NewsMAC

Newsletter of the New Mexico Archeological Council

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The Future of the Past: Graduate Student Research in New Mexico

Contents

PRESIDENT'S WELCOME

Hi all! Just a few words about NMAC this year. We have continued to work on the website and are making progress. We helped out with the Fiesta at Coronado on October 17th, and are having our annual Fall conference this November 14th. We are currently working with the BLM and HPD on the Permian Basin MOA, plus several other large projects where NMAC is a consulting party.

Hope all are doing well and staying safe in the field!

Also, please remember that voting for the 2016 NMAC Executive Committee is fast approaching. If you would like to run for office, please contact me at tgoar@marroninc.com! We do need volunteers!

Toni Goar, NMAC President

EDITOR'S INTRODUCTION

It is my pleasure to, finally, present this issue of *NewsMAC* to all of you. Earlier this year when I agreed to be the new editor, at least a baker's dozen people offered as many unsolicited observations that here was yet further proof that I had lost my mind. And since then, I must confess, I have thought I might – given the number of folks who agreed to submit something for publication and then were apparently abducted by aliens.

In addition to those initial probing notes about my sanity, two communications stand out in variance. One was an email to which was attached a rather savage looking close-up of an American badger, thoughtfully provided by outgoing editor Bradley Vierra, who assured me I would need it for inspiration when trying to dragoon people into contributing to *NewsMAC*. I must say, I do look at it now and then for strength. I hope I can do half as good a job as you, Bradley.

The other was an email from my friend Lynne Sebastian that said simply "I see you had an attack of helium hand". At the time, her comment struck me as dryly apropos. Months later, I find it as disturbingly inspiring as the badger photo. And here's why.

A quick search for information regarding the state of professional associations offers up a mixed bag of results. Total membership in most, although not in all, United States voluntary professional associations has declined steadily over at least the last 15 years (American Sociological Association 2011; US Bureau of Labor Statistics 2015; US Chamber of Commerce Foundation 2015).

Even in the presence of healthy membership numbers, *active participation* in professional associations seems to have declined pretty much across the board – precipitously so in some cases (Painter and Paxton 2014). Active members are those who not only show up at meetings and other events, but who help plan and execute those events, who broadly participate in fund-raising campaigns, who serve on committees and as officers, and who generally contribute labor (either physical or intellectual, or both) to the organization. In other words, active members carry the load of the organization's day-to-day needs and its mission.

Estimated reasons for this decline in active membership include economic ones. Sometimes the costs for dues, conference registration, and travel to and from events are, by themselves, sufficient to prohibit not only engagement in an organization, but often even membership in the first place. Sometimes financial cost is sufficiently prohibitive only in tandem with a lack of *perceived* benefits from membership. A perception of irrelevance explains why a lot of members not only drop their memberships, but also why potential members never pick them up in the first place (Coerver and Byers 2013). A perception of

irrelevance also likely explains why at least some people who are "checkbook members" eschew active participation.

When I was in graduate school and a youngster in the profession, I loved all the opportunities that professional associations provided for us to get together at periodic meetings and conferences and workshops. Not only was it a helluva lot of fun, it was how I continued my education and recharged my mental batteries. Working as a CRM archaeologist in a small business that I own (or own a chunk of), as I have done for the better part of my career, would have left me intellectually abandoned, were it not for the interaction I have enjoyed with other archaeologists via various associations.

As a result, I have come to prize the intellectual comradery that members of a professional association share, as well as the social comradery – let's face it, we have chosen an arguably strange way for grown people to make a living and no one understands us like ourselves. As any profession's members can, we can inherently appreciate the highs our colleagues experience (provided we can overcome our jealousy) and we can jointly laugh at our scrapes and shortcomings because we've all been there. At least as importantly, we can offer each other insights about data and research strategies and interpretations and our current place in the history of what we do, as well as cautions about what path is likely to set a person on a sure course for professional ruin.

I especially appreciate the celebration of what we do – and the importance of it – that is evident in our daily NM-ARCH list interactions. Such celebration is beyond laudable. I'm not advocating rubbing lighter fluid in our chest hair and setting it on fire, as I am told folks once did at a Pecos Conference of yore. And I'm not endorsing the kind of joyous larceny involved in appropriating a pink flamingo from someone's landscaping so that it could be bestowed annually by certain members of the Plains Anthropological Society on one another in recognition of various contributions. But I do treasure active participation – in other words, I treasure helium hand.

I have been a member of NMAC for only a couple years, although I have hovered on the periphery of New Mexico archaeology for nearly four decades. I spent 10 years helping with an annual field school in northeastern Arizona and a little time, years ago, climbing around with Dick Ford and Kurt Anschuetz near Chama. Albuquerque was home in my recent past, and I have extended family from Santa Clara pueblo. I've also done more than a handful of contract projects in the panhandles of Texas and Oklahoma – so close to New Mexico that, in fact, we had to eat lunch and buy gas in the Land of Enchantment. Even though my sample size of NMAC membership experience is small, I find NMAC members, at least those who aren't as new as I, *far* more engaged than the members of the half dozen other state and regional groups I belong to.

So in the spirit of fighting perceptions of the irrelevance of becoming a member in a professional association, this issue's theme is *The Future of the Past: Graduate Student Research in New Mexico*. I am hopeful that the inclusion of these authors will introduce them, and their compatriots, to what it's like to be part of a network of scholars, new and old, who can provide pithy insight into what we are all doing, or commiserate with us when all those special analyses come up a big fat goose egg, or caution us that we have overlooked something terrifically important in our reasoning. In this same spirit, I urge everyone to read the articles in this *NewsMAC* and actively offer your constructive observations, assistance where requested, and support to the authors. Special thanks to Scott Ortman for encouraging his students to contribute to this issue.

Woods (University of Nevada, Las Vegas) presents the results of a NMAC grant-funded dissertation project at Stewart Pueblo in the Mimbres Valley. Fitzgerald (Eastern New Mexico University) and Davis (University of Colorado, Boulder) present work on their M.A. theses. Bonavia (University of Colorado Museum of Natural History, Boulder), presents work on an M.A. project, and Agostini (University of Colorado, Boulder) presents original research from the ongoing FHiRE project (Fire and Humans in Resilient Ecosystems).

