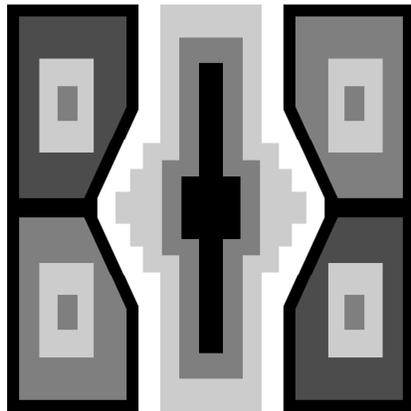


INSTITUTE
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ANDEAN STUDIES

~ *Abstracts* ~



57th
Annual Meeting

JANUARY 6-7, 2017

BERKELEY, CALIFORNIA

Friday, January 6^b

RANDALL HAAS, *University of Wyoming*; JAMES WATSON, *University of Arizona*

Dental evidence for tuber intensification in the Titicaca Basin, 7kya

Recent DNA studies point to the South Central Andes as a likely center of potato domestication. We present independent support for this hypothesis with new observations on dental-wear patterns among a burial population of 7000-year-old foragers discovered at the site of Soro Mik'aya Patjxa, Lake Titicaca Basin. Five of sixteen individuals exhibit lingual surface attrition of the maxillary anterior teeth. This observation along with other dental observations, contextual material evidence, and ethnographic comparisons converge to suggest that the Middle Archaic Period foragers of Soro Mik'aya habitually engaged in intensive tuber processing. New questions and implications for Andean domestication are discussed.

MARIA BRUNO, *Dickinson College*; CHRISTINE A. HASTORF, *University of California, Berkeley*; AMANDA SANTILLI, JAMES CIARROCCA, *Dickinson College*; JEWELL SORIANO, *University of California, Berkeley*; JOSÉ CAPRILES FLORES, *Pennsylvania State University*

Palimpsests of Chiripa landscape management

The most prominent Andean political and ceremonial centers were not isolated architectural complexes but places made more potent by being situated within meaningful and managed socio-natural landscapes. Fine-scale topographic mapping around the monumental center of Chiripa, Bolivia by the Taraco Archaeological Project sheds new light onto a palimpsest of long-term landscape management of the area. Here, we begin to unpack this complex landscape by examining modified hydraulic features including springs, streams, and raised-fields. While this is a first step towards a better understanding of pre-Hispanic management practices, it also reveals significant modifications associated with historic and present-day Chiripa communities.

ALEXANDER HERRERA WASSILOWSKY, *Universidad de los Andes, Bogotá*

Tombs, enclosures and the meeting of waters from Huandoy Glacier in the Cordillera Blanca of Peru

This paper considers the historical ecology of Keushu, a seasonal lagoon on the upper western escarpment of the Cordillera Blanca, at the head of the Ancash River basin. Survey and excavations conducted in this paramount archaeological site of the Ancash River basin (PIA Wanduy 2006-2012) have revealed a deep architectural palimpsest of chullpa and rock-roof tombs, painted and built wanka and enclosures different in plan, carefully delimited and set in relation to the broader landscape as well as to an inter-valley canal harvesting runoff from Tullparaju (Huandoy) glacier (6395 m) into the lake. The long history of "feeding" a relic glacial lake is sketched out, argued as in place by the late Formative Period, and contrasted with current rural development policy.

THOMAS POZORSKI, SHELIA POZORSKI, *University of Texas—Pan American*; ROSA MARÍN, *Universidad Nacional de Trujillo*

New Initial Period friezes and architecture at Taukachi-Konkán, Casma Valley, Peru

Recent excavations within the eastern portion of Taukachi-Konkán have revealed surprising new evidence of clay friezes and architectural forms previously unknown for the Initial Period of coastal Peru. One mound has an associated rectangular plaza that contains distinct friezes on all four of its sides. Frieze content includes sea lions as well as clawed and fanged beings that likely reflect the varied nature of rituals carried out in the area. New architectural forms include asymmetrical entrance patterns and small square columns that add to our knowledge about the complexity of Initial Period society within the Casma Valley.

