COUNCIL ON

Archaeological Studies

at YALE UNIVERSITY

Newsletter

Issue 1 **Spring, 2013**

Welcome Note

Welcome to the first edition of the Yale University's Concil on Archaeological Studies Newsletter. Our department is composed of faculty from a broad range of disciplines, including Anthropology, Classics, Geology and Geophysics, and Near Eastern Languages and Civilizations. The goal of this publication is to connect these diverse scholars within Yale archaeology community by cultivating relations with past students, current department members and others with an interest in Yale University archaeology. We will be including information on the laboratories and other facilities as well as highlights from the research being conducted by students, faculty and associated scholars across the world. It is hoped that this newsletter will develop into a community driven endeavor, in which contributions from our diverse members, past and present, will make up the majority of the featured articles. So please feel free to contact either the department or the editors with any news or article ideas.

Over the past twelve months the department has been restless, growing both in size and scope. With the edition of new faculty, and cutting edge labratories and equipment, it truely is an exciting time to be part of Yale archaeology. We hope you enjoy this inaugural issue and stay tuned for future editions, there is sure to be many more exceptional developments in the *next* twelve months.

Peter Coutros & Jamie Inwood

Cover: Jaen Peru (Photograph by Ryan Clasby)

Inside This Issue

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Department Highlight

Archaeomagnetism at Yale

The archaeomagnetism Laboratory is up and running. The Archaeomagnetism Laboratory features state of the art facilities and is one of the few dedicated labs of its kind in the United States. This laboratory is equipped to measure full vector remanence, the direction and intensity of the magnetic field, recorded by archeological material. Data regarding the direction and intensity of the magnetic field is used to create master dating curves for a given region. The Earth's magnetic field is dynamic and localized variability in the behavior of the magnetic field can occur on time scales of 100's of years. Dating curves based on the variability of the magnetic field can provide more detailed dating methods than age constrains derived from radiometric, ceramic, or stratigraphic methods.

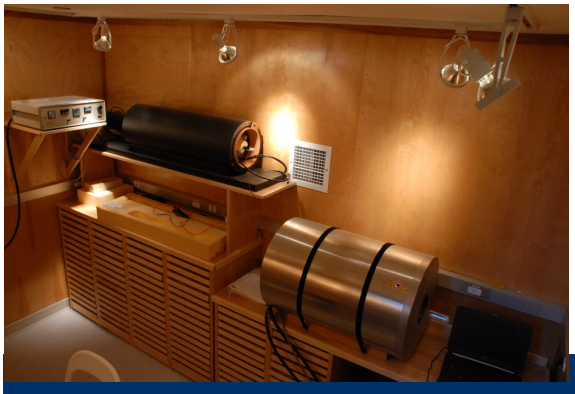
"It's one of the few dedicated labs of its kind in the United States"

The short -term goal of the YUAL Archaeomagnetism Laboratory is to provide direction and intensity dating curves for Iron-aged samples from Peru and South Africa. The long-term goal of the laboratory is to construct regional secular variation models as produced by laboratories in other countries. Regional secular variation models are high quality detailed descriptions of the behavior of the magnetic field on time scales of 1000's of years. These types of models are common for many regions in Europe but no models exist for locations in the Southern Hemisphere. Regional secular variation models provide a more robust dating method that direction and intensity curves and are also necessary to constrain global geomagnetic field models used in Earth Sciences.

Kronos: Greek god of Time and Lab Mascot

By incorporating scientific methodologies and observations of the natural variability of the Earth's magnetic field to answer questions concerning the timing and evolution of complex society, the work conducted in the YUAL Archaeomagnetism laboratory is exemplary of the future of archaeological research.

-Dr. Linda Donohoo-Hurley
YUAL Research Assistant



At left, the brand new archaeomagnetism chamber.
←

At right is the preperation lab and pedology lab.
→

Graduate Student Research

Annie Raath Antonites

I study the daily life - foodways, craft production, disposal patterns and spatial organization - of pre-state societies in northern South Africa. These agro-pastoralist groups settled in the Limpopo Valley around 900 A.D. and show the earliest evidence of Indian Ocean trade networks with the interior. I use a collections-based approach, which incorporates exiting archaeological collections into current theoretical and methodological frameworks.

