

One of the longstanding research foci of the University of Calgary's Archaeology program has been Central America. Department archaeologists have worked in and published on all countries of the region, perhaps the only institution that can make that claim. In the process, researchers have made innovative scholarly contributions to an area that remains mired in culture historical models of paradigms past. For example, Jane Kelley introduced household archaeology to El Salvador when contemporaries were more interested in the lifestyles of the rich and famous. Graduate students have also worked in Honduras, Costa Rica, and Panama. The most extensive project has been conducted along the shore of Lake Cocibolca in Nicaragua, involving over 100 undergraduate and graduate students and generating numerous MA and PhD theses. Through this concerted research effort, it is clear that the Archaeology Department's legacy contributed significantly to re-writing Central American prehistory.

The University of Calgary's Archaeology Department was founded, in part, by Richard (Scotty) MacNeish, one of the great Mesoamerican archaeologists of the 1960s. MacNeish assembled one of the first mega-projects of the New Archaeology era in the Tehuacan Valley of Puebla, Mexico. Settlement pattern survey was combined with small-scale excavations at numerous sites spanning a 10,000 year cultural sequence. But culture historical reconstruction of a poorly-known region was only one aspect of the multi-disciplinary research that incorporated cultural ecology as a primary emphasis. MacNeish is probably best known for his fascination with plant domestication, particularly maize, and the excavation of several dry cave sites in the Tehuacan Valley resulted in the developmental sequence of the teosinte to maize domestication process. MacNeish's holistic approach to archaeology became a foundation for the emerging Department of Archaeology, in response to his criticism of more general anthropology programs from which graduates emerged with significant gaps in their archaeological methods and theories.

Richard (Scotty) MacNeish



- Founder of Mesoamerican Archaeology Program
- Pioneer in settlement pattern and cultural ecology research
- Pioneer in paleoethnobotanical archaeology
- History of maize domestication

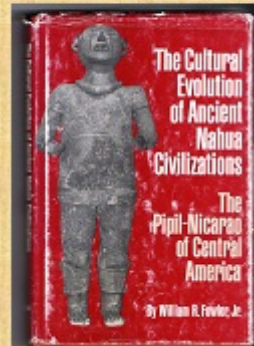
With this in mind, researchers from the University of Calgary turned their attention to Central America, at the site of Cihuatan, El Salvador. Cihuatan was known at the time as one of the southeasternmost extensions of Mesoamerican culture, based on monumental architecture and material culture. No doubt expanding on ethnohistorical interpretations from her husband David Kelley, Jane Kelley initiated small-scale excavations in the residential zones of Cihuatan for some of the earliest household archaeological studies in Central America.

Jane Kelley at Cihuatan



Her research was supplemented by former Calgary archaeologist Karen Bruhns and graduate student William Fowler; both are still prominent specialists in Salvadoran archaeology. Bruhns continues excavations in Cihuatan, while Fowler wrote what until recently was the longest PhD dissertation ever completed at the Calgary Archaeology Department. Working closely with David Kelley, Fowler's dissertation considered migrations of Mesoamerican groups from central Mexico as an extension of the Toltec empire. As will be discussed further below, this remains an important research question that has guided our own investigations in Pacific Nicaragua.

Karen Bruhns and William Fowler



MacNeish's legacy in cultural ecology was continued with two other graduate projects. Ruth Dickau studied under Peter Mathews and Scott Raymond to complete an MA thesis on paleoethnobotanical remains from around Lake Xolotlan, Nicaragua using flotation methods. This innovative study produced the surprising result, in contrast to ethnohistorical expectations, that maize agriculture was not a major contributor to the pre-Columbian diet, but was merely a supplement to a range of wild plant foods. Diana Carvajal completed a PhD dissertation working with Scott Raymond and Brian Kooyman on faunal remains from the Cueva de Vampiros in Panama. Diana worked closely with the Smithsonian Tropical Research Institute of Panama. Her research focused on fish remains, including the process of drying fish for preservation and subsequent consumption. Together, Dickau and Carvajal represent important scholars introducing new research questions and methodologies in a region where old-school culture histories still remain the standard for archaeology.