JOHN W. RICK, ROSA FREGEL, *Stanford University*; ROSA M. RICK, *Programa Arqueológico Chavín*; AUGUSTO BAZAN, *Fundación Augusto N. Wiese, Complejo Arqueológico El Brujo*

Missing history: attempts at explaining an unusual historic burial population from Chavín de Huantar

Starting in 2009, a series of approximately 50 burials of historic age have been recovered in the Monumento Arqueológico Chavín de Huantar by the Programa Arqueológico Chavín. Neither the collective memory or records of the town of Chavín, the apparent expedient and limitedly respectful burial treatment, nor the stratigraphically simultaneous timing of the burials supports this as an organized, customary cemetery. Age, sex, and pathology assessment of the individuals suggests a predominance of males aged from late adolescence through early middle age with histories of violence, with a lesser component of slightly younger females at times accompanied by very young children/neonates. Identifying these interments, and the circumstance of their burial has proved a considerable challenge. This paper reports on the discovery, adds clues from recently obtained genetic analysis, and suggests possible histories capable of explaining the find.

GABRIEL PRIETO, CARLOS OSORES, *Programa Arqueológico Huanchaco, Universidad Nacional de Trujillo*

Social dynamics and climate change during the late Early Horizon and the Early Intermediate Period at Pampa La Cruz, Huanchaco Bay, North Coast of Peru

Pampa La Cruz (Moche valley) has been surprisingly excluded of the academic discussion despite numerous investigations carried out between 1877 and 1992. This site has a long term occupation starting with the so-called “Salinar” society during the late Early Horizon (350-100 B.C.), a strong development during the Early Intermediate Period (0-650 A.D.) and a re-occupation for ritual purposes in the Late Intermediate Period by the Chimú society (1100-1470 A.D.). Current excavations exposed large units, giving a better understanding of the site’s layout and its household component through time. A vast ceramic collection is now studied, providing new insights on the trade networks and political affiliations of this maritime community. This paper will focus on a bottom-up perspective and the relationship between maritime communities with larger socio-political organizations such as the Gallinazo or the Moche state. More important, it will use data obtained from faunal remains to propose that climatic conditions could have been affected the social trajectory of this site.

LUIS ARMANDO MURO, *Stanford University*; LUIS JAIME CASTILLO, *Pontificia Universidad Católica del Perú*

Tracing the Moche spectacles of death: corporeality, performance, and political power in the Jequetepeque Valley, Northern Peru (AD 650-850). A view from Huaca la Capilla-San José de Moro

The transition between life and death in the Andean world is a topic largely addressed by scholars yet, paradoxically, still poorly understood. Despite the great amount of material information to which archaeologists have access, Andean archaeologists have made little attempts to incorporate alternative sources of information in order to attain a more nuanced understanding of death. This research seeks to overcome the limitations of a merely object-centered approach by moving the debate of death toward the concepts of corporeality, transfiguration, and ancestry. By taking San José de Moro, an elite Moche cemetery in the Jequetepeque valley, as a case study, this investigation traces the “spectacles of death” orchestrated at this site. Huaca La Capilla, located on the eastern side of San José de Moro, has intensively been investigated since 2013 and could have constituted the spatial, ritual, and sacred axis for the celebration of these large-scale ritual performances. Participation in these spectacles was, ultimately, indispensable in the process of negotiation and legitimization of political power in the ever-fragmented world of the Moche from Jequetepeque.

GABRIELA CERVANTES, *University of Pittsburgh*

The Sican capital: urban organization in pre-Columbian Peru

Cities that are capitals of large states provide unique information on the sociopolitical political organization and the nature of power and rulership, as they are home to a society's leaders and central institutions. A capital city may be dominated by a centralized single governing institution, or may contain several, suggesting a more segmented form of rulership. I present recent work showing that the capital of the Sican State (800-1375 AD) on the North Coast of Peru presents a dispersed urban pattern with several nuclei. The city has a monumental core for political-religious activities and a dispersed urban pattern with several public and residential architecture complexes.

