessels excavated by Steve Bourget in Plaza 3A all show differences in details such as face paint, suggesting that they represent distinct individuals. The question remains: do these vessels represent members of the local elite, or are they enemy captives?

Recent attempts to identify the genetic characteristics and population affiliation of the Plaza 3A and 3C victims using mitochondrial DNA (Shimada et al. 2005; Shimada et al. 2008) and dental morphological traits (Sutter and Cortez 2005) represent innovative approaches, although the results of these studies are not in agreement. Izumi Shimada and colleagues found the Plaza 3A sample internally homogeneous and similar to mtDNA sequences in a small comparative sample of burials at the Pyramid of the Moon, which suggested to them that the sacrificial victims may have been drawn from the local population. In contrast, Richard Sutter and Rosi Cortez’s study found that the Plaza 3A sacrificial victims showed dental morphological trait frequencies that were distinct from a sample of Moche burials from the site, supporting their hypothesis that they were captives brought from another location. Attempts to extract and amplify mtDNA from Plaza 3C skeletons have been unsuccessful, but more recent analyses of dental morphological trait frequencies of both the Plaza 3A and Plaza 3C sacrificial victims have found statistically significant differences between them, samples from the Pyramids of Moche, and comparative samples from other Moche sites (for a detailed description of methods and statistical analyses, see Sutter and Verano 2007).

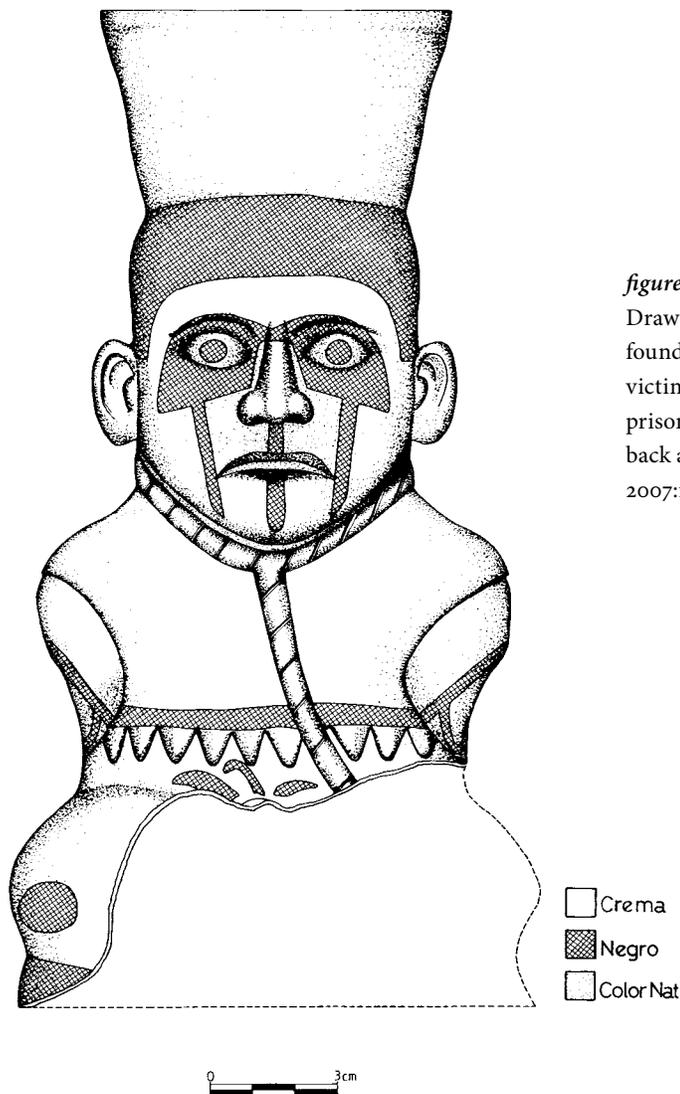


figure 11.11

Drawing of an incomplete ceramic vessel found associated with the sacrificial victims in Plaza 3C: it depicts a seated prisoner with hands bound behind the back and a rope around the neck (Armas 2007:183). (Drawing by José Armas.)

The differing results that have emerged from the mtDNA and dental morphology studies might be due to small sample sizes and the challenges of using mtDNA to reconstruct genetic relationships. Mitochondrial DNA only reflects maternal inheritance and has been shown in some studies to correlate poorly with genetic distances derived from nuclear DNA (Williams et al. 2002) and other bio-distance measures (Shimada et al. 2008). Dental morphological traits, which reflect both paternal and maternal inheritance, may serve as a better measure of biological relationships. Dental morphology data now have been collected from a number of sites in the Moche Valley as well as other North Coast valleys, providing a larger comparative

framework for examining issues of biodistance and population relationships (Sutter 2009; Sutter and Verano 2007). Additional avenues for investigating the origins of the Pyramid of the Moon victims are currently being explored. Preliminary results of a new study by Marla Toyne and colleagues (2010), in which they analyzed the oxygen isotopic composition of bones and teeth, demonstrate differences between tooth and bone values and suggest nonlocal origins for at least some of the Plaza 3A sacrificial victims. Additional skeletal samples are needed to clarify these issues. However, one could argue that the way the Moche treated their captives—both before and after their deaths—provides additional insight into the identities of the victims.

Treatment and Execution of Captives

In Moche art, the humiliation of captives is an important part of what Donnan (2010) has termed the “warrior narrative.” Captives are shown stripped of their weapons, clothing, and adornments, with ropes around their necks, being led away by a captor who prominently displays his captive’s arms and finery hanging from his war club (Figure 11.12). Some scenes show captives being struck on the face and made to bleed. That captives were physically abused and tortured is supported by the osteological evidence, which includes fractured noses, cuts on some skulls indicating slashing of the scalp and flaying of the face (although this may be postmortem defleshing), as well as cut marks on fingers and toes (Verano 2001; Verano et al. 2008).