Rebecca A. Hawkins, Algonquin Consultants, Inc. (algonquin@neok.com)

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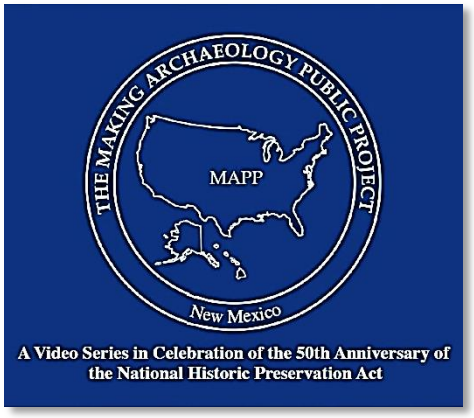
New Mexico Making Archaeology Public Video Project Update

Lynne Sebastian
SRI Foundation

The working group for the New Mexico MAPP video has completed the semi-final version of the script – working title "Patterns in Time: Big Data as a Window into the Past."

The writing team – Lynne Sebastian, Scott Ortman, Mark Varien, Patrick Hogan, and Bruce Huckell – has discovered that it is a whole lot harder to compress ideas into a 15 minute script than we ever imagined. But fortunately we have had our skilled and experienced script editor, Rebecca Hawkins (also known in our darker moments as "Old Iron Fist"), to force us into remarkable succinctness.



Even though you are allowed almost no words in a 15 minute video script, you are required to come up with an astonishing amount of visual material to fill up that same 15 minutes. I can't help but think that some time/space law of physics is being violated here, but we are doing our best. Dave Cushman has very generously donated his time to shoot much of the landscape footage that we need.

Current plans are for the videography team folks from Voyageur Media Group to spend three days in Albuquerque/Santa Fe in mid November filming the interviews, artifacts, and other footage. Over the next few weeks I will be looking for historic photos and other images, and

will almost certainly be putting out one or more calls on the NM-ARCH list for particular things that we need. I hope everyone will watch for those messages and help us by letting us use images from your collection, if you can.

Based on current information the national MAPP steering committee is projecting that at least 20-25 states will produce videos, and recent developments have led us to hope that there might be even more.

The videos will be hosted on the website of Preservation 50 (www.preservation50.org), the national clearinghouse for events celebrating the 50th anniversary of the National Historic Preservation Act. The MAPP portal on the website is planned to go live at the end of this year.

The videos will also be available on a dedicated YouTube channel. SHA and SAA are planning events featuring the MAPP videos at their annual meetings; the Southwest Symposium will include a public event with MAPP videos as well.

That's it for now. Again, thanks to everyone for all the support that we've received for this project.

Investigations at Stewart Pueblo, Mimbres Valley

Aaron Woods
University of Nevada, Las Vegas – NMAC Grant Recipient

Introduction

During investigations at the Harris Site by the University of Nevada, Las Vegas, a small pueblo was discovered situated on a low rise above the Mimbres River. This pueblo lay directly downslope of the Harris Site and appeared to have been systematically looted. It was assumed that due to the looting, this pueblo would yield very little data and possess compromised stratigraphy and provenience. The following report presents a summary and discussion of what was found during the archaeological investigations at Stewart Pueblo.

Results of Excavations at Stewart Pueblo

Towards the end of the 2010 field season at the Harris Site, I led a small crew to the pueblo for the purpose of mapping, surface collection, and limited testing to determine if there was anything left of the site. The test units proved fruitful, and yielded a fragment of a human effigy vessel and several diagnostic sherds.

In 2011, I returned to the site, now called Stewart Pueblo (in honor of the land owner, Henry Stewart) to continue investigations at this site. A 50 centimeter wide hand trench was placed though the length of the pueblo in a north-south orientation. This trench was established in order to determine if there were any intact rooms, floors, or walls left after the severe looting. During that trenching, several intact walls were exposed as well as a plastered floor. Many portions of the pueblo exposed during this trenching appeared to have intact deposits.

Based on data gathered during the 2010 and 2011 field seasons, it was determined that some research potential still existed for Stewart Pueblo and additional plans were made in 2012 and 2013 to expand the trenches and test units to expose more of the pueblo and collect data.

Both the 2012 and 2013 excavations at Stewart yielded important information regarding the role of small and medium pueblos in the Mimbres Valley. Excavations during the 2013 field season were the most extensive. Two rooms were explored and excavated to the floor (Figure 1). In room 1, a hearth, a large posthole, and subfloor pits were discovered. In room 2, much of the fill had been compromised by looters, as indicated by the presence of a beer can and aluminum foil on the floor.

Table 1: A summary of ceramics collected from Stewart Pueblo

Mimbres Painted Series[1]	Qty.	Date Range (AD)	Painted Trade Wares[2]	Qty.	Date Range (AD)	Mimbres Black-on-White MicroSeriation[3]	Qty.	Date Range (AD)
Three Circle Red-on-white	1	740–780	Reserve Black-on-White	21	1100-1200	Style I	1	750-900
Style I Black-on-white	3	750–950	El Paso Polychrome	17	1100-1350	Style II-Early	4	880-980
Style II Black-on-white	3	950–1050	Chupadero Black-on-White	1	1150-1550	Style II- Late	4	970-1020
Style II/III Black-on-white Indeterminate	10	950–1050	Indeterminate Cibola White Ware	9	---	Style II/III	5	970-1020
Style III Black-on-white	143	1000–1150	---	---	---	Style III- Early	12	1010-1080
Indeterminate Black-on-white	374	---	---	---	---	Style III-Middle	147	1060-1110
---	---	---	---	---	---	Style III- Late	29	1110-1140
Totals	**534**	**---**	**---**	**48**	**---**	**---**	**202**	**---**

[1] Adapted from Scott 1983, although the Mimbres Foundation never explicitly offered precise date ranges for pottery types.
[2] Dyer and Constan 2011; Reid et al. 1995
[3] Shafer and Brewington 1995

Ceramics

Due to problematic archaeomagnetic, AMS, and dendrochronology dates, ceramics recovered from these excavations currently provide the only real cross-dates for this pueblo (Table 1). Additional human effigy vessels (Figure 2), a wide range of Classic Period ceramics, and tradeware ceramics were collected.