Ruth Dickau and Diana Carvajal



My own research program in Central America began long before I arrived at the University of Calgary when, as a graduate student at the State University of New York in Binghamton, I met and began a collaboration with John Hoopes, now of the University of Kansas. Hoopes is an expert on Costa Rican archaeology and the Istmo-Colombian region. Together we began a study of the material culture of the Greater Nicoya region of Pacific Nicaragua and northwestern Costa Rica. Greater Nicoya is often interpreted as the farthest frontier of Mesoamerica, based on Contact-period linguistics and ethnohistory, with support based on decorated ceramics that correspond to the Mixteca-Puebla stylistic tradition. At the 1989 meeting of the Society for American Archaeology we presented on the 'Out of Mexico' hypothesis, evaluating the archaeological evidence for migrants from central Mexico colonizing the Greater Nicoya region, with the tentative conclusion that the evidence was stronger for a Gulf Coast connection than a central Mexican Toltec influence. And tied into this puzzle was the role of the pre-Columbian religious and economic center of Cholula, Puebla.



Cholula was the topic of my PhD dissertation, and continues to be an ongoing research passion. It was a multi-ethnic urban center with both Tolteca-Chichimeca and Olmeca-Xicallanca ethnic groups during the Postclassic period. The Olmeca-Xicallanca had strong connections with the Gulf Coast, including the Chontal Maya, and were engaged in long distance exchange through the *pochteca* merchants. Among other things, merchants from Cholula were described as travelling as far as Nicaragua. Long distance merchants travelled under the hegemonic umbrella of the god Quetzalcoatl, and his aspect as feathered serpent was a symbol shared throughout Mesoamerica. The appearance of feathered serpent imagery on polychrome pottery in Pacific Nicaragua was interpreted as material evidence for Greater Nicoya's participation in the Mesoamerican world system.

Great Pyramid of Cholula



When I joined the University of Calgary Archaeology Department in 1999, one of the directives was to establish a field project in which I could engage both graduate and undergraduate students. Legal limitations in Mexico made that impossible, so at that time I started work in Nicaragua with a small team of students, working at the sites of La Arenera and Santa Isabel. With SSHRC funding we continued at Santa Isabel until 2005, excavating a series of residential mounds in the site center. Excellent preservation allowed detailed analyses of faunal remains, including a thesis by Angelica Lopez-Forment. Lithic analysis resulted in an MA thesis by Jolene Debert, and Sharisse and I published detailed studies on textile production and identity. The major result of the Santa Isabel project, however, was the PhD dissertation by Larry Steinbrenner on the ceramics and potting traditions of Postclassic Pacific Nicaragua (which eclipsed Fowler's for longest dissertation in departmental history). One notable conclusion of the ceramic analysis, in conjunction with a large corpus of radiocarbon dates, was that the ceramic chronology was seriously flawed, thus requiring significant re-evaluation of the cultural sequence.

Santa Isabel



In 2008 we moved north up the shore of Lake Cocibolca to the Colonial city of Granada, again supported by a major SSHRC research grant. Project collaborator Silvia Salgado of the University of Costa Rica had conducted extensive settlement pattern survey for her own doctoral dissertation in and around Granada. The new research objective was to gather information for a comparative analysis between two Postclassic centers, with excavations at Tepetate. Despite excavations at a large mound and two burial clusters, poor preservation led us to limit our explorations of Tepetate to only a single season.



In 2009 we shifted to a satellite site on the Asese peninsula, El Rayo, where we have continued excavations through 2016. With several cemeteries plus civic-ceremonial structures, El Rayo is currently interpreted as a necropolis where the deceased were interred, celebrated, and remembered. The ceramics of Granada were analyzed by Carrie Dennett as part of her own PhD dissertation, and ceramic figurines were the focus of the MA thesis of Natasha Leullier-Snedeker.



Interspersed between these two major projects were several smaller investigations in Nicaragua. National Geographic funded a project on Zapatera Island at the site of Sonzapote, where Karl Bovallius had discovered monumental sculpture in the late 19th century. Here we mapped the site core and made an inventory of extant monuments, and excavated at the base of one of the larger mounds. The burials of Sonzapote and El Rayo became the empirical foundation of Jessica Manion's MA thesis on social memory and mortuary practices.