Although some victims show fractures from blows to the head, the standard means of dispatching captives was by slashing their throats. This treatment is consistent with Moche iconography, where captives are shown having their throats slit and their blood collected. Multiple cuts to the anterior neck are ubiquitous in the sample. Of particular interest is the number of cuts seen in the neck vertebrae of these victims. Only rarely has an individual been found with a single cut mark. Typically, numerous cuts are present on multiple cervical

vertebrae (Figure 11.13), indicating repeated slashing of the throat. While the objective appears to have been to produce massive bleeding, multiple deep cuts to the neck would not be necessary to achieve this goal. Repeated slashing suggests a performative, rather than strictly practical, approach to throat slitting. If Moche prisoner sacrifice was conducted before an audience, which seems likely, the repeated slashing would have had dramatic visual impact.

The Postmortem Fate of Sacrificial Victims

In my opinion, one of the keys to interpreting the context and meaning of Moche captive sacrifice is the way in which bodies of the victims were treated. In no case do we have evidence that the sacrificed captives at Moche were given proper burial. Moche funerary practices are well known, and from the most humble graves to the most elaborate chamber tombs, they follow consistent rules regarding body position, orientation, and types of grave offerings (Donnan 1995; Millaire 2002). In Plaza 3A, the bodies of sacrificial victims were intentionally not buried, and the only items that could be considered offerings were broken prisoner vessels. Evidence of sun bleaching on many bones and the presence

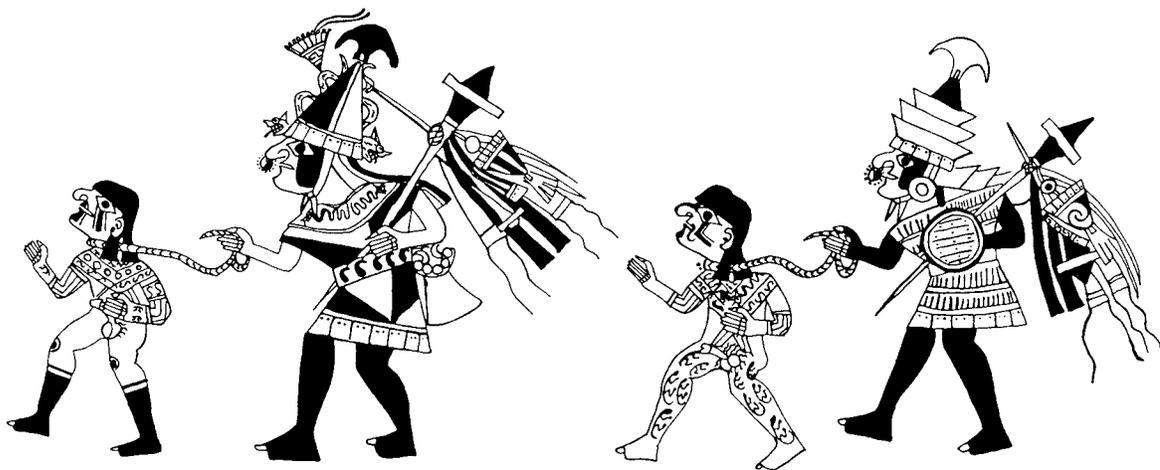


figure 11.12

Nude captives with ropes around their necks being led off by their captors. (Drawing by Donna McClelland.)



figure 11.13
Anterior view of the second through the sixth cervical vertebrae of a Moche sacrifice victim from Platform III: at least thirteen distinct cuts can be seen on the anterior surfaces of the vertebral bodies and on the transverse processes. (Photograph by John W. Verano.)

of large numbers of fly puparia indicate that bodies were left on the surface of the plaza to decompose (Bourget 2001). The number of partially disarticulated skeletons and isolated elements might indicate vulture scavenging as well. We have no evidence that bodies were placed in any consistent orientation, although Bourget (2001) noted examples of paired elements and body positions suggesting that there may have been some manipulation of skeletal elements as well as intact bodies. The intentional dismemberment of bodies with cutting tools can

be ruled out because very few joint surfaces show cut marks. Were bodies manipulated during the decomposition process? This practice now seems likely based on recent research. A taphonomic study of the Plaza 3A skeletal assemblage by Heather Backo (2011) has revealed a systematic pattern of missing elements not explainable by animal scavenging or natural processes such as water transport during heavy rainfall. Element counts reveal that skulls, femurs, and the terminal bones of the fingers and toes are greatly underrepresented in comparison with other bones. Cut marks are rare, however, suggesting that most bones were removed only after the bodies were partially or fully decomposed, with the exception of fingers and toes, where cut marks on remaining hand and foot bones indicate deliberate removal. Thus, we have clear evidence of the manipulation of the remains and the collection of specific body parts, perhaps as trophies.

Defleshed human skulls modified to become vessels (Figures 11.14 and 11.15) have been found in two room complexes in the urban sector of the Moche site (Seoane et al. 2009; Verano et al. 1999). Another was found in recent excavations at the Uhle Platform (Chauchat and Gutiérrez 2008). Severed hands and feet have been found in Plazas 3A and 3C and along the western side of the Pyramid of the Moon near the Uhle Platform. These skulls, hands, and feet presumably were collected from sacrificed captives, and cut marks indicate that they were taken from fleshed bodies.

Excavations in Plaza 3C revealed evidence of more extensive postmortem manipulation of bodies—including defleshing, dismemberment, and the careful arrangement of skeletal remains (Figure 11.16). The defleshing, as indicated by cut marks on muscle attachment areas of limb bones, ribs, vertebrae, the pelvis, and even hand and foot bones, was systematic (Hamilton 2005). While cannibalism cannot be ruled out, the detailed defleshing of parts of the body with little consumable flesh, such as the hands and feet, and a lack of bone fracturing or burning, as well as the fact that joint articulations were carefully maintained, suggests some other objective than removal of flesh for consumption. The purpose appears to have been to systematically

figure 11.14

Modified human skull found in the urban sector of the Pyramids of Moche: the top of the vault was cut away, and the mandible had holes drilled into it, presumably to keep it articulated with the cranium; the drilled hole in the mastoid process may have originally held an adornment of some kind; defleshing cut marks on the cranium and mandible indicate that the trophy vessel was prepared from a flayed head. (Photograph by John W. Verano.)