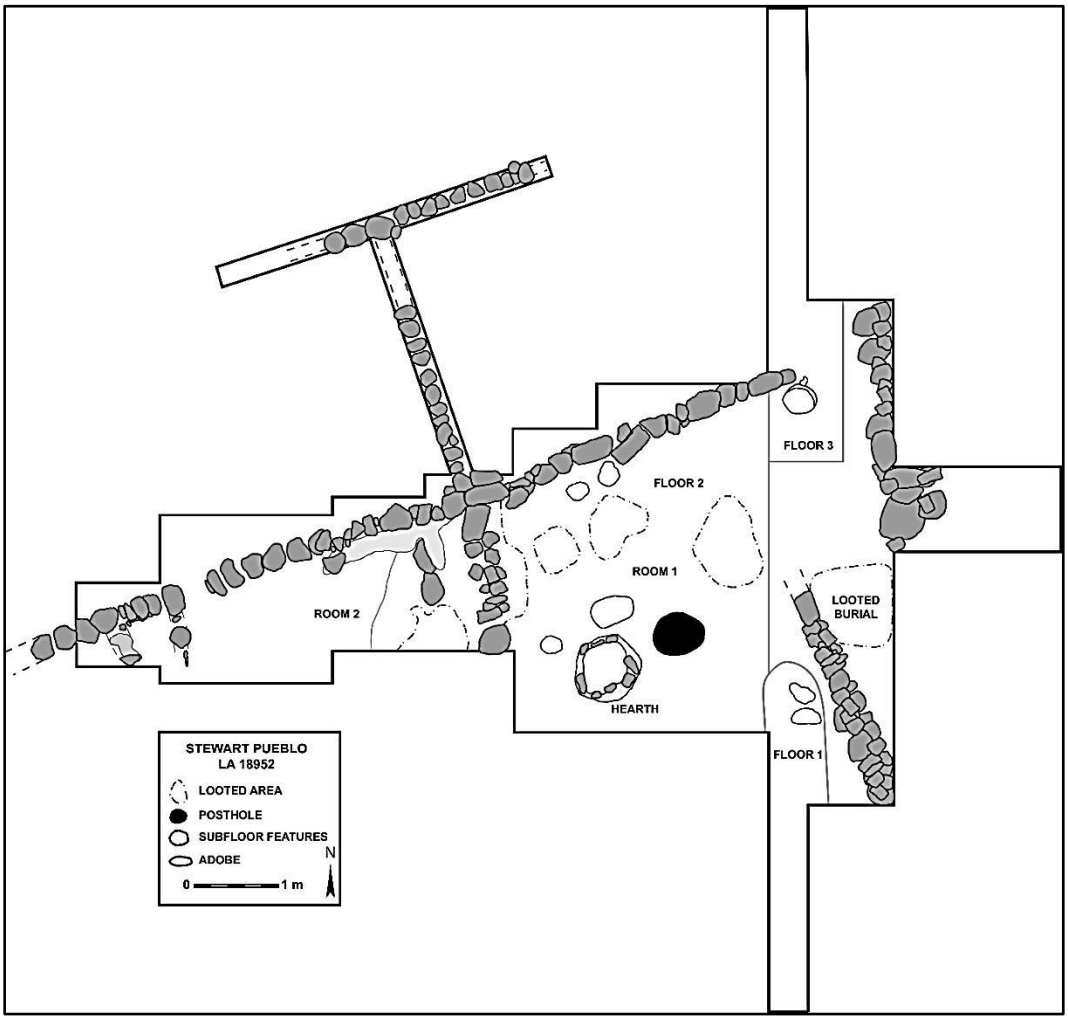
The presence of 48 trade wares including Reserve Black-on-white, El Paso Polychrome, Chupadero, and indeterminate Cibola White wares at Stewart Pueblo provokes questions regarding the role of small pueblos during the Late and Post Classic Periods in the Mimbres Valley.

Architecture

Excavations of room 1 revealed what appears to be three distinct remodeling periods. The presence of three distinct floors and abutted masonry in room 1 suggests that Stewart Pueblo was occupied and reoccupied through time. Floor 2 (Figure 2) is the most intact and well-built of the three floors. Within floor 2, the hearth, flat lying sherds, subfloor pits, a burial, and a large posthole were all uncovered. Floors 1 and 3 both appear to have been made with low labor investment and used for short periods of time. Floor 1 lies directly below floor 2 and appears to have been made of lower quality plaster.

Floor 3 is situated more than 10 centimeters above floor 2 and was likely built during a later occupation. During excavations, floor 3 was not recognized until much later and only a portion of it was documented. Dates collected from floor 3 were inconclusive, however, and no temporally diagnostic artifacts were recovered from this surface.

Figure 1: Plan Map of Stewart Pueblo.



Human Remains

A significant amount of human remains were observed but not collected from these excavations. Human remains were scattered throughout each excavation unit and were in poor condition. A bell-shaped burial pit dug into floor 2 contained only a portion of a burial. Much of it had been removed or scattered during looting. Pelvic and dental remains suggest that a juvenile female had been interred in this pit. Other human remains were difficult to identify, but based on MNI calculations, it is likely that at least 4 individuals were interred at Stewart Pueblo.

Figure 2: Human Effigy Vessel Fragments from Stewart Pueblo.

The Role of Stewart Pueblo in the Mimbres Valley

Archaeological investigations at Stewart Pueblo have the potential for revealing new information regarding the role and function of small and medium pueblo use in the Mimbres Valley. Data from this site and others will bolster previous work regarding community system formation (Stokes 2003; Toney 2012), and test hypotheses regarding the formation of core houses or corporate groups within the Mimbres Valley (Shafer 1995, 2006).

Architecture and other elements of material culture will also be used to understand changes in site settlement through time at Stewart Pueblo. The close proximity of this pueblo to the Harris Site and Mattocks Ruin provides an excellent opportunity to study inter-site relationships through time, land tenure issues, and the concept "home village" organization and maintenance (Stokes 2003).