JOSÉ OCHATOMA PARAVICINO (IAS 2017 TRAVEL GRANTEE), *Universidad Nacional de San Cristóbal de Huamanga*

Nuevas propuestas acerca del desarrollo urbano en Wari

Durante los últimos años se ha realizado investigaciones en la denominada zona sagrada del complejo arqueológico de Wari. Los descubrimientos realizados producto de las excavaciones en el sector de Vegachayuq Moqo, han sacado a luz nuevas evidencias que contradicen propuestas tradicionalmente aceptadas acerca del origen, desarrollo y el colapso de la ciudad capital de Wari. Se ha demostrado que la ocupación del sitio muestra una secuencia continua y cada vez más compleja desde la época Huarpa, cuya arquitectura correspondería a una de las sedes importantes de esta cultura sobre las posteriormente se construyeron sucesivamente otros edificios de la época Wari, cuya ocupación, de acuerdo a la secuencia estratigráfica, tendría tres fases que va desde una forma de organización estatal temprana producto de sus contactos con Nasca hasta su consolidación como estado imperial con la presencia de Tiahuanaco. Se ha puesto de manifiesto que no hay una influencia simultánea de ambas culturas en el surgimiento de Wari, sino de modo sucesivo y claramente definido por una serie de indicadores.

TIFFINY A. TUNG, NATASHA VANG, *Vanderbilt University*; BRENDAN CULLETON, DOUG KENNETT, *Penn State University*

Dietary inequality and indiscriminant violence: a social bioarchaeological study of community health during times of climate change and Wari state decline

A bioarchaeological and isotopic study of Terminal Wari and Post-Wari era human remains from Huari, Peru examines how Wari decline and a long term drought affected health among heartland communities; 25 AMS dates help to characterize those temporal changes among the approximately 240 commingled skeletons. Results show that diets become heterogeneous; the greatest difference is between adult males and females. Adult cranial trauma significantly increases, first in antemortem trauma in Terminal Wari, and then in perimortem (lethal) trauma in post-Wari. Thousands of post-Wari bones also have cut marks, suggesting dismemberment. These dramatic changes suggest the development of marked social inequalities and a significant decline in well-being.

Saturday, January 7th

CAROLE SINCLAIRE A., *Museo Chileno de Arte Precolombino*

Circulación y consumo de textiles Tiwanaku entre los cazadores-recolectores marinos de la costa del desierto de Atacama, Norte de Chile

This paper analyzes and discusses the presence of Tiwanaku textiles in mound cemeteries of marine hunter-gatherers of Formative Period (ca. A.D. 100-700), located at the mouth of the Loa River. They were part of arrays of grave goods that also included local coastal materialities and other foreign-made objects from a variety of provenances that were obtained via interregional interaction. The non-local goods were put into circulation and/or produced by the Formative societies that inhabited the inland territories of Arica and Tarapacá regions and the Atacama Desert, and the coastal population incorporated them into their cultural identity. Possible forms of interaction are proposed to explain the presence of Tiwanaku textiles among these marine hunter-gatherers of the Atacama Desert coast.

ANN POLLARD ROWE, *The Textile Museum/George Washington University Museum, Washington, DC*

A new textile style from the North-Central Coast of Peru

I have recently focused on a group of tapestry tunic fragments that serve to define a previously unknown textile style, with technical features suggesting northern provenience but with non-Chimu designs. Some of the designs relate instead to certain tunics found in the Chancay style area during the Late Horizon, so presumably the style originates not far north of Huaura. Some examples with central or south coast provenience confuse the issue of origin, but the technical features and designs are diagnostic. A suggestion can also be made for an earlier style of tunic, probably from the same area.

GRACE KATTERMAN, *California Institute for Peruvian Studies*

Elite women of Puruchuco

The mummies of three females from Puruchuco Cemetery provide new information on clothing styles of provincial Inca women. All three females were wrapped in colorful dresses indicating that they were of the local elite class. Through the writings of Chronicles, historians, and current archaeological research, their clothing and burial situation provide a window into the social history of their lives prior to the Spanish Conquest and shortly thereafter.