figure 11.15

Human skullcap with carved bird motif (possibly vultures) found in the urban sector of the Pyramids of Moche. (Photograph by John W. Verano, courtesy of the Huaca de la Luna Archaeological Project.)



deflesh skeletons for suspension and display, leaving the bones articulated by ligaments. Suspension is suggested by the presence of rope fragments around wrists, ankles, and the necks of some of the defleshed skeletons (see Figure 11.16b). The ligaments that hold bones together at the joints, if left intact, would allow a defleshed skeleton to remain

articulated. Over time, however, the ligaments would dry and become brittle, causing articulated limbs and individual bones to fall away. Perhaps this was the point at which a skeleton was “retired from duty.” Such a scenario may explain some of the unusual partial skeletons that we found in Plaza 3C (Figure 11.17). Indeed, Plaza 3C appears to have been



a



b

figure 11.16

(a) Partial skeleton (E7) found in windblown sand above the floor of Plaza 3C: many skeletal elements are missing, and the bones of the lower legs and left foot were inserted into the thoracic cavity before burial. (b) Skeleton E7 after removal of the skull: remains of rope can be seen encircling the neck area; presumably, this rope was used to suspend the skeleton. (Photographs by John W. Verano.)



figure 11.17

Skeleton E19 from below the floor of Plaza 3C: although some portions of the skeleton are in proper articulation, the upper limbs are out of position, all of the ribs are fractured off at the neck, and the vertebral column is separated at the upper thoracic level; this defleshed skeleton came apart or was partially disassembled, then folded and buried in a small pit. (Photograph by John W. Verano.)

figure 11.18

Skeletal remains in architectural fill under the floor of Plaza 3C. (Photograph by John W. Verano.)



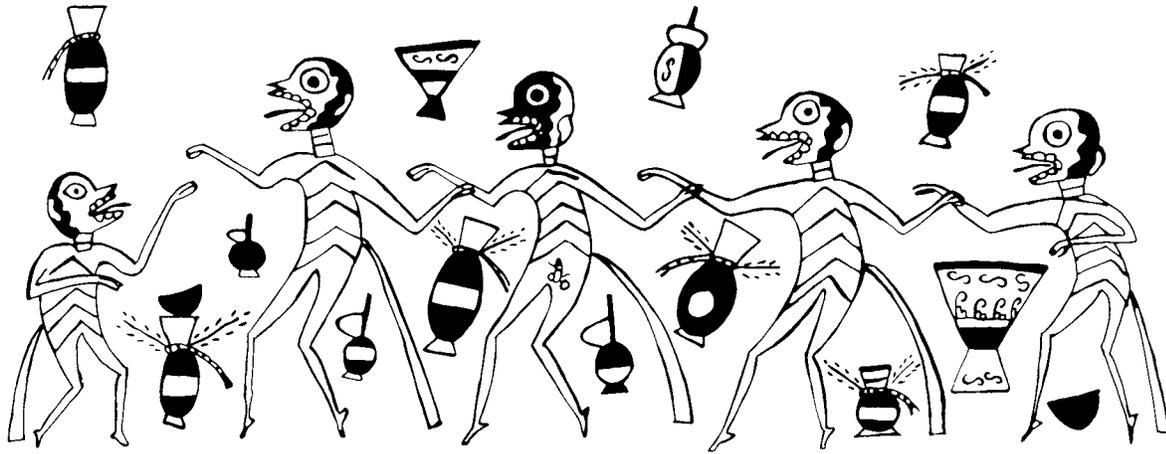


figure 11.19

Moche Fineline showing dancing skeletons. Elizabeth Benson (1975:108) has noted that these skeletal figures are often accompanied by ceramic vessels with ropes tied around their necks, possibly analogous to the ropes placed around the necks of captives, and around the wrists and ankles of severed limbs. (Modeled after a drawing by Donna McClelland.)

a final repository for these prepared skeletons, which were either buried in architectural fill during construction of the plaza or left lying on the surface of a small courtyard there (Figure 11.18).

The ways in which defleshed human skeletons were used is unknown, but perhaps they were displayed as part of the festivities associated with the presentation and sacrifice of captives. Some Moche depictions of human skeletons dancing or playing musical instruments may illustrate defleshed sacrificial victims rather than simply scenes of the afterlife (Figure 11.19; Benson 1975), although I am not aware of any examples showing skeletons suspended by ropes.

Platform III

Additional sacrificial victims come from recent excavations of Platform III, or the “New Temple” at Moche, the location of the well-known mural called the *Revolt of the Objects* (Quilter 1990). Platform III is located on the western flank of Cerro Blanco, northeast of the Pyramid of the Moon (Figure 11.20). Although it had been sporadically explored since the late nineteenth century,

the first intensive excavations of the platform were conducted between 2008 and 2010 under the direction of archaeologist Moisés Tufinio of the Huacas de Moche Project (Uceda 2010; Uceda et al. 2011). Platform III is a late construction at Moche, dating to between AD 800 and 900, and is now understood to postdate the abandonment of the Pyramid of the Moon as a functioning temple. Importantly, recent excavations have uncovered more evidence of human sacrifice associated with a temple richly decorated with friezes depicting familiar Moche themes of warriors, weapons, and captives. While the sample of human remains from Platform III is relatively small, it shows the characteristic signatures of Moche prisoner sacrifice, including the demographic profile of the victims (adolescent and young adult males), the way in which they were killed (slitting of the throat), and the complex ways in which their remains were manipulated postmortem, including by defleshing, selective disarticulation, and the removal and modification of crania.

Skeletal remains excavated in the 2008 and 2009 field seasons comprise the remains of approximately ten individuals. The sample consists of four partial skeletons, three skulls with articulated cervical vertebrae, two partial skulls, two isolated



figure 11.20
Platform III during excavation in 2009. (Photograph by John W. Verano.)

figure 11.21
Skullcap from Platform III that was broken away from the rest of the skull by repeated percussion; cut marks on the parietal and frontal bones indicate that it was prepared from a flayed head. (Photograph by John W. Verano.)



skull fragments, five amputated hands and feet, and various clusters of bones and isolated elements. The remains were found along the external walls of the western and southern sides of Platform III, in deposits of windblown sand.