A Discussion of Small Pueblos

Re-examining the role of smaller pueblos is necessary due to the common dismissal of these sites as seasonally occupied structures used solely for resource monitoring. Previous studies of small pueblos in the Mimbres region dating to the Classic and Post-Classic Periods suggest that they served as seasonal fieldhouses used during growing seasons and later abandoned during winter months (B. Nelson et al. 1978; B. Nelson and Anyon 1996; B. Nelson and LeBlanc 1986). B. Nelson et al. (1978) argue that small pueblos were placed throughout the Mimbres Valley as logistic locations allowing for the maintenance of agricultural fields and to facilitate mobility between larger sites.

The definition of small and medium sized pueblos as mere fieldhouses places limits on the interpretations researchers can make regarding their general function, architecture, and socio-economic role. Therefore, it is important to review and better discern the function of these smaller pueblos so that improved inferences regarding their part in the larger community of the Mimbres Valley can occur.

In this report, I have briefly presented data gathered from Stewart Pueblo as a case study exploring the role of small pueblos. The data gathered from my investigations suggests that at least some of these small pueblos transcended the role of fieldhouse. It is possible that Stewart Pueblo and other small sites in the region were likely used for a myriad of functions including the establishment of land tenure and habitation during the Terminal and Post-classic Mimbres Periods. The objective of investigations at Stewart Pueblo is to encourage researchers to reevaluate the function of small pueblos and their role in community systems both in the Mimbres Valley and beyond.

Contact Aaron Woods at: woodsa12@unlv.nevada.edu

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THE AEOLUS SITE (LA 49405): EVIDENCE FOR FORAGER CONTEMPORANEITY

Leah Fitzgerald
Eastern New Mexico University
Algonquin Consultants, Inc.

Introduction

As many people did worldwide, prehistoric Southwest groups shifted from a foraging lifestyle to a more sedentary lifestyle. This shift occurred at different times in different places (Barlow 2002; Fish and Fish 1994; Merrill et al. 2009; Roth 2006). In many cases, the shift to a more sedentary lifestyle was correlated with the adoption of horticulture as a subsistence strategy. Why foragers adopted this strategy has been a persistent research question for archaeologists (Fish and Fish 1994; Phillips 2009; Roth 2006; Graves and Willis 2011).

When studying a group's subsistence patterns, a researcher is attempting to understand the activities that a group practiced in order to attend to its long term nutritional needs, including which plant resources were used (Hogan 2006). When focusing on a specific location within the Southwestern United States, researchers also tend to grapple with how the subsistence patterns revealed in certain geographic areas correlate with the larger, general region. Archaeological sites in southeastern New Mexico lend themselves especially well to research questions of this nature.

Prehistoric subsistence practices in southeastern New Mexico shifted over time, in general demonstrating changes in increasing diet breadth. The Paleoindian period (ca. 10,000-6,200 B.C.), is characterized by a hunter and gatherer adaptation focusing on large game hunting. The Paleoindian diet was, however, supplemented with edible wild plants (Katz and Katz 2001; Hogan 2006). Archaic period (ca. 5,200 B.C.-A.D. 500) subsistence strategies included a focus on wild plant resources that were available at predictable times, a strategy that minimized risk (Hogan 2006). The Archaic period has been characterized as having, no cultigen adaptation, the use of only limited riparian resources, and little to no bison hunting (Sebastian and Larralde 1989). The use of processing features where plants were roasted en masse – as evidenced by burned rock piles and middens - allowed groups to use plants at a scale that was not practiced during the earlier Paleoindian period (Katz and Katz 2001; Hogan 2006).

During the Formative/Ceramic period (ca. A.D. 500-A.D. 1375), according to one theory, horticultural groups shared the landscape with hunter and gatherer groups in southeastern New Mexico (Katz and Katz 2001; Hogan 2006; Upham 1994). Hunter and gatherer groups may have been able to continue their non-cultigen subsistence adaptation and avoid competition with horticultural groups by occupying certain parts of the landscape. One such area is that to the east of the Pecos River (Hogan 2006; Upham 1994).

Some scholars have also theorized that foraging groups persisted and interacted with agricultural groups as late as the Ceramic period (ca. A.D. 500-1375) in the American Southwest (Condon et al. 2008; Hogan 2006; Upham 1994). The Ceramic period exchange of goods would have included wild and domesticated plant resources, wild animal meats and pelts, ceramics, and groundstone tools and material. As in any place and time, the availability of foodstuffs in mutual exchange relationships affects the ways that groups develop and maintain their subsistence strategies (Upham 1994).

What might have occurred was a type of mixed economy, where people could have transitioned in and out of a foraging lifestyle (Upham 1994). Indeed, interactions with plant growing groups could have encouraged foraging groups to integrate domesticated plant resources into their subsistence strategy.

Analyzing the organic matter recovered from a prehistoric site can help form and answer questions about subsistence change. Organic matter that accumulates at a site can result from discarded food, excretion, fire building activities, shelter construction, and tool manufacturing (Stine 1993). The majority of the organic material at a site is contained within soils and sediments (French 2003; Horrocks 2005; Lentfer 2002; Persall and Piperno 1993; Stine 1993; Sullivan and Kealhofer 2004). Organic matter has also been recovered in and on artifacts recovered from archaeological sites (Barton 2005; Dickau et al. 2012; Haslam 2006; Persall and Piperno 1993).

Researchers studying prehistoric subsistence have used pollen and other microbotanical evidence to successfully reveal the diversity of the plants that groups used during the occupation of a site. Flotation samples collected from various proveniences typically contain the discarded remains of the mainly inedible parts of plants, such as shells and cobs, as well as seeds lost during roasting and similar processes.

From these samples, archaeologists have been able to identify plant resources that were used for subsistence (Dickau et al. 2012; Hard et al. 1996). However, microbotanical remains do not always preserve well at sites. Such remains can simply decompose or be destroyed through different environmental processes, including soil movement, wetting and drying, animal activities, landform erosion, and soil displacement from root growth (Hard et al. 1996; Sadori et al. 2010).