Xander Antonites

My research focuses on the interaction between early southern African complex societies and their hinterlands with a particular focus on the political center Mapungubwe and small hinterland settlements of the 10th - 13th centuries AD. My research suggest a reappraisal of the accepted view of hinterland society as inert and un-influential in regional dynamics. Instead, the picture that emerges is one of a society in which economic participation and power over vast hinterlands were variable. Regionally specific activities such as the production of spun fiber enabled dispersed communities to acquire long distance goods. the presence of exotic trade goods and diverse production activities indicates that hinterland communities had significant agentive power in shaping their participation and acceptance of new forms of wealth.

Bryan Buckler

My research focuses on households and ceremonial architecture during the Formative Period on the North Coast of Peru. I plan to initiate excavations at the site of Batán Grande Lambayeque region to investigate the earliest known occupations of the site.

Jargalan Burentogtokh

I am working on early monumentality of Northern Mongolia and trying to figure out the economic and social foundations of beginning of early monumentality in this region that involves a type of monuments called khirigsuurs. However, the new approach to study these monuments is to find contemporary camp sites through a survey methodology using auger testing and excavate both camp sites and khrigsuurs in order to find out when khirigsuur started to be built and what was the economy back then. Generally, I am asking whether early animal domestication had something to do with the early monumentality in Tarvagatai.

Ryan Clasby

I am currently writing my dissertation on the results from my investigation at the site of Huayurco in the northeastern slopes of the Peruvian Andes. My research challenges modern misconceptions that the montane forest of the eastern Andes were unsuitable for dense populations and socio-political complexity. Further, it demonstrates that certain areas of the eastern slopes were intimately involved in interregional exchange networks involving the Andean coast and highlands.

Peter Coutros

Previously working in the Lakes Region of northern Mali, I have shifted focus to the Senegal River Valley. After a season of reconnaissance in this region, I have identified Diallowali, a site cluster in the vicinity of Podor, as the target of my dissertation research. Employing a multi-phase and multi-scale research strategy, including a large-scale, systematic surface survey, targeted geophysical prospection and controlled excavations, I aim to continue my research into the emergence of social complexity and the interaction between human communities and the physical environments in which they operate.

Carlos Chiriboga

Working with the Proyecto Regional Arqueologico La Corona (PRALC) for the past few years, my investigations are concentrated in the Northwest Peten region of Guatemala Utilizing a mixture of survey methodologies, excavations and GIS/remote sensing analysis I am focused on identifying regions of the Maya Lowlands that would be prefered for long-term human occupation.

William Gardner

Currently I am in the final stages of dissertation field research on the rise of social complexity among mobile pastoralists of Mongolia. The archaeological record of the steppe highlights multiple modes of interaction over time and across space. As such, my current project will offer a unique and novel understanding of the emergence of complex socio-political organization.

Colin Thomas

My research focuses on the study of metal working technology. I'm currently excavating the site of Dos Cruces in Lambayeque Peru, a smelting site with a long occupational history. My dissertation focuses on the ways ancient people used, understood, and interacted with technology.

Kristina Guild

My dissertation research investigates the process by which the southwest coast of Madagascar was settled by humans some two thousand years ago. The project's principal goals are to establish a chronology of settlement of the bay of Antseranasoa, located near the modern village of Andavadoaka, and to understand the evolution of cultural landscapes as diverse communities interpret and interact with their environment. I am currently analyzing material from the 2012 field season and will return to the field in June of 2013.

Jamie Inwood

In collaboration with Dr. David Soren from the University of Arizona, I am investigating pathological alterations in ancient human bone due to infection from the cerebral malaria parasite (*Plasmodium falciparum*). Our research approach is three tiered as we are examining the bone on chemical, micro-structural and macro-morphological levels. Samples from the Roman site of Lugnano in Tavernia, Italy will be analyzed using optical and scanning electron microscopy and Matrix assisted laser desorption ionization mass spectrometry in order to create a distinctive pathological profile for Plasmodium infection in bone. This will provide a protocol which will enable paleopathologists to diagnose the disease in ancient human remains.

Gabriel Prieto

My project is devoted to address the emergence of social complexity in the Central Andes region. Most of the current research of this period has focused on ceremonial centers with monumental architecture, but domestic settlements have received little attention. One of the goals of this project is to understand the internal dynamics of the site and how it functions in the larger social and economic system. I am taking strong emphasis on the relation of the site to its immediate natural environment and to regional cultural geography. These studies will shed light on a missing part, the small community settlements, of the earliest complex societies in ancient Peru.