Backo (2009) analyzed the skeletal material excavated in the 2008 season; I studied the material from the 2009 excavations (Verano and Backo n.d.). Our analyses revealed patterns of cut marks and complex postmortem manipulation of bodies similar to those seen in Plazas 3A and 3C of the Pyramid of the Moon. These patterns include cut marks on cervical vertebrae consistent with both the slitting of the throat and decapitation, as well as cuts on crania and postcranial bones indicating defleshing and dismemberment. The incomplete nature of the remains as well as evidence of the intentional manipulation of the arms (switching of the left and right arms) of one individual are also similar to what was seen in some victims in Plazas 3A and 3C. Three crania were defleshed, and the superior portions of the cranial vault were intentionally broken away (Figure 11.21), similar to an example excavated by Moisés Tufinio in Plaza 3C in 1999. These discoveries at the New Temple are important in demonstrating that the sacrifice of prisoners continued into the final phase of Moche occupation.

Explaining Captive Sacrifice

Why the Moche took captives and sacrificed them at the Pyramids of Moche remains a subject of debate among specialists. Bourget (2001) has argued that sacrifices in Plaza 3A were performed in times of crisis associated with torrential El Niño rains, since the remains of some victims were embedded in dried mud. In excavations of Plaza 3C, we found evidence of occasional rainfall that deposited thin layers of silt over the plaza and caused some minor damage to plastered walls but no evidence of torrential rains (Verano 2008). At Platform III, all of the skeletal material was found in deposits of windblown sand. Thus, the archaeological evidence thus does not support a direct relationship between El Niño rains and human sacrifices in Plaza 3C and Platform III. It is

possible that Plaza 3A represents a special case of a response to environmental crisis and political instability. Overall, however, the evidence suggests that the sacrifice of captives was not a periodic response to catastrophe, but was in fact a long tradition integral to ritual practices at the Pyramid of the Moon. Some of the earliest radiocarbon dates for the Moche site come from sacrifices in Plaza 3C (Uceda et al. 2008; Verano 2008), and sacrifices continued after the abandonment of the Pyramid of the Moon and the construction of the New Temple. Over a span of at least six hundred years, the type of victims chosen, the way in which they were sacrificed, and the treatment of their remains changed little.

Discussion: Continuing Battles

I have suggested elsewhere that the sacrifice of captives functioned to affirm the religious and political power of major centers like the Pyramids of Moche, El Brujo Complex, San José de Moro, and Sipán (Verano 2001). To what degree Moche combat was “real” warfare or simply ritual performance will probably continue to be debated. As is noted in the introduction to this volume and in several of the contributed chapters, all warfare has ritual elements, and any attempt to dichotomize “ritual” versus “real” combat is a futile exercise. My own view is that the archaeological and osteological evidence simply does not support a scenario in which members of the Moche elite from a single site fought one another in bouts of one-on-one ritual combat. In fact, the Moche practice of killing captives, denying them proper burial, and collecting their body parts as trophies is strikingly similar to the way enemies were treated in other warlike societies (Andrushko et al. 2010; Otterbein 2000; Webster 2000), including the Inca (Ogburn 2007; Rowe 1946; Verano 1995; see also Tung 2012, this volume). I find it difficult to imagine that elite members of Moche society volunteered to participate in orchestrated ritual fights where the losers faced humiliation, violent death, and the denial of a proper burial.

If the Moche were not fighting competitors from their own ceremonial centers, with whom

were they fighting? Were prisoners sacrificed at the Pyramid of the Moon taken in territorial conquests? The model of Moche as an expansive conquest state with its capital at the Pyramids of the Moche—first suggested by settlement pattern studies conducted by the Virú Valley Project and later by Brian Billman (1996), David Wilson (1988), and others—has lost some of its popularity over the years, although variants of the model still have their proponents (see Quilter and Castillo 2010 for differing perspectives). Recent archaeological excavations in the northern Moche domain, particularly in the Jequetepeque and Lambayeque Valleys, provide greater support for models of independent Moche polities that shared religious ideology but perhaps had competing political agendas (Alva and Donnan 1993; Castillo Butters 2010, this volume). Regardless of the degree of political unification, it would not be surprising if conflicts over water, land, and other resources led to occasional hostilities within and between coastal valleys, particularly during times of flooding, drought, or other environmental degradation (Moseley et al. 2008; Sandweiss and Quilter 2008). Site surveys in the Moche, Jequetepeque, and Zaña Valleys have documented a dramatic increase in fortified hilltop sites during certain periods (Billman 1997; Castillo Butters 2010, this volume; Dillehay 2001), suggesting times of heightened conflict or at least insecurity. The Late Moche period, in particular, was a time of significant settlement pattern shifts, site abandonment, and the construction of fortified hilltop sites. Perhaps not coincidentally, captive sacrifice flourished at the Pyramids of Moche during this time period.

It remains to be seen whether the sacrifice of captives played an important role in ritual activities at other Moche ceremonial complexes such as El Brujo, San José de Moro, or Sipán. Iconographic evidence from these sites includes depictions of combat and the taking of prisoners in ceramics, metalwork, and in some cases polychrome friezes. Elite tombs at Sipán and San José de Moro contain individuals with items of dress and adornment that correspond to mythical figures in Moche sacrifice scenes (Alva and Donnan 1993; Donnan and

Castillo 1994). However, unlike at the Pyramids of Moche, little or no archaeological evidence of the sacrifice of captives has been found at these sites.

Perhaps evidence of prisoner sacrifice at these sites exists but has not been discovered. The Cuarto de los Cráneos at the site of Dos Cabezas, which contained the severed heads of eighteen adult males (Cordy-Collins 2001), suggests that sacrificial victims and war trophies may be awaiting discovery at sites that have had only limited excavation. Alternatively, there may be a real distinction between the Pyramids of Moche and other major centers. In this volume, Luis Castillo Butters argues that San José de Moro functioned as an important burial site that was shared by multiple competing Moche polities in the Jequetepeque Valley. As a “neutral ground,” it may not have been an appropriate location for the display and execution of captives. Castillo Butters also notes that the Moche River valley has much less arable land than its neighbors to the north and thus may have had a greater need to acquire resources from neighboring valleys, whether through alliances or conquest. Continued excavations at major Moche centers may shed additional light on these questions.