Starch & Phytolith Analysis

A more recent development in archaeological research, the examination of starch grains from sites, has become increasingly more common over the past twenty to thirty years (Torrence 2006). Starch remains have been recovered from sediments, different types of vessels, and dental cavities (Cummings 2007). Starch is created in all

plants during photosynthesis and is stored in a plant's tubers and seeds, which are vital sources of energy and a major food source in past human diets (Gott et al. 2006). Foods high in starch content include maize and squash, which were a major part of the prehistoric diets in the American Southwest (Katz and Katz 2001; Hogan 2006; Upham 1994).

In addition to starch grains, phytoliths have become another focus of organic matter research. Phytoliths are recovered from soil, sediments, and artifacts. When plants absorb groundwater, they also absorb silica, which forms into durable, microscopic structures within plant tissues. The morphology of these structures is often genus and species specific. These structures, phytoliths – literally, plant stones – are resistant to decay (Horrocks 2005; Persall and Piperno 1993). Phytoliths are easily identifiable and will normally keep their distinctive form long after the plant that contained the phytolith has decayed or burned (Horrocks 2005; Persall and Piperno 1993).

The Aeolus Site

The study presented here is an analysis of the starch grains and phytoliths recovered from sediments and artifacts of the Aeolus Site (LA49405). The Aeolus Site is a small, Eastern Jornada Mogollon camp site located in the arid grasslands near Maljamar, in Lea County in southeastern New Mexico. The Site has been dated to A.D. 890, which means that it falls within the Formative/Ceramic time period for the region (Landreth 1988).

Archaeological work conducted at the site in 1985 recovered two sediment samples: one from a possible hearth (Feature 3) and one from a horizon containing cultural materials adjacent to the feature. The feature sample was recovered from 105-120 cm below surface, and the cultural horizon sample was recovered from 100-110 cm below surface. Starch and phytolith remains from the two 1985 excavation samples were used to test the hypothesis that the occupants of the Aeolus Site were a hunter and gatherer adapted group that existed contemporaneously with known horticultural groups of the Pecos River.

The author also examined 32 groundstone artifacts, including nine manos, one metate fragment, and 22 groundstone fragments of uncertain artifact type, in the hopes that starch and phytolith remains associated with the occupation of the Aeolus site would have adhered to them. These artifacts were found in close association with the possible hearth feature and the cultural horizon from which the second sediment sample was taken. Each of these artifacts was washed, and the wash water was placed in a centrifuge. Unfortunately, a problem with the speed calibration of the centrifuge caused the wash samples from the artifacts, along with several samples from the 1985 excavation wall profile, samples to be destroyed during the process. The calibration issue was caught too late in the process for the samples – and the research dependent on them – to be saved.

Results of the Starch & Phytolith Analysis

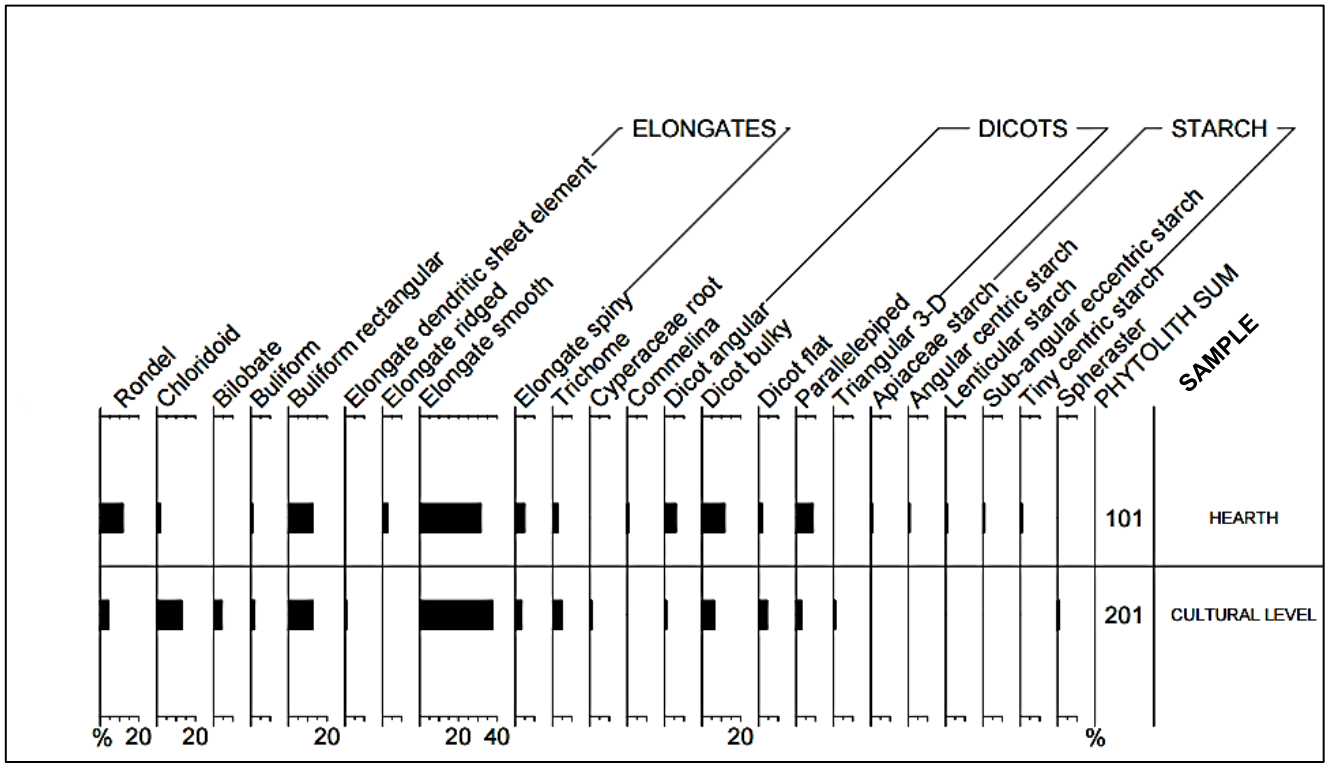
Results of the technical analyses of the materials are somewhat equivocal (Cummings and Varney 2014) in regards to the hypothesis under investigation. In this M.A thesis project, as in many studies, small sample sizes can founder the identification of corroborating evidence among samples and thus the reliability and broad applicability of interpretations.