LUIS FERNANDO BÉJAR LUKSIC, JOSÉ MIGUEL BASTANTE ABUHADBA, *Parque Arqueológico Nacional de Machupicchu*

Machu Picchu before the Incas: research advances in the Isla Chico sector of the archaeological monument of Salapunku

Through a consensual review of the main theoretical and interpretative performing on the development of Machu Picchu from the surrounding watershed approaches to the Shrine research advances carried out by the PIAISHM during the 2016 season in Isla Chico Sector are presented. They argue, in terms of relative chronology, the presence of one of the oldest pre-Inca settlements reported in the direct area of the monument, consisting of a long sequence of occupation of more than 2000 years AP. beginning in the Late Formative period (500 BC. - 200 AD.) and ends in the Late Horizon (1400-1533 DC.). Finally, cultural history of the area is discussed by settlements patterns analysis for multi-component sites.

ARTURO F. RIVERA INFANTE, *Centro Peruano de Arqueología Marítima y Subacuática*; PETER KAULICKE, *Pontificia Universidad Católica del Perú*

Terrestrial and underwater archaeology in the northern Sibinacocha Lake Region, Pitumarca-Cusco: a preliminary report

Recent underwater investigation have identified a zig-zag structure and two entire ceramic vessels inside Lake Sibinacocha. Archaeological surveys carried out around the Lake and in neighboring mountains in 2015 and 2016 have helped elucidate the human presence in this area. Occupation of the region was discontinuous, but among the most outstanding archaeological periods is the Archaic, when early sites are located at altitudes higher than 16100 ft. asl. Middle Horizon and Late Horizon materials have been found in association with other important structures. Among these are an Inca Chasqui-tambo reused during colonial times, and a Wanka with surrounding Inca structures.

ALICIA BOSWELL, *Bard Graduate Center and Metropolitan Museum of Art*

Collambay, Chimú and Inca: local-imperial interaction in the Moche Valley chaupiyunga

The chaupiyunga zone, located in the western foothills of the Andes, is an area that produced highly valued resources, but was a politically marginal region inhabited by local, coastal, and highland groups throughout prehistory. Settlement patterns and excavations in the Collambay region of the Moche Valley chaupiyunga indicate that residents were of highland origin and had distinctly different relationships with the Chimú and Inca. A rare opportunity to examine a peripheral community's relationships with two subsequent empires this research contributes to a growing number of studies that indicates the chaupiyunga zone was a fluid zone of interaction among local, coastal, and highland groups.

PETER FROST, *Institute of Andean Studies*; KEVIN FLOERKE, JAVIER FONSECA S., AMERICO MEZA C., *Independent scholars*

Vilcabamba's Yanama River: the space/time boundary of an Inca royal estate?

The Yanama Valley, NW of Choquequirao, reveals striking differences in material culture on opposite banks of its narrow river. East of the Yanama at Qoriwayrachina, we find ubiquitous Inca presence alongside LIP occupation, evident in ceramic, metalworking, and architectural traditions. Conversely, Inca remains are conspicuously absent at a similar occupation on the river's west bank at Wiracochán, a site newly excavated in this study, featuring extensive residential, agricultural and ceremonial construction. This suggests the Yanama River as a frontier between direct Inca control and contemporaneous and/or earlier LIP populations, with potential implications for understanding the Inca occupation at Choquequirao.

SARA MORRISSET, *University of Cambridge, United Kingdom*

Conduits of power: ritualized displays of water at the Inka site of Saksaywaman

Despite the fame and prominent location of Saksaywaman, limited archaeological study has focused on the water system of the notable Muyuqmarka sector of the Inka site. Through interdisciplinary fieldwork with a team of hydraulic engineers, my research systematically investigates the source, plan, and design of the Muyuqmarka water system. Digital modeling was used to illustrate reconstructions of the hydraulic system and the highly unusual architecture of the Muyuqmarka tower. This computer-based analysis argues that the prime purpose of the main tower was to store water used for a set of water manipulation rituals, likely related to securing agricultural fertility.

