

# 28<sup>th</sup> Northeast Conference on Andean Archaeology and Ethnohistory

State University of New York at New Paltz  
October 3 & 4, 2009

## CONFERENCE SCHEDULE

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### Saturday October 3<sup>rd</sup>

**8:00 - 9:00**      **COFFEE AND BAGELS**

**9:00 - 9:15**      **WELCOME**

9:15 - 9:40      Masucci - *Pryamids, Ritual Platforms or House Mounds? Function and Meaning at Loma de los Cangrejitos, Ecuador*

9:40 - 10:05      Szpak et al. - *Isotopic Evidence for Camelid Diet and Management Practices in the Virú Valley, Northern Peru (Early Intermediate Period)*

10:05 - 10:30      Downey et al. - *Looking for Lithics in the Virú Valley, Perú: Working With Old Sources and New Technology*

**10:30 - 10:45**      **COFFEE BREAK**

10:45 - 11:10      Fuchs and Lorenz - *Sechín Bajo, the origin of ceremonial circular sunken plazas in coastal Perú?*

11:10 - 11:35      Wiersema - *Moche Architectural Vessels: Small Structures that Provide Big Clues about the Role of Architecture in Moche Religion*

11:35 - 12:00      Brooks et al. - *Mercury and Small-Scale Gold Mining in Ancient Perú*

### LUNCH

2:00 - 2:25      Webb et al. - *Exploring Long- and Short-Term Dietary Variability through Stable Carbon- and Nitrogen-Isotope Analysis of Human Tissues from Nasca, Peru (AD 550-1000)*

2:25 - 2:50      Van Hosen and Arriaza - *Characterizing the micromorphology and chemistry of sediments associated with Chinchorro mortuary materials using SEM, EDS, and XRD*

- 2:50 - 3:15 Johnson - *Coastal Geoglyphs Of Peru And Chile – When And Where Did They Originate?*
- 3:15 - 3:30 COFFEE BREAK**
- 3:30 - 3:55 Turner et al. - *Where You Lived or What You Ate: Isotopic Assessment of Pathological Conditions at Machu Picchu, Perú*
- 3:55 - 4:20 Toyne - *Bioarchaeological Identification of Ritual Behaviors at the Temple of the Sacred Stone, Túcume, Perú*
- 4:20 - 4:30 BUSINESS MEETING**
- 5:00 - 5:30 RECEPTION**
- 5:30 - 7:00** Keynote Lecture  
Verano - *Andean Bioanthropology: recent trends and future prospects*

#### Sunday October 4<sup>th</sup>

- 8:00 - 9:00 COFFEE AND BAGELS**
- 9:00 - 9:25 Barnes - *Towards a Biography of John Victor Murra*
- 9:25 - 9:50 Haeberli - *The Impact of Textiles on Central Andean Cultural Chronologies*
- 9:50 - 10:15 Feliciano - *Vengeful Virgins and Subversive Devils in Andean Catholic Dance*
- 10:15 - 10:30 COFFEE BREAK**
- 10:30 - 10:55 Fleming - *Can we ever understand the Inca empire?*
- 10:55 - 11:20 Nystrom and Malcolm - *Sex Specific Phenotypic Variability and Post-marital Residence among the Chiribaya of Southern Perú*
- 11:20 - 11:30 CONCLUDING REMARKS**

#### ACKNOWLEDGMENTS

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## ABSTRACTS (ALPHABETICAL BY AUTHOR)

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### Towards a Biography of John Victor Murra

**Monica Barnes**, Editor, Andean Past (monica@andeanpast.org)

John Victor Murra (1916-2006) was one of the most influential Andeanist scholars of the twentieth century. His ideas have stimulated a important research and much appreciative commentary. Among his greatest works was his life, a true masterpiece of sustained performance art. In his early years he worked consciously to develop a “heroic, masculine” “persona” and later to project the persona of a heroic genius. *Andean Past* 9 contains a section dedicated to Murra including a biography that is a précis of a book-in-progress. Murra’s life was enmeshed with most of the important historical and intellectual movements of his time including Communism, anti-Communism, Fascism, anti-Semitism, immigration, higher education, African decolonization, the Afro-American struggle for civil rights, psychoanalysis, sexual liberation, women’s liberation, the Spanish Civil War, the Second World War, and the Cold War. It took place on a broad stage with significant events in Europe, North America, South America, and Africa. In this paper I explore the satisfactions and angst engendered by the writing of a biography of a pivotal figure whom many still remember.