Failure of the washing of the groundstone artifacts to produce starch, phytolith, or other microbotanicals was a case study in the reality of archaeological investigation. Sometimes, one doesn't find just "no data to support a hypothesis", one winds up with "no data at all". Lacking any usable samples from the 32 groundstone artifacts (and the excavation profile wall) thus limited the total samples examined by experts in starch and phytolith analysis at PaleoResearch Institute to two. To further complicate attempts to better understand subsistence at the Aeolus Site, the two sediment samples analyzed were not overly abundant either in starch or phytolith remains.

Still, certain useful information about subsistence and local environment clearly has been obtained. I will discuss the starch record first (also see Figure 1 in conjunction with the narrative). Starch remains were recovered only from the hearth sample. These remains suggest that a number of wild plant foods may have been

processed in and around the feature. A cluster of three hemispherical starches joined together, typical of starches produced in the roots of plants in the Apiaceae (parsley or umbel) family, suggest that a plant in this family was processed in the hearth. Several sub-angular eccentric starches, typically found in the roots of the aquatic plant genus *Sagittaria*, suggest that one of the plants commonly known as arrowhead, duck potato, or wapato was cooked, as well.

Figure 1: Phytolith and starch diagram for the Aeolus Site (LA 49405).



The tiny centric starches identified in hearth fill could have come from grasses or cattail (Typha) roots processed there. The angular centric starches in the hearth could have derived from processed grass seeds (e.g., *Setaria* sp.), although this shape of starch can also be assigned to maize. Most analysts will not subscribe a single angular centric starch to maize, however, without corroborating evidence such as cob fragments or phytoliths (Yost 2011). Several lenticular starches typical of cool season wheatgrass, ryegrass, and little barley grass suggest that seeds from grasses such as these also may have been cooked in the hearth. These remains may also represent materials cleaned up from meals eaten around the hearth.

No starch remains were noted during analysis of samples from the cultural horizon near the hearth. This sample did yield a single phytolith from a Cyperaceae root. Cyperaceae (sedge) plants grow in wetlands and likely would not have been introduced into the area around the hearth except by human agency. The cultural horizon sample also yielded a single globular echinate silica body derived from a freshwater sponge (Spongillidae), called a spheraster. It is likely that bringing the Cyperaceae roots to the site, and perhaps also the cattails and the *Sagittaria* indicated by the hearth sample, introduced the spheraster from a local wetland.

Among the phytoliths in the cultural horizon sample were several chloridoid forms, which likely attest to the local growth of short, drought-resistant grasses in the environment surround the Aeolus Site. A single dendritic elongate sheet element (i.e.,

dendriform) was also observed in this sample and likely also represents the remains of a native environmental grass, quite possibly a member of the Pooideae family, as opposed to specific evidence for subsistence. Customarily, only when more than two percent of a sample is composed of dendriforms is the processing of grass seeds suggested.

Phytoliths in the hearth sample were more deteriorated than those from the nearby cultural horizon sample. Their state of decomposition might have resulted from direct exposure to high temperatures, or to fire itself, or to the ashes in the hearth. Ashes would have increased the alkalinity of the feature fill and contributed to the destruction of phytoliths. It is also likely that the feature basin may have held more moisture for longer periods after seasonal rainfall events than the surrounding sediments. Longer wet periods and frequent wetting-drying cycles also could have increased phytolith deterioration within the feature's fill.

The hearth fill sample yielded grass short cells typical of both cool season (festucoid) and warm season (chloridoid) grasses. Hearth samples yielded more dicot phytoliths than samples from the nearby cultural horizon. This higher number of dicot phytoliths may reflect denser vegetation growth within the abandoned hearth than surrounding areas. The hearth sample also produced several *Commelina erecta* (whitemouth dayflower) phytolith, which likely came from dayflowers growing in the abandoned hearth. A phytolith study of approximately 500 features in the Permian basin noted a correlation of *Commelina erecta* phytoliths with abandoned hearths (Cummings and Kovácik 2013).

Summary

The starch and phytolith analysis combined tell us something of the grasses and other plants that grew in the environs around the Aeolus Site. They also strongly suggest that wild plants – two types of grasses (such as wheatgrass, ryegrass, or little barley grass), sedge, a member of the Apiaceae (parsley) family, wapato or a similar aquatic plant in the genus *Sagittaria*, and possibly cattail were processed in and around the hearth at the Aeolus Site. At least three and perhaps four separate lines of evidence – a sedge phytolith, a freshwater sponge spicule, several *Sagittaria* remains, and possible cattail root starch – indicate that wetland plant resources were collected and processed in and around the hearth.

Although the adage "absence of evidence is not evidence of absence" should be noted, of the various starch grains and the 302 phytoliths examined, none was identified as being from a cultigen (Figure 1). Together with the wild plant remains found, the absence of cultigens support, perhaps not as strongly as hoped for, the hypothesis that the occupants of the Aeolus Site were a hunter and gatherer adapted group that existed contemporaneously with known horticultural groups of the Pecos River.

Request for Assistance!

In an effort to bring my thesis research to a close, I would be grateful if anyone has additional observations to offer about the starch and phytolith findings presented here. I would be especially interested in knowing if others have found the same kinds of results at similar small sites and have interpreted them the same, or differently. I would also be interested in knowing if others have observed that, when cultigens are present at small sites of this time period, their presence is obvious in all samples and not easily overlooked as a result of small sample size. Lastly, I would be very appreciative if any of you have information about sites similar to Aeolus, especially information that I won't find in the published literature, that you would share it with me at:

leah.m.fitzgerald@outlook.com

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Donating Private Collections of Native American Artifacts to Museums

Jacquelyn Bonavia
Anthropology Collections Assistant
Museum and Field Studies, University of Colorado Museum of Natural History

Introduction

In May 2015, I traveled to northern New Mexico to prepare an accomplished scholar's private collection of 123 Southwest Native American (primarily prehistoric) whole, painted pots for museum donation.