With University funding we established a bioarchaeology lab at the National University in Managua, and while doing that we were invited to help excavate a large cemetery on the edge of Lake Xolotlan. This research contributed to the recently completed PhD dissertation by Ana Morales, who used the department's ancient DNA lab to characterize the biological affinities of populations from Mesoamerica and Central America.



With sponsorship from the Institute for Field Research we were able to continue excavations at El Rayo, where we continued to explore an ancient cemetery and also discovered two civic-ceremonial structures.



In 2016, while preparing for fieldwork at El Rayo, our team was invited to assist the Nicaraguan Institute of Culture on the excavation of another cemetery, this time in Ticuantepe. Two extended burials were placed on top of rows of grinding stones, dating to about 1-300 CE. In the process of expanding on these burials, several more pairs of individuals were encountered.



In sum, over the past 18 years archaeologists from the University of Calgary have dramatically impacted the pre-Columbian history of Pacific Nicaragua. The overarching research question that has united this program has been the same one raised by the Kelleys in El Salvador: is there material evidence to support the ethnohistorical accounts of migrations from Mexico into

Central America. And like so many relationship critiques, we have to say “it’s complicated.”

The archaeology of ethnicity is problematic, if not impossible. Using ethnohistorical documents to generate hypotheses, we entered Pacific Nicaragua with expectations of finding Mesoamerican frontier identities. If the prehispanic migrations originated in Cholula, as was widely suggested, then my decades of previous work in Cholula should have been useful for recognizing material patterns. And with some of the polychrome pottery decorated with feathered serpent motifs, this was indeed the case. But other elements were wrong. Foodways are some of the best indicators of ethnic behavior. Early in the Santa Isabel project I became suspicious of the lack of *comales*, the shallow ceramic griddles used to prepare *tortillas* throughout central Mexico. Furthermore, the exceptional preservation of organic remains indicated that among the hundreds of carbonized seeds, no maize was present. Paleoethnobotanical studies have found no evidence of maize among residues on grinding stones, nor maize phytoliths in organic soils. Stable isotope analysis of human bones from Santa Isabel and El Rayo indicated that maize was not a significant element in the diet. With the strong association of maize as an essential cornerstone of Mesoamerican diet, especially in the Postclassic, does the virtual absence of maize at Santa Isabel and El Rayo negate their mesoamerican-ness?

Other aspects of the material culture cast further doubt on Mesoamerican ethnicity. Communication with the supernatural in Mesoamerica was done through the burning of incense, yet incense burners are not part of the material record of Pacific Nicaragua. Consumption of domesticated turkey and dog has not been identified, and instead the hundreds of thousands of faunal remains analyzed are all of wild species. Burial practices in Postclassic Mexico, where the migrations supposedly originated, featured direct burial in a flexed seated position, yet in Pacific Nicaragua most burials were in ovoid ‘shoe-pots.’ Monumental public architecture and site planning have not been identified, despite excavation at some of the largest known archaeological sites in the region. Following Paul Kirchhoff’s definition of ‘Mesoamerica’ we must conclude that Pacific Nicaragua does not satisfy the major criteria.

And yet, when the Spanish first arrived in Pacific Nicaragua they recorded languages such as Nahuat-Nicarao and Mangué-Chorotega that indicate that the dominant populations spoke dialects connected with central Mexico. Ethnohistorical sources indicate other strong affiliations with central Mexican practices, including political organization, religious practices, and the pantheon of deities. And they also recorded the consumption of maize, dog, and turkey.

The University of Calgary’s 40-year legacy in Central American archaeology has focused on questions of ethnicity and migration vs. autochthonous cultures. As our evidence from Pacific Nicaragua suggests, these questions remain open to interpretation, and indeed there is no consensus among the Calgary team. Presentations at this conference will range widely as our internal debates continue. What can be concluded in the end is that Calgary archaeologists are leading the way in Central American archaeology, with innovative techniques being applied in search of ever more nuanced interpretations. It’s just complicated.