Acknowledgments

I would like to thank the directors of the Huaca de la Luna Project, Santiago Uceda and Ricardo Morales, and my codirector of excavations in Plaza 3C, Moisés Tufinio. Thanks to a dedicated team of graduate and undergraduate students from Tulane University who participated in the excavation of Plaza 3C and the analysis of osteological material during the 2000 and 2001 field seasons: Laurel Hamilton, Cathy Gaither, Lori Jahnke, Anne Titelbaum, Ginesse Listi, Stan Serafin, Mary Sawyer, and Teresa Gotay. I am also grateful to Florencia Bracamonte and Moisés Rivero of the Universidad Nacional de Trujillo, Mellisa Lund of the Universidad Nacional Mayor de San Marcos, and Melissa Murphy of the University of Pennsylvania for their participation in excavation and laboratory analysis. Thanks also to

Tulane anthropology students Heather Backo, Julia Drapkin, Helen Rich, and Kris Krowicki, who assisted with excavation and analysis of skeletons during the 1999 excavations of Plaza 3C under the direction of Moisés Tufinio. José Armas analyzed the ceramic material found in Plaza 3C. Study of the Plaza 3A osteological material was possible thanks to Steve Bourget, who first invited me to analyze the material in 1995. Heather Backo and I are grateful to the Huaca de la Luna Project for allowing us to study the osteological material from Platform III.

Funding for the 2000–2001 Plaza 3C excavations was provided by grants 6784-0 and 7024-01 from the National Geographic Society's Committee for Research and from the Huaca de la Luna Project. The Roger Thayer Stone Center for Latin American Studies at Tulane University kindly provided multiple summer research grants for me, as well as for graduate students. Julia Drapkin and Teresa Gotay received travel funding from the Kenneth J. Opat Fund, Department of Anthropology, Tulane University.

NOTE

1 While a number of Moche depictions of human sacrifice and punishment show vultures feeding on human bodies, physical evidence of vulture scavenging is difficult to identify in skeletal remains. New World vulture species have relatively small beaks that would probably not leave marks

on bone, and they feed preferentially on soft body parts (Rea 1986). A recent experimental study of black vulture scavenging of human cadavers identified scratches on a few bones (Reeve 2009), but these may have been caused by the trampling and dragging of remains rather than by vulture beaks.

REFERENCES CITED

- Alva, Walter, and Christopher B. Donnan
 1993 *Royal Tombs of Sipán*. Fowler Museum of Cultural History, University of California, Los Angeles.
- Andrushko, Valerie A., Al W. Schwitalla, and Phillip L. Walker
 2010 Trophy-Taking and Dismemberment as Warfare Strategies in Prehistoric Central California. *American Journal of Physical Anthropology* 141(1):83–96.
- Andrushko, Valerie A., and Elva C. Torres
 2011 Skeletal Evidence for Inca Warfare from the Cuzco Region of Peru. *American Journal of Physical Anthropology* 146(3):361–372.
- Arkush, Elizabeth N., and Mark W. Allen
 2006 *The Archaeology of Warfare: Prehistories of Raiding and Conquest*. University Press of Florida, Gainesville.
- Arkush, Elizabeth N., and Charles Stanish
 2005 Interpreting Conflict in the Ancient Andes: Implications for the Archaeology of Warfare. *Current Anthropology* 46(1):3–27.
- Armas, José
 2007 Análisis del material ceramográfico de la Plaza 3C. In *Investigaciones en la Huaca de la Luna 2001*, edited by Santiago Uceda, Elias Mujica B., and Ricardo Morales, pp. 177–194. Universidad Nacional de Trujillo, Trujillo.

- Backo, Heather C.
- 2009 Análisis oseológico de los restos humanos sacrificatorios de la Plataforma III, Huaca de la Luna, valle de Moche, Perú. In *Proyecto Arqueológico Huaca de la Luna: Informe técnico 2008*, edited by Santiago Uceda and Ricardo Morales, pp. 173–180. Universidad Nacional de Trujillo, Trujillo.
- 2011 Huaca de la Luna Plaza 3A and the Taphonomy of Human Sacrifice. Paper presented at the Annual Meeting of the Society for American Archaeology, Sacramento.
- Benson, Elizabeth P. (editor)
- 1975 *Death and the Afterlife in Pre-Columbian America*. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Billman, Brian R.
- 1996 The Evolution of Prehistoric Political Organizations in the Moche Valley, Peru. Ph.D. dissertation, Department of Anthropology, University of California, Santa Barbara.
- 1997 Population Pressure and the Origins of Warfare in the Moche Valley, Peru. In *Integrating Archaeological Demography: Multidisciplinary Approaches to Prehistoric Population*, edited by Richard R. Paine, pp. 285–310. Center for Archaeological Investigations, Southern Illinois University, Carbondale.
- Bourget, Steve
- 1997 Las excavaciones en La Plaza 3A. In *Investigaciones en la Huaca de la Luna, 1995*, edited by Santiago Uceda, Elias Mujica B., and Ricardo Morales, pp. 51–59. Facultad de Ciencias Sociales, Universidad Nacional de La Libertad, Trujillo.
- 1998 Excavaciones en la Plaza 3A y en la Plataforma II de la Huaca de la Luna durante 1996. In *Investigaciones en la Huaca de la Luna, 1996: Proyecto Arqueológico Huacas del Sol y de la Luna*, edited by Santiago Uceda, pp. 43–64. Facultad de Ciencias Sociales, Universidad Nacional de La Libertad, Trujillo.
- 2001 Rituals of Sacrifice: Its Practice at Huaca de la Luna and Its Representation in Moche Iconography. In *Moche Art and Archaeology in Ancient Peru*, edited by Joanne Pillsbury, pp. 89–109. National Gallery of Art, Washington, D.C.
- 2005 Who Were the Priests, the Warriors, and the Prisoners? A Peculiar Problem of Identity in Moche Culture and Iconography, North Coast of Peru. In *Us and Them: Archaeology and Ethnicity in the Andes*, edited by Richard M. Reycraft, pp. 73–85. Cotsen Institute of Archaeology, University of California, Los Angeles.
- Castillo Butters, Luis Jaime
- 2000 La ceremonia del sacrificio: Batallas y muerte en el arte mochica. In *La ceremonia del sacrificio: Batallas y muerte en el arte mochica*, pp. 14–29. Museo Arqueológico Rafael Larco Herrera, Lima.
- 2010 Moche Politics in the Jequetepeque Valley: A Case for Political Opportunism. In *New Perspectives in the Political Organization of the Moche*, edited by Jeffrey Quilter and Luis Jaime Castillo, pp. 81–107. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Chacon, Richard J., and David H. Dye
- 2007 *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*. Springer, New York.
- Chauchat, Claude, and Belkys Gutiérrez
- 2008 Excavaciones en la Plataforma Uhle. In *Proyecto Arqueológico Huaca de la Luna: Informe técnico 2007*, edited by Santiago Uceda and Ricardo Morales, pp. 33–78. Universidad Nacional de Trujillo, Trujillo.
- Cordy-Collins, Alana
- 2001 Decapitation in Cupisnique and Early Moche Societies. In *Ritual Sacrifice in Ancient Peru*, edited by Elizabeth P. Benson and Anita G. Cook, pp. 21–33. University of Texas Press, Austin.