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### Mercury and Small-Scale Gold Mining in Ancient Perú

**William E. Brooks**, Geologist, Reston, VA 20191 (webgeology@aim.com)

**Gabriela Schwörbel** and **Luis Enrique Castillo**, Museo Nacional de Arqueología, Antropología, e Historia del Perú, Lima, Perú (carellano@inc.gob.pe)

The volume of gold provided by the Inka king, Atahualpa, as ransom for his release from the Spanish in 1532 is hard evidence for the efficient small-scale gold mining that took place *before* European contact as well as the number of placer, vein, and porphyry gold occurrences in the ancient Andes. Mercury and cinnabar, the most common ore of mercury, were available at Huancavelica, Perú; mercury occurred as a native metal and cinnabar was used for pigments, funeral preparations, and retorted to obtain mercury. Small-scale gold mining is the oldest, ongoing use of mercury and dates to 8,000 years ago in Turkey.

Using Induced Coupled Plasma analysis, 8 ppm mercury was found in gold after amalgam was burned (refogado) in the modern gold shops in Madre de Dios, Perú. From 12.3 to 13.9 ppm mercury was found in worked gold foils from Huaca la Ventana, a Middle Sicán (A.D. 900-1200) site at Lambayeque, Perú. The presence of low levels of mercury in analyses of modern refogado gold and ancient gold are consistent with and indicate a comparable, ancient technology that used mercury to amalgamate the fine-grained placer and vein gold, and then, as now, burning the amalgam to volatilize the mercury, beautify, and recover the gold.

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## Looking for Lithics in the Virú Valley, Peru: Working With Old Sources and New Technology

Jordan Downey, Victoria Garcia, and Flannery Surette The University of Western Ontario  
(jtdowney@gmail.com, vic\_gar12@hotmail.com, fsurette@uwo.ca)

The goal of this paper is to highlight the problems encountered in relocating and resurveying a selected group of sites in the Virú Valley, using Gordon Willey's 1953 publication. This survey is the first step in a dissertation project focusing on the development of regional and temporal lithic traditions on the north coast of Peru. Despite successfully surveying fifteen sites over two weeks, the project was hampered by incongruities between the original maps and modern digital equipment, as well as by the current state of the landscape that has been significantly altered by agricultural development in recent decades. We will discuss the importance of surface survey and aerial photography from past and present sources in relation to our work, our solutions to the problems we encountered in the field, and our plans for additional survey work next field season.

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## Vengeful Virgins and Subversive Devils in Andean Catholic Dance

Wilma Feliciano, State University of New York at New Paltz (feliciaw@newpaltz.edu)

Peruvians celebrate their mestizo heritage with sacred dances to their town's patron saint in five-day festivals called *fiestas patronales*. On the surface Catholic devotion moves the action, but allusions to Mother Earth and ancient titular gods imbue the story with older forms of worship. Drawn from religious and historical texts, these dance-dramas favor spectacle, music and dance more than dialogue to appeal directly to the divinity, entertain the crowds, and regale the land. Spiritually, these dances are the highest offering rendered to the holy patron. Culturally, they summarize the dual identity of Andean peoples by accommodating Catholic deities within their ancestral pantheon. Socially, the fiesta affirms a collective identity, enhances the social status of the dancers, and provides relief from the daily struggle to survive in a hostile environment. The latent threat of punishment from vengeful virgins always avid of a spectacular cult looms over the ritual and entertainment; a lackluster performance could mean an accident or crop failure. Even the devils are not as frightful as the virgins. In the Andes, reverence entails devotion and fear.