MACIEJ SOBCZYK, *University of Warsaw*

Apu Coropuna and Maucallacta: structure and functioning of the Inca oracle according to archaeological and historical sources

The Maucallacta architectural complex, located in Arequipa Department in south-central Peru at 3750 m a.s.l., consists of over 250 stone buildings and tombs. The site was one of the most important settlements in Cuntisuyu, one of the four parts of the Inca Empire, and was also the main religious and administrative center related to the cult of the Coropuna volcano, a mountain described by many Spanish chroniclers in the 16th and 17th centuries as a deity and an oracle worshipped in pre-Columbian times. The main purpose of the archaeological project commenced in 2006, (As part of the operating since 1996, the Condesuyos Project) carried out by the Center for Pre-Columbian Studies of Warsaw University (Poland) and the Catholic University of Saint Mary in Arequipa (Peru), is to explore and restore the most important architectural structures documented in Maucallacta. As a result of that work, the intensive destruction of some important structures has been stopped, and some very interesting details of burial rites and the ways offerings were made to the sacred mountain have been discovered. As well as partially reconstructed ceremonial landscape of the region.

MARK DRIES, *University of California, Davis*

The indios mineros of early colonial Huancavelica: the indigenous collaboration in Peru's most infamous mine?

As the only source of the mercury required to refine silver and the most feared site of forced labor in Peru, the mines of Huancavelica occupied a central place in the history of the colonial period. Depictions of indigenous Andeans in Huancavelica have focused on the horrors of forced labor in toxic conditions, but also reduced native agents to the role of passive victims. Through the use of previously ignored sources from Huancavelica itself, this paper examines a crucial group of native intermediaries who negotiated alongside Spanish miners to operate the mines for the crown in return for indigenous labor.

SATURDAY EVENING 8:00 (Open to the public)

STEVE WERNKE, *Vanderbilt University*

Bound together, torn apart: a spatial archaeology and microhistory of forced resettlement in the colonial Andes

The General Resettlement of Indians (Reducción General de Indios) in the viceroyalty of Peru was one of the largest forced resettlement programs by a colonial power in world history. Over a million native Andeans were resettled to compact towns in just a few years during the 1570s. How "reducción" towns were situated and built, how living in them affected daily life in indigenous communities, and why some were abandoned while others endured remain vexing questions. This talk renders these processes in detail through holistic and spatial-analytical research centering on a spectacularly-preserved reducción town in the high altitude reaches of the Colca Valley of southern Peru. Spatial analyses of the settlement and historical demography reveal the processes involved in locating and building the town, as well as the mapping of Andean community onto its urban grid. Combined spatial modeling of movement and visual perception inside the town enables approximation of the experience of dwelling in its built environment. The demographic, political, and economic legacies of colonial resettlement here and elsewhere are also explored.

Posters

Posters will be on display throughout the conference in the Wurster foyer. Poster authors will be available between 1:00 and 1:45 on Friday and 1:30 and 2:15 on Saturday.

JESSICA CHRISTIE, *East Carolina University*

Inka border negotiations on the South-Central Coast

In the Qhapaq Nan system, the primary east-west connector is the westward extension of the Chinchaysuyu road Cusco – Vilcashuaman – Centinela. Recent archaeological work in adjacent valleys has shown that the Inka constructed and maintained other strategic eastwest arteries along the south-central coast: the Lurin valley formed the ritual link between the apu Pariacaca and Pachacamac; another road followed the Canete Valley where the Inka materialized their presence at Inkahuasi and Cerro Azul. Inka strategies will be discussed as manifested in infrastructure and wak'a-making and conclusions will be drawn regarding to how the Inka negotiated order and boundaries.

CHRISTINA A. CONLEE, *Texas State University*; CHESTER P. WALKER, *Archaeo-Geophysical Associates*; JAMES POTTER, *PaleoWest Archaeology*; ALDO NORIEGA, *Universidad Nacional Mayor de San Marcos*

Tracing the remains of Huaca del Loro: remote sensing at a Middle Horizon site in Nasca

The site of Huaca del Loro is the largest local Middle Horizon settlement in Nasca and despite limited early research done by Julio C. Tello and William Duncan Strong in the 1920's and 1950's it remains understudied. A pilot project was conducted using three remote sensing techniques, low altitude aerial photography using a UAV, and geophysical survey using gradiometer and ground penetrating radar (GPR). The goal was to help locate and identify buried remains that could be used to develop a long-term research program. The results were the identification of several areas of buried architecture including large, rectangular compounds.