My project sought to catalog this particular collection and prepare it for potential accession by a major southwestern museum, as well as to provide guidelines for other private collectors that would make their collections more attractive to museums.[1]

Object Biographies

Individuals have collected antiquities for centuries. Many collectors consider donating their collections to museums but frequently do not know the complete provenance or provenience information for their collections. Museums are often reluctant to accept these donations for two primary reasons.

First, without provenience, many argue that objects lose their scientific value. Second, without a complete ownership history, one cannot prove that the objects have not recently been looted.

Colin Renfrew (2000) has been particularly vocal in his call to restrict trade in artifacts, demanding that nobody, including museums, should acquire any objects for which the entire provenance is not well documented.

However, the rejection of private collections can have several negative consequences. Rejection can result in the items

[1] Permission to publicly identify the collector and the museum considering the collection has not yet been officially granted.

being made publicly inaccessible for future research or the seeking of a cultural connection. As well, collections rejected by a museum can be broken apart, and many items whose significance lies at least partly in their relations to other items in the collection can be widely separated one from another. Further, collections not donated may enter and enhance the antiquities market, an arena that is clearly tied to looting.

Provenances are object biographies. Objects acquire meaning because of their incorporation in social interactions, which transform the meaning of objects as they move through their use lives.

Anthropologists like Thomas (1991), for example, have explored the ways in which objects change meaning as the result of exchange. Objects do not necessarily lose significance if they leave their society or time period of origin. Rather, their biographies continue as they "belong to...an evolving memory" (Burström 2014:77).

When museums reject private collections on the basis of insufficient contextual information, they dismiss or deny the potential new significance that such collections acquire because of their associations with particular private collectors. For example, the collection of Southwestern pottery that I studied for my project belongs to an internationally renowned scholar and gained new social and historical significance because of this association.

I argue that, even though it is a recent chapter in these objects' long life histories, their new context as part of the scholar's collection is as worthy of preservation in a museum as the original provenience or complete provenance.

Steps for Private Collectors

When private collectors decide to donate, they can take several steps to increase the likelihood that museums can responsibly accept their collections. Collectors must first select an accredited museum with both a mission and scope of collections appropriate for the objects being donated.

Although certainly not required of donors, it is also helpful if they can make financial contributions. Museums need money both for acquisition of new collections and maintenance and presentation of existing collections and may not have the resources to responsibly acquire objects without associated financial contributions for their future care.

It is also important for a donor to develop relationships and consult with museum staff. Cooperation, understanding, and collaboration are keys to a successful donation. Finally, it is essential for a donor to prepare all pertinent documentation concerning the objects that will be donated, including receipts and correspondence concerning the objects' histories of ownership.

Outcomes

This project resulted in two major outcomes – a catalog of the collector's pots for the museum that is considering acquisition, as well as guidelines for private collectors hoping to donate collections to museums. These guidelines are intended to help collectors determine the appropriate steps to successfully donate their collections.

If you know private collectors who may be interested in this information (or any museums that may be interested in sharing these guidelines with potential donors), please email me at: **jaceybonavia@gmail.com.**

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Old Collections, New Questions: Smoking Customs and Plains-Pueblo Interaction at Pecos

Kaitlyn E. Davis
Department of Anthropology, University of Colorado, Boulder

Introduction

The interaction between contact and precontact era Plains and Pueblo people has been recorded in ethnohistoric accounts, studied by archaeologists, and depicted by artists. Artistic accounts, such as those at Pecos National Historical Park, often show a cluster of tipis outside of pueblo village walls, with Plains people bringing bison products and other goods to Pueblo people in exchange for textiles, ceramics, and agricultural products.

Archaeological accounts (Ford 1972, Speth 1991, Spielmann 1991, Habicht-Mauche 2008) document the temporal and spatial extent of these trade and interaction networks through analysis of non-local goods in Pueblos and Plains sites. Ethnohistoric accounts highlight specific pueblos as being trade centers (Winship 1896, Hammond and Ray 1966).

During a visit to Pecos National Historical Park in August 2014, I noted that much of the park literature presented Pecos as such a trade center. I became interested not only in the site itself, but also in questions about the ceremonial aspects of trade and how Plains-Pueblo inter-regional interactions were established and negotiated.

I also wondered what additional information could be gleaned from the collections from A.V. Kidder's 1915-1929 excavations of the site and if that information could be used to quantify or support the idea of a specialized trade center. These questions led to my master's thesis project: an analysis of Pecos smoking pipes as proxies for examining social interaction and regional mediation aspects of trade and decision making. I present the preliminary results of my research here.

Background

Trade and interaction between Plains and Pueblo groups occurred both before and after Spanish contact, but became more formalized

and more intensified around AD 1450-1500 (Lintz 1991). This formalization and intensification was driven by changes in environment, such as drought, and shifts from more sedentary to more mobile settlement patterns on the Great Plains (Baugh 1991). Certain pueblos are reported to be engaged in trade on larger scales than others because they acted as Plains-Pueblo pathways (Hamalainen 2008).

Pecos was chosen as the focus site for this study because of its role as a trade center and the fact that the Pecos pipe sample size (including whole pipes and fragments) is significantly larger than that of any known contemporaneous pueblos (832 at Pecos, compared to 53 or fewer at other sites).

Pecos Pueblo is situated in a natural funnel in the landscape, in the pass between Glorieta Mesa and the Sangre de Cristo Mountains. This "funnel" connected the Great Plains to the interior Southwest. Multiple ethnohistoric accounts point to Pecos as a trade center for Plains and Southwest peoples (Winship 1896, Hammond and Rey 1966).

If Pecos were a specialized trade center, that status should be reflected in artifacts that were trade goods and in artifacts associated with the process of trade and the interaction of larger social networks. Because of the acknowledged roles that pipes play in Native American ceremonialism (McGuire 1899, Carmody 2015) and their distinctive regional styles, this artifact class has potential to help us learn about both the intersection of Plains and Pueblo people and trade networks at Pecos Pueblo.