This presentation examines the inversions of good and evil in two dance-dramas performed in honor of the Virgin Mary in Peru. The performances are meant to please and placate the Virgin while promoting wholeness and well-being. I filmed both on site during each town's *fiesta patronal* and later edited them into short videos: "El Apu Inca God of Sapallanga" from the central highlands, and "The Little Devils of Túcume," from the northern coast. The "Apu Inca" recalls the grandeur of the Empire and laments the conquest of Peru. Based on the medieval "Dance of the Seven Vices" the "Little Devils" are more tricksters than demons. My goal is to explore how the dancers transform Catholic deities, honor Andean sacred geography and re-interpret their history to shape their ethnic and spiritual identity. Born under colonialism, the dance-dramas have evolved into a theater of resistance and self-affirmation that questions the validity of imposed abusive icons: the Virgin, the Devil and the Conqueror. Both subvert traditional Catholic beliefs to privilege an Andean worldview and reveal a superficial Christian evangelization. By analyzing the cultural memory embodied in Andean Catholic dances, this presentation aims to reach beyond words and interpret the hidden messages behind the performances.

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## Can we ever understand the Inca empire?

**David Fleming**, Graphics Editor, Andean Past (david@andeanpast.org)

Those who study the Inca empire face a fundamental problem. In its own terms, the Inca dominion has remained stubbornly prehistoric, with an internal history as impenetrable as those of Minoan Crete or the Indus Valley, high civilizations that left us written records that we have not, until now, and after decades of work, been able to decipher with any degree of certainty. The Incas' own records, the knotted cords known as *quipus*, still resist the efforts of dedicated scholars, and the complexities of imperial administration across the vast extent of Inca control remain shrouded behind a screen of twisted fibers. Given the absence of reliable internal historical data, the temptation to see the Inca through the prism of one's own experiences has been, and remains, overwhelming. This paper examines the various forms that these interpretive visions have taken, and shows how shifting intellectual fashions over the past five centuries have remade our views of what is still a little-known polity.

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## Sechín Bajo, the origin of ceremonial circular sunken plazas in coastal Peru?

**Peter Fuchs** and **Bernhard Lorenz** (lorenz@geophysik-lorenz.de), Institute for Latin American Studies, Freie Universität Berlin

The ceremonial complex of Sechín Bajo is situated in the Casma Valley on the Peruvian north coast. The valley is well known for its concentration of large early sites with monumental architecture of the "Initial Period". The area around the main platform of Sechín Bajo had been investigated during the last six years through a project of "Freie Universität Berlin". It combined archaeological investigations, geophysical surveys and restoration works. The project was funded by the German Research Foundation, DFG, and conducted by Dr. Peter Fuchs, Institute for Latin American Studies, in cooperation with the INC Peru. The most recent excavations, 2005 to 2009, indicate that the earliest structures, detected by high resolution transientelektromagnetic (GEM300) and ground penetrating radar (GPR) surveys, were built during the second half of the 4<sup>th</sup> millennium BC. The earliest part of the ceremonial site was a platform consisting of stones held together with clay plaster over a length of at least 40 meters with a height of 2 meters. From the platform a staircase made of rectangle shaped mud bricks led down into a circular sunken plaza. The platform was extended laterally several times and three additional circular sunken plazas were built over the original one. On the top of the platform are still remain of higher parts of the building as well as several walls and fireplaces. Several radiocarbon dating samples have placed the platform and its sunken circular plazas in the period 3500-3000 BC, making it one of the oldest ceremonial sites in the Andes. The whole complex has been carefully covered with sand and gravel and a rectangle shaped building was later constructed above the platform and the sunken plazas. This much larger building is covering a surface of approximately 125 meters by 150 meters. The later building has been placed in the period between 2100 and 1600 BC, so the ceremonial site of Sechín Bajo documents building history lasting over a period of 2000 years. The latest evaluation of GPR data shows more remains of buildings of the early period still to excavate.