- Davis, Whitney
- 1996 Narrativity and the Narmer Palette. In *Replications: Archaeology, Art History, Psychoanalysis*, edited by Whitney Davis, pp. 199–231. Pennsylvania State University Press, University Park.
- Delabarde, Tania
- 2006 Análisis de los restos humanos de la Plataforma Uhle (temporada de campo 1999 y 2000). In *Investigaciones en la Huaca de la Luna 2000*, edited by Santiago Uceda, Elías Mujica B., and Ricardo Morales, pp. 209–216. Universidad Nacional de Trujillo, Trujillo.
- Dillehay, Tom D.
- 2001 Town and Country in Late Moche Times: A View from Two Northern Valleys. In *Moche Art and Archaeology in Ancient Peru*, edited by Joanne Pillsbury, pp. 259–284. National Gallery of Art, Washington, D.C.
- Donnan, Christopher B.
- 1995 Moche Funerary Practice. In *Tombs for the Living: Andean Mortuary Practices*, edited by Tom D. Dillehay, pp. 111–159. *Dumbarton Oaks Research Library and Collection*, Washington, D.C.
- 1997 Deer Hunting and Combat: Parallel Activities in the Moche World. In *The Spirit of Ancient Peru: Treasures from the Museo Arqueológico Rafael Larco Herrera*, edited by Kathleen Berrin, pp. 51–59. Thames and Hudson, New York.
- 2004 *Moche Portraits from Ancient Peru*. University of Texas Press, Austin.
- 2010 Moche State Religion. In *New Perspectives on Moche Political Organization*, edited by Jeffrey Quilter and Luis Jaime Castillo, pp. 47–69. *Dumbarton Oaks Research Library and Collection*, Washington, D.C.
- Donnan, Christopher B., and Luis Jaime Castillo
- 1994 Excavaciones de tumbas de sacerdotisas moche en San José de Moro, Jequetepeque. In *Moche: Propuestas y perspectivas; Actas del Primer Coloquio sobre la cultura moche*, edited by Santiago Uceda and Elías Mujica B., pp. 415–424. Universidad Nacional de La Libertad, Trujillo.
- Donnan, Christopher B., and Donna McClelland
- 1999 *Moche Fineline Painting: Its Evolution and Its Artists*. Fowler Museum of Cultural History, University of California, Los Angeles.
- Franco, Régulo, César Galvez, and Segundo Vasquez
- 1994 Arquitectura y decoración mochica en La Huaca Cao Viejo, complejo del El Brujo: Resultados preliminares. In *Moche: Propuestas y perspectivas; Actas del Primer Coloquio sobre la cultura moche*, edited by Santiago Uceda and Elías Mujica B., pp. 147–180. Universidad Nacional de La Libertad, Trujillo.
- Hamilton, Laurel S.
- 2005 Cut Marks as Evidence of Precolumbian Human Sacrifice and Postmortem Bone Modification on the North Coast of Peru. Ph.D. dissertation, Department of Anthropology, Tulane University, New Orleans.
- Härke, Heinrich
- 1997 Material Culture as Myth: Weapons in Anglo-Saxon Graves. In *Burial and Society: The Chronological and Social Analysis of Archaeological Burial Data*, edited by Claus Kjeld Jensen and Karen Høilund Nielsen, pp. 119–127. Aarhus University Press, Aarhus.
- Hocquenghem, Anne-Marie
- 1987 *Iconografía mochica*. Fondo Editorial, Pontificia Universidad Católica del Perú, Lima.
- 2008 Sacrifices and Ceremonial Calendars in Societies of the Central Andes: A Reconsideration. In *The Art and Archaeology of the Moche: An Ancient Andean Society of the Peruvian North Coast*, edited by Steve Bourget and Kimberly L. Jones, pp. 23–42. University of Texas Press, Austin.
- Judd, Margaret A.
- 2008 The Parry Problem. *Journal of Archaeological Science* 35(6):1658–1666.
- Larco Hoyle, Rafael
- 1945 *Los mochicas (pre-Chimu de Uhle y early Chimu de Kroeber)*. Sociedad Geográfica Americana, Buenos Aires.