Chris Milan

I am interested in the relationship between early civic-ceremonial centers and nearby hamlets. For my dissertation project I excavated one U-shaped temple and four hamlets that dated to the Initial Period (1800 - 800 BC) on the central coast of Peru. While it is often presumed that the construction of civic-ceremonial centers signified centralized polities that governed nearby settlements. However, my work is showing that hamlets were not subordinate to nearby centers and exercised a degree of autonomy.

Daniela Wolin

My research interest lies in human sacrifice during China's Late Neolithic and Bronze Age. In particular, I would like to utilize bioarchaeological analysis to identify different sacrificial methods and physical trauma related to violence and warfare. These observations can complement information about the role that sacrifice played in Ancient Chinese societies already acquired through excavation and textual sources.

Andrew Womack

While I am currently completing course work in preparation for taking my qualifying exams in the spring, I have also begun preliminary research for upcoming fieldwork in southeastern Gansu Province, China, which is planned to begin in the summer of 2013. This project will use a combination of magnetometry and targeted excavations at a number of Late Neolithic and Early Bronze Age sites in an attempt to explore changes in craft production and political economy in the region during those periods.

Recent Graduate Updates

Jason Nesbitt (Ph.D. 2012)

After leaving Yale, I moved to New Orleans where I am now a tenure-track assistant professor in the Department of Anthropology at Tulane University. I am presently teaching classes in introductory archaeology and the prehistory of South America. Furthermore, I am busy setting up a lab that will have capabilities in remote sensing and ceramic analysis. My current research involves the publication of my dissertation research at Caballo Muerto, the chronology of the Ancon site (with Richard Burger), a paper on the spread of manioc, and a review article on the significance of the Cupisnique culture on the north coast of Peru. In addition, I am part of a larger project working on developing archaeomagnetic dating for the north and central coast and adjacent highlands of Peru. This summer I will be conducting research in the central and south-central highlands of Peru.

Douglas Park (Ph.D. 2011)

My dissertation research focused on the development of prehistoric urbanism in the region of Timbuktu, Mali (West Africa) with particular emphasis on human response to climate change. After graduating I spent a semester as a Digital Institute of Archaeology Fellow at the Center for Advanced Spatial Technology (CAST) at the University of Arkansas. The purpose of CAST was to build capacity in geospatial technologies with specific effort applied to learning geophysical survey and advanced imagery analysis techniques. Between 2011 and 2012 I headed the West African Cultural Desk at Environmental Resouces Management in Washington DC. Currently I am at Rice University as a Visiting Lecturer in the Department of Anthropology.

Yuichi Matsumoto (Ph D. 2010)

My main research interest is early complex societies in the Andes from their emergence to collapse. I've done excavations and surveys in the highlands of the central Andes for the purpose of understanding the emergence of ceremonial architecture and socio-economic complexities during the Initial Period and Early Horizon (1800-200 cal.B.C.). Based on the data of my dissertation research at the site of Campanayuq Rumi, I'm trying to recopnsider the importance of interegional interactions in the formation of social complexity in the Andes.

Laboratory Report

The newly established Yale University Archeology Laboratories (YUAL)

After the renovation of our two buildings, 10 Sachem Street and 51 Hillhouse Avenue, we are delighted to have access to new archaeology-related teaching laboratories. In 10 Sachem Street, we have the Dirty and Clean Teaching Labs, the Chemical Fume Hood Lab, and the Kiln Room. In 51 Hillhouse Avenue, we have the Spatial and Visual Technologies Lab (SVT), the Archaeomagnetism (Archaeomag) Prep Lab and Chamber, the Archaeometallurgy Lab, and the Petrography and Archaeohistology Lab. With the generous help from the University, we were also able to purchase exciting new teaching equipment, such as the ground penetrating radar (GPR) and portable x-ray fluorescence analyzer (pXRF), among others. This has greatly advanced our analytical capabilities and we are looking forward to faculty, students, and affiliated researchers incorporating such analyses into their research.

-Yukiko Tonoike
Archaeology Lab Manager

Archaeo-Histology

The YUAL archaeo-histology lab currently hosts a number of research projects, some in collaboration with other Yale institutions including the Geology and Geophysics department and the Yale Medical school. Ongoing research includes the isolation of tetracycline ingestion in modern and ancient populations as well as the YUAL malaria project which utilizes histological techniques to identify the presence of malaria in archaeological bone. In addition to these projects the lab continues to host to a number of undergraduate student senior projects and has accepted several volunteers for this coming year's research program.