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## **The Impact of Textiles on Central Andean Cultural Chronologies**

**Joerg Haeberli** (jhaeberli@optonline.net)

Ceramics and their manufacture, their shapes and iconographies have been a cornerstone for archaeologists to determine cultural chronologies. Ceramics have been and are useful because they tend to preserve well over time. Textiles do not preserve well except under rather specific conditions. As a consequence they tend to be neglected by archaeologists. Peru, Bolivia and Chile are blessed in having select regions where textiles preserve well due to very dry and in some cases dry, cold, high altitude conditions.

Recent Andean cultural chronologies are essentially based on ceramics, on details in vessel shapes and iconography and related radiocarbon dates. Frequently the samples used for dating was charcoal which too often was not directly associated with the ceramic context. Charcoal, except from twigs, grasses or directly adhering to a vessel, is associated with uncertainties, particularly recycling of wood. Textiles whose iconography can be correlated with ceramic iconography do not raise the questions as with charcoal.

There are cultures/traditions whose textiles have complex iconographies but their ceramics are plain or unknown. These cultures would have remained undiscovered were it not for their textiles.

I will present examples where textiles had a significant impact on cultural chronologies and long distance influences.

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## **Coastal Geoglyphs Of Peru And Chile – When And Where Did They Originate?**

**David Johnson** (globaldj@optonline.net)

When I began investigating the Nasca lines I thought they were unique however as my survey area expanded I realized the Nasca Lines are not alone. Since 1996 I have studied geoglyph sites along a thousand miles of Peru and Chile's coastal desert. Throughout this region I found Nasca style geoglyphs consisting of geometric shapes and biomorphs. All of the geoglyph patterns documented aquifers and were associated with fresh water sources as well as cemetery and habitation sites. Some of the sites predated while others were contemporary or post-dated the Nasca. It appears geoglyphs were constructed in a number of coastal regions by different cultures either during the same or different historical periods. This poses an intriguing question, did the use of geoglyphs originate in the Rio Grande de Nasca and Ica drainages or was it imported into this region?

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## **Pyramids, Ritual Platforms or House Mounds? Function and Meaning at Loma de los Cangrejitos, Ecuador**

**Maria Masucci**, Drew University (mmasucci@drew.edu)

An ancient cemetery near the modern port of Chanduy, southwestern Ecuador, captured public attention in the 1960s. The cemetery and an adjacent area of earthen constructions were labeled "Loma de los Cangrejitos", a "ceremonial center with earthen pyramids". Years of disturbance posed challenges to discerning chronology, function and the meaning of the site. A multi-year project of regional survey, systematic coring and excavation defines an initial occupation which thrived on use of the rich coastal estuary habitat (ca. AD 700). Domestic midden remains were leveled and buried below a series of platforms constructed following a pattern of layers created from mixing local sediments. The terrace was also transformed in shape and offered impressive

stepped entry and walled entrances. Open space between platforms was paved with caliche which still contained the remains of broken vessels and a collapsed wattle and daub structure which may represent the final events at the site. Small, house sites cover the surrounding area. Loma de los Cangrejitos began as just one of many terrace homesteads but was intentionally transformed into a raised, zoned, layered setting which was a part of but apart from its surroundings. Now that we have confirmed when and what we can begin to address why.

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## **Sex Specific Phenotypic Variability and Post-marital Residence among the Chiribaya of Southern Perú**

**Kenneth Nystrom**, State University of New York at New Paltz (nystromk@newpaltz.edu)  
**Christine Malcolm**, University of Chicago

Isotopic and biodistance analyses have been able to document significant aspects of social organization and resource utilization among Chiribaya groups along the south coast of Perú. Chiribaya affiliated groups belonged to an overarching *señorio* with internal ethnic differentiation based upon resource specialization; coastal *pescadores* that exploited marine resources and inland agricultural *labradores*. Despite clear differences in cranial modification styles and economic specialization, it has demonstrated that there was no pattern in the biological distances between Chiribaya groups, suggesting that economic specialization and geographic distance were not barriers to gene flow. Small amounts of gene flow, either through political marriages or annual rituals, may have eliminated between-group genetic differences. Additionally, strontium isotope analyses have documented the presence of non-local individuals. The current research will complement these efforts by examining sex-specific phenotypic variability in order to elucidate postmarital residence patterns