ALICIA GORMAN, *University of California, Santa Barbara*; KEVIN VAUGHN, *University of California, Los Angeles*; MICHIEL ZEGARRA ZEGARRA, *Universidad Nacional Mayor de San Marcos*

A ceramic perspective on religion and power on the South Coast of Peru

This poster investigates negotiations of power near Ica, Peru through ceramic attribute analysis. The ceramic sample comes from the site of Cerro Tortolita, a primarily 3rd-4th century AD site which contains both ceremonial and habitation zones. Cerro Tortolita's rise coincides with an increase in regional settlement hierarchy in the region. Furthermore, its ceremonial character provides an opportunity to investigate the relationship between religion and emergent inequality. The hypotheses tested concern use of space within the ceremonial zone of the site, and what this can tell us about elite strategies for power and how regular people shaped those strategies.

SARAH L. DOST KERCHUSKY, *University of California, Santa Barbara*; CORINA M. KELLNER, *Northern Arizona University*

Isotopic analysis of Nasca trophy head individuals from Zorropata, Las Trancas Valley, Nasca, Peru

We report preliminary isotope and cortisol data for trophy head individuals recovered during the 2014 excavation season at the site of Zorropata in the Las Trancas Valley, Nasca, Peru. Zorropata is a relatively large (c. 30,000 m²) domestic site with possible ceremonial function occupied relatively continuously from the Middle Nasca period (c. AD 450-550) until the early Middle Horizon (c. AD 750-1000). Stable isotope and cortisol data from hair and teeth highlight a varied childhood diet and stress before death. Strontium data suggests that most of these trophy head individuals were foreigners, in contrast with other Nasca sites.

CHRIS LA PLACA, JOVANA HERNANDEZ, SARAH L. DOST KERCHUSKY, *University of California, Santa Barbara*

Analysis of faunal remains from Zorropata: an EIP and Middle Horizon Nasca habitation site located in the Las Trancas Valley, Nasca, Peru

This poster reports results of the analysis of faunal remains recovered during the 2014 excavation at Zorropata, a relatively large (c. 30,000 m²) domestic site located in the Las Trancas Valley, Nasca, Peru. Faunal remains (n = 704) were recovered from habitation and possible ceremonial contexts at Zorropata, and date to the EIP (c. AD 1-650) and the early Middle Horizon (c. AD 650-1000). Due to the fragmentary condition of the remains identifications beyond the family or genus taxonomic level were rarely possible. We discuss our observations concerning identified taxa, including large (e.g., artiodactyla) and small mammals (e.g., lagomorpha, rodentia), and fish.

MADISON E. LEE, EMILY A. SCHACH, JANE E. BUIKSTRA, *School of Human Evolution and Social Change, Arizona State University, Tempe*

The children of Chuza: a mortuary analysis of a Late Intermediate Period site located in Ilo, Peru

Children learn identities and roles through a process of socialization. We examine this process at Chuza, a Late Intermediate Period site located on the southern Peruvian coast. The cemetery at Chuza contains 98 tombs, containing 103 individuals including 51 subadults. We examine the socialization process by comparing the mortuary contexts of adults and subadults. Results from Chuza are then contextualized within the Chiribaya polity through a comparison of grave goods from other Chiribaya sites, including Chiribaya Alta. We thus ascertain whether or not children from Chuza were socialized in a manner similar to children from Chiribaya communities located inland.

WESTON C. MCCOOL, *University of California, Santa Barbara*

Optimizing defense: assessing the relationship between fortification investment and settlement accessibility

Researchers in numerous regions have posited that intra-site variation in fortifications is driven largely by accessibility, whereby fortifications are emphasized along a settlement's easiest approaches, and deemphasized or absent in areas with adequate natural defenses. This link between accessibility and defensive design has yet to be tested quantitatively. This poster presents statistical and GIS analyses that test the relationship between these two variables at twelve fortified settlements in the Southern Nasca Region dating to the Late Intermediate Period (AD1000-1450). Results indicate that accessibility is a good predictor of variation in intra-site fortification at the majority of sites.