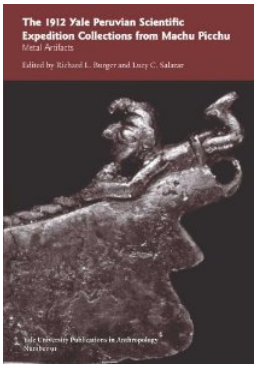
Spatial and Visual Technologies

GIS is fast becoming a integral tool in archaeological research. From statistical modeling to spatial patterning, GIS has the potential to greatly enhance our interpretations of archaeological data. The installation of the SVT Lab in 51 Hillhouse (pictured below) has allowed our Faculty, Graduate and Undergraduate students alike to develop advanced GIS skills and pursue intriguing research questions.

Recent and Upcomming Publications

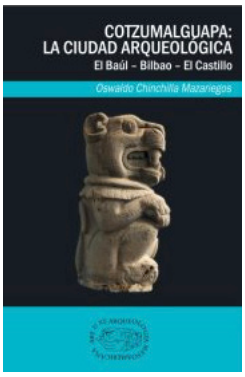
The Search for Takrur: Archaeological Excavations and Reconnaissance along the Middle Senegal Valley
(eds.) Roderick J. McIntosh, Susan Keech McIntosh and Hamady Bocoum. Yale University Publications in Anthropology, Vol. 93, due summer 2013

A comprehensive presentation of the results of several seasons of archaeological excavation and survey in the middle reaches of the Senegal River valley (Middle Senegal Valley), traditionally where the Empire of Takrur was located. Takrur was the first kingdom south of the Sahara in West Africa mentioned by medieval Arab chroniclers. A large area on the Senegalese (southern) banks of the river was surveyed after a thorough geomorphological mapping, and several large mound sites selected for stratigraphic excavations. These excavations, through levels dating throughout the first millennium AD, provide important information on early subsistence and craft specialization and on changing settlement patterns linked to environmental change. We also produced Africa's first archaeomagnetism curve.



The 1912 Yale Peruvian Scientific Expedition Collections from Machu Picchu: Metal Artifacts
(eds.) Richard Burger and Lucy Salazar.
Yale University Publications in Anthropology, Vol. 93, 2011.

This volume is the second book in the Yale University Publications in Anthropology series dedicated to the Machu Picchu collections recovered early in the twentieth century from Machu Picchu by Hiram Bingham and the Yale Peruvian Scientific Expeditions analyzes the metal artifacts and evidence of metallurgy at the site.

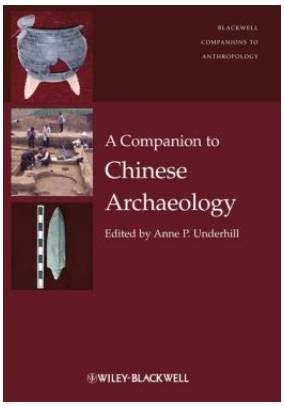


Cotzumalguapa: la ciudad arqueológica. El Baúl – Bilbao – El Castillo.
Número 1 de la colección Are u xe – Arqueología mesoamericana. Guatemala: F&G Editores, julio de 2012.
Oswaldo Chinchilla Mazariegos

This publication is an introduction to the archaeology of Cotzumalguapa, a major city of the Late Classic period (A.D. 650-950), located on the Pacific Coast of Guatemala. The book describes the archaeological site (an archaeological zone that extends about 10 square km) the major architectural compounds of El Baúl, Bilbao and El Castillo, and the causeway system that integrated these compounds with each other and with extensive settlement areas between and around them. The book also describes a large number of stone sculptures that comprise a major corpus of ancient Mesoamerican art. Abundantly illustrated with photographs, maps, and drawings of sculptures, this book provides a summary of current information about Cotzumalguapa.

Early New World Monumentality
(eds.) Richard Burger and Robert Rosenzweig
University Press of Florida, Gainesville. 2010

In this collection, prominent archaeologists explore the sophisticated political and logistical organizations that were required to plan and complete these architectural marvels. They discuss the long-term political, social, and military impacts these projects had on their respective civilizations, and illuminate the significance of monumentality among early complex societies in the Americas. Early New World Monumentality is ultimately a study of labor and its mobilization, as well as the long-term spiritual awe and political organization that motivated and were enhanced by such undertakings. Mounds and other impressive monuments left behind by earlier civilizations continue to reveal their secrets, offering profound insights into the development of complex societies throughout the New World.