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## **Isotopic Evidence for Camelid Diet and Management Practices in the Virú Valley, Northern Peru (Early Intermediate Period)**

**Paul Szpak** (pszpak@uwo.ca), **Christine D. White**, **Jean-Francois Millaire**, **Fred J. Longstaffe**,  
The University of Western Ontario

This study presents stable isotope ( $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  of bone collagen) data for butchered camelids from the Early Intermediate period occupations at Huaca Santa Clara and Gallinazo Group in the Virú Valley of northern Peru. There is great variability in camelid diets at these two sites, but the animals do not cluster clearly by management practice (i.e. maize provisioning versus grazing on wild  $\text{C}_3$  grasses). Because these data contrast with those from modern highland animals, which demonstrate a much more restricted diet of  $\text{C}_3$  grasses, we suggest that camelid management practices were quite different in antiquity. There is a positive correlation between collagen  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  values, which has been used previously to suggest marine plant and/or fish consumption by camelids on the Peruvian coast. This interpretation is explored, as well as an alternate explanation involving the fertilization of maize with seabird guano. These data are discussed more generally with respect to animal management practices in South America. The prospect of using isotopic analyses of incrementally growing tissues (e.g. hair, nail) in well-preserved archaeological specimens is also considered as a way of detecting seasonal and short-term variability in diet and animal husbandry practices.

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## **Bioarchaeological Identification of Ritual Behaviors at the Temple of the Sacred Stone, Túcume, Peru**

**J. Marla Toyne**, University of Western Ontario (jmtoyne@gmail.com)

Archaeological residues of ritual are often ephemeral and it can be difficult to reconstruct the actions that created the deposits. Careful examination of perimortem and postmortem manipulation of human remains can provide details to the possible sequence of actions performed and their social meaning. This paper explores the ritual activity signatures inscribed on the physical remains interred near the Temple of the Sacred Stone at Túcume, Peru. Cut marks on the body are consistent with three behaviors: cutting the throat, decapitation and opening the chest cavity. Almost all victims demonstrated each type of trauma to the body suggesting a specific symbolic meaning behind each. This patterning suggests a highly elaborate series of violent ritual behaviors were carried out on a regular basis in association with this location, beginning in the Late Intermediate Period through to the Late Horizon Inca occupation of the site.

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## **Where You Lived or What You Ate: Isotopic Assessment of Pathological Conditions at Machu Picchu, Peru**

**Bethany L. Turner**, Georgia State University (antblt@langate.gsu.edu)

**John D. Kingston** and **George J. Armelagos**, Emory University

The analysis of pathological conditions in human skeletal remains is a fundamental aspect of bioarchaeology, revealing key patterns of malnutrition, stress, and disease in antiquity and linking them to cultural features such as state formation, gender stratification, class inequity, and social change. However, the majority of pathological conditions have limited interpretive significance because they are nonspecific. Even those indicative of more specific conditions, such as anemia or systemic infection, may have multiple causal factors. This can limit interpretations and comparisons of the frequency and distribution of pathological conditions among populations.

This study broadly differentiates dietary and environmental causal factors of common pathological conditions through multi-isotopic and osteological analyses of the skeletal population from the site of Machu Picchu, Peru (N=74). Isotopic data from this population have identified substantial immigration and wide variation in early-life residence, which may indicate considerable variation in the stressors precipitating childhood pathological conditions. Therefore, scored dental and cranial markers of early-life stressors were statistically analyzed against isotopic data representing early-life diet ( $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ ) and residential origin ( $\delta^{18}\text{O}$ ,  $^{87}\text{Sr}/^{86}\text{Sr}$ ,  $^{208}\text{Pb}/^{204}\text{Pb}$ ) in tooth enamel and dentin.