MARGARET NELSON, CORINA M. KELLNER, *Northern Arizona University*; DANIELLE S. KURIN, *University of California, Santa Barbara*

Witnessing the death of an empire: paleodiet reconstruction at Turpo, Peru, A.D. 800-1000

Turpo, a Middle Horizon community dated to AD 890-990 in the Andahuaylas Valley, serves as a test population for paleodiet reconstruction, illustrating how dietary habits can be used as a proxy for stress during collapse. Bioapatite and collagen from fragments of first ribs (n=8) and femora (n=13) were analyzed for carbon, nitrogen, and oxygen isotope values. The analysis revealed a maize-centric diet with varied inclusions of C₃ plants and terrestrial C₃ and C₄ protein. Dietary variation indicates unfettered access to resources across the landscape, suggesting the decline of the Wari Empire did not severely affect the Turpo population dietary habits.

CARLOS OSORES, GABRIEL PRIETO, *Programa Arqueológico Huanchaco, Universidad Nacional de Trujillo*

The fishermen and their dogs: a case study of Pampa La Cruz, Moche Valley, Peru

This investigation is focused on the relationship between ancient dogs (*Canis lupus familiaris*) and a residential settlement of the Early Intermediate Period (AD 0-650). Specifically, this poster deals with the presence of dog remains in domestic refuse, ritual caches and funerary context at the site of Pampa la Cruz located in the Moche Valley. Even though animals in ritual context have been explored in the Central Andes (Goepfert 2008, 2012; Prieto et. al. 2015; Rofes and Wheeler 2003; DeFrance 2009), few study cases associated to dogs have been analyzed in the archaeological context. Also, based on our data, we review morphotypes and breeds identified in the archaeological record (Málaga 1977; Mendoza and Valadez 2006; Allen 1920). At Pampa la Cruz, five complete dogs were analyzed as well as other remains recovered in the site's middens and ritual caches or votive offering placed in the domestic units. Furthermore, we have made comparisons with contemporaneous sites like Huaca de la Luna where there is evidence of dog in different types of contexts (Vasquez et al. 2009). The main goal this poster is to produce relevant information about identification of dog remains, and human interactions with these animals in a residential context.

DOMINIKA SIECZKOWSKA, *Centro de Estudios Andinos, University of Warsaw*; JOSE BASTANTE, *Ministerio de Cultura, Cusco*

¿El sitio de Chachabamba como el caso único? La introducción al problema de su planificación, orientación y organización

El Monumento Arqueológico Chachabamba se ubica en la margen izquierda del río Vilcanota al interior del Santuario Histórico de Machupicchu. Si bien no se ha realizado una cronología absoluta, todo el material arqueológico recuperado hasta el presente responde a diversas formas del patrón Inka y se adscribe al Horizonte Tardío. La función principal de Chachabamba fue ceremonial debido, entre otros, a un gran afloramiento rocoso tallado a manera de altar y rodeado por una volumetría arquitectónica fina. Todo el sector ceremonial se encuentra rodeado por un sistema de catorce fuentes que lo flanquean los lados sureste y noroeste.

SYLWIA SIEMIANOWSKA, *Institute of Archaeology and Ethnology, Polish Academy of Sciences, Center of Precolumbian Studies, University of Warsaw*

Algunos aspectos del material cerámico del sitio de Maucallacta, Arequipa, Perú: el análisis preliminar de la investigación sobre la cerámica del Basural-2

Durante los muchos años de excavaciones llevadas a cabo en el sitio de Maucallacta por el Centro de Estudios Precolombinos de la Universidad de Varsovia se pudo encontrar una cantidad impresionante de cerámica fragmentada. La mayoría de dichos fragmentos ha sido descubierta en el Basural – 2 ubicado exactamente en la parte baja del Ushnu al lado de la Plataforma I. Donde se encontró 72 882 piezas de cerámica que se caracterizan por un fuerte grado de fragmentación. Es imprescindible mencionar que este Basural contiene mas de 30% (?) del todo el material cerámico descubierto en el sitio de Maucallacta. Lo cual lo convierte en uno de los más grandes encontrados en el mundo andino.