- Lau, George F.
 2004 Object of Contention: An Examination of Recuay-Moche Combat Imagery. *Cambridge Archaeological Journal* 14:163–184.
- Makowski, Krzysztof, Miłosz Giersz, and Patrycja Prządka-Giersz
 2011 La guerra y la paz en el valle de Culebras: Hacia una arqueología de fronteras. In *Arqueología de la costa de Ancash*, edited by Miłosz Giersz and Iván Ghezzi, pp. 231–270. Centro de Estudios Precolombinos de la Universidad de Varsovia, Warsaw, and Instituto Francés de Estudios Andinos, Lima.
- Martin, Debra L., and David W. Frayer (editors)
 1997 *Troubled Times: Violence and Warfare in the Past*. Gordon and Breach, Amsterdam.
- Millaire, Jean-François
 2002 *Moche Burial Patterns: An Investigation into Prehispanic Social Structure*. Archaeopress, Oxford.
- Moseley, Michael E., Christopher B. Donnan, and David K. Keefer
 2008 Convergent Catastrophe and the Demise of Dos Cabezas: Environmental Change and Regime Change in Ancient Peru. In *The Art and Archaeology of the Moche: An Ancient Andean Society of the Peruvian North Coast*, edited by Steve Bourget and Kimberly L. Jones, pp. 81–92. University of Texas Press, Austin.
- Murphy, Melissa S., Catherine Gaither, Elena Goycochea, John W. Verano, and Guillermo Cock
 2010 Violence and Weapon-Related Trauma at Puruchuco-Huaquerones, Peru. *American Journal of Physical Anthropology* 142(4):636–649.
- Nielsen, Axel E., and William H. Walker (editors)
 2009 *Warfare in Cultural Context: Practice, Agency, and the Archaeology of Violence*. University of Arizona Press, Tucson.
- Ogburn, Dennis E.
 2007 Human Trophies in the Late Pre-Hispanic Andes. In *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*, edited by Richard J. Chacon and David H. Dye, pp. 505–522. Springer, New York.
- Orlove, Benjamin
 1994 Sticks and Stones: Ritual Battles and Play in the Southern Peruvian Andes. In *Unruly Order: Violence, Power, and Cultural Identity in the High Provinces of Southern Peru*, edited by Deborah A. Poole, pp. 133–164. Westview Press, Boulder, Colo.
- Ortner, Donald J.
 2003 *Identification of Pathological Conditions in Human Skeletal Remains*. Academic Press, Amsterdam and Boston.
- Otterbein, Keith F.
 2000 Killing of Captured Enemies: A Cross-Cultural Study. *Current Anthropology* 41(3):439–443.
- Phillips, Sara S.
 2009 Warriors, Victims, and the Merely Accident Prone: Fracture Patterns in Moche Skeletal Remains from Northern Coastal Peru. Ph.D. dissertation, Department of Anthropology, Tulane University, New Orleans.
- Quilter, Jeffrey
 1990 The Moche Revolt of the Objects. *Latin American Antiquity* 1(1):42–65.
 2002 Moche Politics, Religion, and Warfare. *Journal of World Prehistory* 16(2):145–195.
 2008 Art and Moche Martial Arts. In *The Art and Archaeology of the Moche: An Ancient Andean Society of the Peruvian North Coast*, edited by Steve Bourget and Kimberly L. Jones, pp. 215–228. University of Texas Press, Austin.
- Quilter, Jeffrey, and Luis Jaime Castillo (editors)
 2010 *New Perspectives on Moche Political Organization*. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Rea, Amadeo M.
 1986 Black Vultures and Human Victims: Archaeological Evidence from Pacatnamu. In *The Pacatnamu Papers*, vol. 1, edited by Christopher B. Donnan and Guillermo A. Cock, pp. 139–144. Fowler Museum of Cultural History, University of California, Los Angeles.

- Reeve, Nicole M.
 2009 Taphonomic Effects of Vulture Scavenging. *Journal of Forensic Science* 54(3):523–528.
- Rostworowski de Diez Canseco, Maria
 1999 *History of the Inca Realm*. Cambridge University Press, Cambridge and New York.
- Rowe, John H.
 1946 Inca Culture at the Time of the Spanish Conquest. In *Handbook of South American Indians*, edited by Julian Haynes Steward, pp. 183–330. Government Printing Office, Washington, D.C.
- Sandweiss, Daniel H., and Jeffrey Quilter (editors)
 2008 *El Niño, Catastrophism, and Culture Change in Ancient America*. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Sauer, Norman J.
 1998 The Timing of Injuries and Manner of Death: Distinguishing among Antemortem, Perimortem, and Postmortem Trauma. In *Forensic Osteology: Advances in the Identification of Human Remains*, edited by Kathleen Reichs, pp. 321–332. Charles C. Thomas, Springfield, Ill.
- Seoane, Francisco, Flor Marina Atoche Castro, Kisely Chavez Reyes, Luis Rodrigo Flores, and Gabino Rodriquez Romero
 2009 El Conjunto Arquitectónico No. 42: Un área de prestación de servicios en el sector norte del núcleo urbano moche. In *Proyecto Arqueológico Huaca de la Luna: Informe técnico 2008*, edited by Santiago Uceda and Ricardo Morales, pp. 253–307. Universidad Nacional de Trujillo, Trujillo.
- Shimada, Izumi
 2010 Moche Sociopolitical Organization: Rethinking the Data, Approaches, and Models. In *New Perspectives on Moche Political Organization*, edited by Jeffrey Quilter and Luis Jaime Castillo, pp. 70–82. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Shimada, Izumi, Ken-ichi Shinoda, Walter Alva, Steve Bourget, Claude Chapdelaine, and Santiago Uceda
 2008 The Moche People: Genetic Perspective on Their Sociopolitical Composition and Organization. In *The Art and Archaeology of the Moche: An Ancient Andean Society of the Peruvian North Coast*, edited by Steve Bourget and Kimberly Jones, pp. 179–193. University of Texas Press, Austin.
- Shimada, Izumi, Ken-ichi Shinoda, Steve Bourget, Walter Alva, and Santiago Uceda
 2005 MtDNA Analysis of Mochica and Sicán Populations of Pre-Hispanic Peru. In *Biomolecular Archaeology: Genetic Approaches to the Past*, edited by David M. Reed, pp. 61–92. Center for Archaeological Investigations, Southern Illinois University, Carbondale.
- Strong, William D., and Clifford Evans Jr.
 1952 *Cultural Stratigraphy in the Virú Valley, Northern Peru: The Formative and Florescent Epoch*. Columbia University Press, New York.
- Sutter, Richard C.
 2009 Biological Origins and Relations among Cerro Oreja and Other Prehistoric Northern Andean Mortuary Populations Using Epigenetic Dental Traits. In *Gallinazo: An Early Cultural Tradition on the Peruvian North Coast*, edited by Jean-François Millaire, pp. 125–148. Cotsen Institute of Archaeology Press, Los Angeles.
- Sutter, Richard C., and Rosi Cortez
 2005 The Nature of Moche Human Sacrifice: A Bio-Archaeological Perspective. *Current Anthropology* 46(4):521–549.
- Sutter, Richard C., and John W. Verano
 2007 Biodistance Analysis of the Moche Sacrificial Victims from Huaca de la Luna Plaza 3C: Matrix Method Test of Their Origins. *American Journal of Physical Anthropology* 132(2):193–206.