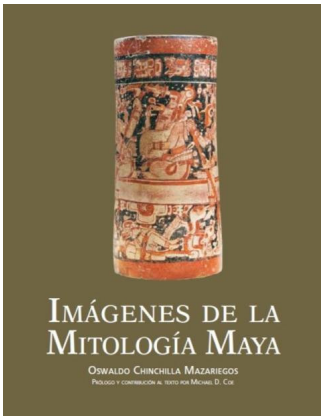
A Companion to Chinese Archaeology
(ed.) Anne Underhill,
Wiley-Blackwell Press. 2013

The 30 chapters in the book focus on the late prehistoric and early historic periods. One goal is to illustrate the range of research taking place in different areas of mainland China as well as Taiwan; this will be the first time some authors have published in English. This was made possible by the hard work of several translators and other assistants. Another goal is to illustrate several areas where complex societies developed and the diverse approaches to investigating these areas. The book is slated to come out in the spring of 2013.

New Faculty

Oswaldo Chinchilla
Assistant Professor of Anthropology
Ph.D. Vanderbilt University, 1996

This year we welcome Dr. Oswaldo Chinchilla Mazariegos to the Yale archaeology community. Professor Chinchilla has conducted extensive archaeological research in the Cotzumalguapa region of Guatemala's Pacific piedmont, including studies of settlement patterns and urbanism, recording and analysis of the sculptural corpus, and documentary research on the pre-Columbian peoples of the area. His recent work, focusing on Mesoamerican religion and iconography, has resulted in a series of innovative papers published in major journals. His book "Imágenes de la Mitología Maya" (2011), is an examination of mythological themes in Maya art, in the light of a broad, comparative assessment of written sources. In 2011, he was awarded a Guggenheim Fellowship for his work on Cotzumalhuapa art and archaeology. He is coeditor of "The Decipherment of Ancient Maya Writing" (2001), "The Technology of Maya Civilization" (2011), and "Arqueología Subacuática: Amatitlán, Atitlán" (2011).



Above and Right: Excavations in the Cotzumalguapa region of Guatemala

Geophysical Prospecting

Geophysical surveys are becoming increasingly common in archaeological research programs around the world. Recent advances in geophysical technologies have resulted in new methodologies that provide rapid data collection and enhanced data resolution. Thus, it is now possible for archaeologists to map subsurface features over large areas, with potentially great detail in a short amount time. To take advantage of these expanding possibilities, the Council on Archaeological Studies has acquired equipment for ground-based geophysical prospection, including a ground penetrating radar (seen at right), magnetometer and electrical resistivity meter. These tools have already been used with great success on Yale archaeology projects in Mongolia and China, and will make their way to Senegal this winter. Additionally, Dr. Timothy Horsley developed and taught a hands-on course for Yale undergraduate and graduate students focusing on the new methodologies this equipment requires.

Peabody Bead Collection

The Council on Archaeological Studies and the Peabody Museum are the recent beneficiary of an extraordinary labor of love, a 37 foot multi-component panel entitled The Bead Timeline, The Timeline presents roughly 5,000 beads from around the world, spanning 10,000 years ago to the present. The donation also includes some 20,000 associated loose beads. The museum already houses many hundreds of beads from various Yale excavations around the world. The Council's newly-refurbished lodging, 51 Hillhouse Avenue, will soon house a proposed exhibition that uses the bead as a vehicle to demonstrate how archaeologists and historical scientists reconstruct the interconnectedness of ancient peoples' aesthetic, artisan, economic, and sacred lives.

Rather than a story with a single narrative line, this will be the story of the extraordinary diversity of meanings, diversity of scientific clues held, and the extraordinary commonality of the bead. On a rotating basis, one or two of the seven original Timeline panels will be on display which, at a glance, display the diversity of beads circulating throughout the world at any given time. This would be supplemented by perhaps five thematic spaces, either featuring specific faculty or student research (e.g., emerging elite display in the Natufian – Frank Hole; laser ablation inductively coupled plasma-mass spectrometry (ICPMS) of beads passing along the "pre-Silk Routes" of Mongolia – Bill Honeychurch; beads as the essential currency of trade and contact in earliest western Indian Ocean maritime trade – Kristina Guild), or featuring other "autonomous" beads of interest (e.g., the country's first manufactory, of wampum beads, in Dutch Hoboken during the 1640s).

Acknowledgements

We would like to thank all of the contributors for their help and patience while we put this issue together. We are very greatful for all of the suggestions and guidence the faculty and fellow students provided. Also, we must express our gratitude to the entire Council on Archaeological Studies staff, whose constant hard work and support help to make our department what it is.

Peter Coutros & Jamie Inwood