NICOLE SLOVAK, *Santa Rosa Junior College*; JOHN RICK, *Stanford University*; ADINA PAYTAN, CHIA-TE CHIEN, *Institute of Marine Sciences, UC Santa Cruz*

Establishing biologically available strontium isotope signatures for Chavín de Huantar, Peru

This poster presents newly-obtained, biologically available strontium ($87\text{Sr}/86\text{Sr}$) isotope signatures for the archaeological site of Chavín de Huantar, Peru. Based on initial $87\text{Sr}/86\text{Sr}$ results, Chavín appears to have a relatively uniform strontium isotope signature despite significant geologic variability in the region. This data, accumulated from an analysis of ancient and modern fauna, plants, soil, and archaeological human tooth enamel, demonstrates the viability of using $87\text{Sr}/86\text{Sr}$ isotopes as part of ongoing and future investigations at Chavín. Methodologically, our research demonstrates the utility of incorporating multiple lines of evidence in establishing biologically available strontium isotope signatures in geologically dynamic locales.

SCOTT C. SMITH, *Franklin & Marshall College*; ADOLFO PÉREZ, *Instituto de Investigaciones Antropológicas y Arqueológicas (IIAA), Universidad Mayor de San Andrés, La Paz*; MARIBEL PÉREZ, *University of Pittsburgh*

Rethinking the Middle Formative to Late Formative transition in the southern Lake Titicaca basin: new data from Iruhito, Bolivia

Chronologies for the southern Lake Titicaca basin generally outline an uninterrupted sequence of cultural developments during the Formative period. According to these accounts, Early and Middle Formative temple centers flourished until 250BCE when new Late Formative centers developed and exercised wider influence in the region. However, radiocarbon estimations from Khonkho Wankane and other Late Formative sites suggest that these new centers were not founded until $\sim 50\text{CE}$. The period of time between 250BCE and 50CE in the southern Lake Titicaca basin remains enigmatic. We report new data from Iruhito that documents a sequence of occupations spanning this important but poorly understood period. Drawing on ceramic, lithic, and architectural data, as well as radiocarbon assays, we discuss the transition between the Middle and Late Formative periods.

RAFAEL VALDEZ, *Pontificia Universidad Católica del Perú*

New proposals and implications about the style Nievería: A study of the pottery recovered by Max Uhle, Louis M. Stumer and the Italian Archaeological Mission

The Nievería style of the Central Coast of Peru was defined by Dorothy Menzel in 1964, but the morphological, technological and decorative parameters of the corresponding vessels were not exhaustively specified. With the objective of getting more precision, more than 300 complete vessels of three sites in the Middle Rimac Valley were analyzed. The implications of the results point to the importance of the Central Coast Pottery Tradition and that the fine distinctive paste that supposedly characterizes this style does not determine its definition. Last, these results question our understanding of the Lima style and our stratigraphic readings regarding the Middle Horizon on the Central Coast.

CHARLOTTE WILLIAMS, ANDREW HAMILTON, *Princeton University*

Captured in the act: khipucamayocs on a Princeton University bar khipu: the khipu as an object of display

This poster presents new high-definition photographs and analysis of an Inkan bar khipu in Princeton University's collection. Bar khipus are extremely rare and little studied in the corpus of khipus, and many scholars may be unfamiliar with their structure or very existence. This particular khipu contains a carved wooden bar from which the subsidiary cords hang, portraying three human figures that appear to be khipucamayocs counting corn. This legible self-referencing of the object indicates that the coded information was not exclusive to the khipucamayocs, an important realization that complicates the function of khipus as not just record keeping devices, but also objects of display.

PATRICK RYAN WILLIAMS, *Chicago Field Museum*; DONNA NASH, *UNC- Greensboro*; ANITA COOK, *Catholic University of America*; WILLIAM ISBELL, *SUNY-Binghamton*

Wari ceramic production in the heartland and provinces

Between 500 and 600 A.D., the first expansive state of the central highlands of Peru emerged in the Ayacucho Basin. This state, known as Wari with its capital city located in the same region, established far flung colonies covering much of the mountainous region of modern day Peru. Research in the heartland sites of Conchopata and Wari and in the provincial sites of Cerros Baúl and Mejia have yielded new insights into the economic production of the early imperial state, including significant new data on ceramic production and consumption. In this poster, we examine the geochemical diversity in a ceramic sample from both heartland and provincial sites using INAA to better understand the political economy of ceramic production in heartland and provincial contexts.