- Topic, John R., and Theresa L. Topic
- 1997 La guerra mochica. *Revista arqueológica SIAN* 4:10–12. Trujillo.
- 2009 Variation in the Practice of Prehispanic Warfare on the North Coast of Peru. In *Warfare in Cultural Context: Practice, Agency, and the Archaeology of Violence*, edited by Axel E. Nielsen and William H. Walker, pp. 17–55. University of Arizona Press, Tucson.
- Toyne, J. Marla, Christine D. White, John W. Verano, Santiago Uceda, Barbara R. Hewitt, and Fred J. Longstaffe
- 2010 Using Oxygen Stable Isotopes to Explore Residential Histories at Huacas de Moche, Peru. Paper presented at the Canadian Association for Physical Anthropology, Saskatoon.
- Tung, Tiffany A.
- 2012 *Violence, Ritual, and the Wari Empire: A Social Bioarchaeology of Imperialism in the Ancient Andes*. University Press of Florida, Gainesville.
- Uceda, Santiago
- 2010 Theocracy and Secularism: Relationships between the Temple and Urban Nucleus and Political Change at the Huacas de Moche. In *New Perspectives on Moche Political Organization*, edited by Jeffrey Quilter and Luis Jaime Castillo, pp. 132–158. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Uceda, Santiago, Claude Chapdelaine, and John W. Verano
- 2008 Fechas radiocarbónicas para el complejo arqueológico Huacas del Sol y la Luna: Una primera cronología del sitio. In *Investigaciones en la Huaca de la Luna 2001*, edited by Santiago Uceda, Elías Mujica B., and Ricardo Morales, pp. 213–223. Universidad Nacional de Trujillo, Trujillo.
- Uceda, Santiago, Moisés Tufinio, and Elías Mujica B.
- 2011 El Templo Nuevo de Huaca de la Luna, primera parte: Evidencias recientes sobre el Moche Tardío. *Arkinka: Revista de arquitectura, diseño y construcción* 15(184):86–98.
- Umberger, Emily
- 1996 Aztec Presence and Material Remains in the Outer Provinces. In *Aztec Imperial Strategies*, edited by Frances Berdan, Richard E. Blanton, Elizabeth Hill Boone, Mary G. Hodge, Michael E. Smith, and Emily Umberger, pp. 151–179. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Urton, Gary
- 1993 Moieties and Ceremonialism in the Andes: The Ritual Battles of the Carnival Season in Southern Peru. In *El mundo ceremonial andino*, edited by Luis Millones and Yoshio Onuki, pp. 117–142. *Senri Ethnological Studies* 37. Museo Nacional de Etnología, Osaka.
- Verano, John W.
- 1995 Where Do They Rest? The Treatment of Human Offerings and Trophies in Ancient Peru. In *Tombs for the Living: Andean Mortuary Practices*, edited by Tom D. Dillehay, pp. 189–227. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- 1997 Human Skeletal Remains from Tomb I, Sipán (Lambayeque River Valley, Peru); and Their Social Implications. *Antiquity* 71(273):670–682.
- 2001 War and Death in the Moche World: Osteological Evidence and Visual Discourse. In *Moche Art and Archaeology in Ancient Peru*, edited by Joanne Pillsbury, pp. 111–125. National Gallery of Art, Washington, D.C.
- 2008 Communitary and Diversity in Moche Human Sacrifice. In *The Art and Archaeology of the Moche: An Ancient Andean Society of the Peruvian North Coast*, edited by Steve Bourget and Kimberly L. Jones, pp. 195–213. University of Texas Press, Austin.
- Verano, John W., and Heather C. Backo
- n.d. Sacrificios humanos en la Plataforma III de Huaca de la Luna. In *Investigaciones en la Huaca de la Luna 2009*, edited by Santiago Uceda, Elías Mujica, and Ricardo Morales. Universidad Nacional de Trujillo, Trujillo, in press.

- Verano, John W., Moisés Tufinio, and Mellisa Lund Valle
- 2008 Esqueletos humanos de la Plaza 3C de Huaca de la Luna. In *Investigaciones en la Huaca de la Luna 2001*, edited by Santiago Uceda, Elías Mujica B., and Ricardo Morales, pp. 225–254. Universidad Nacional de Trujillo, Trujillo.
- Verano, John W., Santiago Uceda, Claude Chapdelaine, Ricardo Tello, Maria Isabel Paredes, and Victor Pimentel
- 1999 Modified Human Skulls from the Urban Sector of the Pyramids of Moche, Northern Peru. *Latin American Antiquity* 10(1):59–70.
- Walker, Phillip L.
- 1997 Wife Beating, Boxing, and Broken Noses: Skeletal Evidence for the Cultural Patterning of Violence. In *Troubled Times: Violence and Warfare in the Past*, edited by Debra L. Martin and David W. Frayer, pp. 145–179. Gordon and Breach, Amsterdam.
- Webster, David
- 2000 The Not So Peaceful Civilization: A Review of Maya War. *Journal of World Prehistory* 14(1):65–119.
- Williams, Sloan R., Napoleon A. Chagnon, and Richard S. Spielman
- 2002 Nuclear and Mitochondrial Genetic Variation in the Yanomamö: A Test Case for Ancient DNA Studies of Prehistoric Populations. *American Journal of Physical Anthropology* 117(3):246–259.
- Wilson, David J.
- 1988 *Prehispanic Settlement Patterns in the Lower Santa Valley, Peru: A Regional Perspective on the Origins and Development of Complex North Coast Society*. Smithsonian Institution Press, Washington, D.C.