Statistically significant relationships were found between several conditions and specific isotopic parameters. In particular, results for conditions such as porotic hyperostosis and cribra orbitalia suggest that early-life environment—rather than diet—is etiologically important in their formation. These results present new avenues for interpreting pathological conditions in archaeological populations. This study was funded by the National Science Foundation (BCS-0615409) and the Department of Anthropology at Emory University.



## **Characterizing the micromorphology and chemistry of sediments associated with Chinchorro mortuary materials using SEM, EDS, and XRD.**

**John Van Hoesen**, Green Mountain College (vanhoesenj@greenmtn.edu)  
**Bernardo Arriaza**, Instituto de Alta Investigación in Arica

We analyzed mortuary material from black Chinchorro mummies using SEM, EDS, and XRD to better characterize the origins of unique sediments and surface coatings. Sediment was extracted from within the mummies and surface samples were taken from clay masks coating the mummies. SEM and EDS analyses suggest the sediment is a mixture of sand and clay particles containing abundant gypsum, halite and rare zeolites and that the mask coating is primarily manganese. XRD analyses indicate the mineralogical composition of the sediment is dominated by quartz, albite, sanidine, muscovite and the manganese rich coating is primarily psilomelane, pyrolusite, and possibly rhodochrosite. The Chinchorro needed a suitable source for both the sediment and relatively pure manganese to support their mortuary practices. Although these two materials have distinctive chemical signatures, modern chemical corollaries within the region of Arica have yet to be discovered. This suggests that either the Chinchorro moved further into the highlands than currently thought to procure these materials or the original sources have since been destroyed, buried or exhausted.

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## **Exploring Long- and Short-Term Dietary Variability through Stable Carbon- and Nitrogen-Isotope Analysis of Human Tissues from Nasca, Peru (AD 550-1000)**

**Emily Webb** (ewebb7@uwo.ca), **Christine White**, and **Fred Longstaffe**, University of Western Ontario

Variability in both long- and short-term diet among individuals from several sites (Cahuachi, Estaquería and Las Trancas Valley) in the southern Nasca region is investigated using stable isotope analysis of bone and hair. Isotope ratios in bone collagen, which reflect average diet over the last 10 to 25 years of life, indicate a general reliance on C<sub>4</sub> plants and C<sub>4</sub> plant-fed animals, but the wide variation among the individuals sampled suggests lifetime differences in food consumption. Short-term cyclical changes in food consumption, mobility and differential access to foods were reconstructed for 18 individuals using segmental analysis of hair, which records a sequential archive of dietary information during the months preceding death. The  $\delta^{13}\text{C}$  values of hair keratin show that patterns of consumption and access to different foods are not consistent among individuals during the period of time represented by each hair sample (ranging from 4 to 34 months). Social and environmental explanations for these data are explored.

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## **Moche Architectural Vessels: Small Structures that Provide Big Clues about the Role of Architecture in Moche Religion**

**Juliet Wiersema**, University of Maryland, College Park (jbwier@umd.edu)

On the north coast of Peru, artisans from the Moche culture (100-800 AD) created ceramic vessels depicting sculpted architectural structures. These objects are believed to have been burial offerings in high status tombs. While Moche architectural vessels have long been utilized by archaeologists to corroborate and even reconstruct extant full-scale Moche architecture, it appears these artifacts may additionally provide important clues about the significance of certain architectural forms and their role in Moche religion.

Until now, scholarship has focused on open gabled structures in the sculpted corpus and in Moche fineline. My recent compilation of roughly 200 Moche architectural vessels reveals, however, that a very different type of structure – the closed gabled structure – emerges as the predominant form in the Moche sculpted architectural corpus. Until now, the closed gabled type has been overlooked. A closer examination of the art historical and archaeological data reveals this architectural type is not only depicted in sculpted vessels and in Moche fineline, but may also have a full-scale counterpart at Huaca de la Luna. All evidence suggests that the closed gabled structure played a key role in Moche religious ritual and served to anchor acts of human sacrifice taking place within the Moche ceremonial complex.