By determining density of pipes at Pecos compared to other Rio Grande border pueblo sites, the relative proportion of Plains and Pueblo pipe styles at Pecos through time, and the spatial distribution of the pipes at the site – along with examining other attributes of Pecos pipes – I am hoping not only to learn more about this artifact class at this important site, but also to contribute another line of evidence to the Plains-Pueblo network discussion.

Methods

My current analysis has three components: 1) spatial and temporal placement of each pipe, 2) material composition and appearance of each pipe, and 3) ethnographic research to explore how pipes were used in social negotiations in both Plains and Pueblo contexts. Investigations include assessing form, size, surface design, material (clay, stone, or bone, local or non-local), and use-wear on each pipe specimen.

Kidder did note form and material of the pipes (Kidder 1979), but my analysis takes his work a step further by examining use-wear and surface design in more detail, in addition to determining local and non-local materials and using the pipes as a line of evidence for Plains-Pueblo interaction. I will use contextual data and maps from the Pecos archives to assess the spatial and temporal distribution of the pipes at Pecos and compare those to site reports from other border area or frontier sites where pipes were found.

Preliminary Results and Future Directions

Preliminary analysis of the data indicates that the pipes of Pecos, besides being unusually numerous, are largely in line with a typical Puebloan assemblage of this time (being mainly clay material and of a simple tubular form)

However, there are noteworthy variations that suggest interaction outside of the immediate northern Rio Grande/Pecos River area. These variations include non-local stone materials and effigy and elbow shapes strongly resembling those of Plains pipes (Figure 1). An example of blending of styles that I have noted

at this stage of my analysis is Plains forms made with Pueblo clay materials.

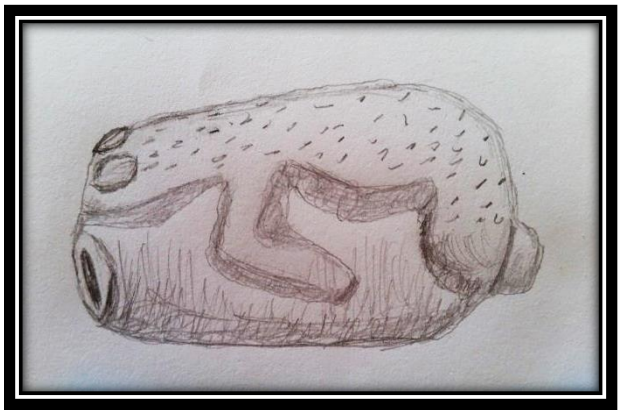

Figure 1: Rough sketch of an effigy pipe form (ca. 6.4 cm long; drawing ACI).

Another line of evidence involving a pipe and suggesting the presence of Plains people within Pecos is Grave 675, which contained an elbow pipe and Plains-associated grave goods, such as a hide scraper and certain projectile points and bone tools (Pecos National Historical Park 2015).

The majority of pipes examined thus far have evidence of use-wear, but not all of those show evidence of smoking, which supports literature about multiple use types for pipes (Adams 2014). When combined with provenience data, I hope to determine if the used pipes were concentrated in a different area than the non-used ones (indicating possible production or storage versus use areas).

Common surface design motifs include the step motif, shepherd's crook, t-shape, lightning arrow, rain clouds, and geometric designs. One of the next steps of my research is to compare these designs to those found in rock art, ceramics, and other media associated with Plains and Pueblo people.

Density was estimated by dividing the number of pipes excavated by number of excavated rooms (Figure 2). The significantly higher density of pipes at Pecos compared to other Rio Grande Pueblos suggests that either it was a specialized pipe center or that it featured a higher frequency of pipe-related activities.

If the latter is the case, it can support the literature from elsewhere in the United States of pipes factoring importantly in interaction ceremonies and in establishing social networks (McGuire 1899). In the case of Pecos, pipe forms support the idea that these networks extended beyond the Southwest into the Plains.

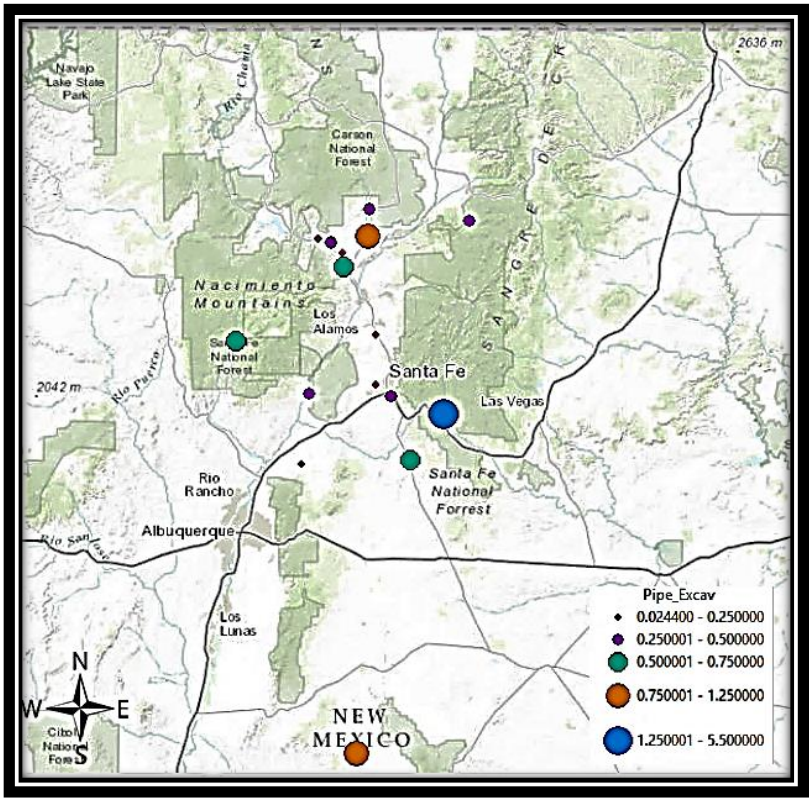

Figure 2: Ratio of pipes to excavated rooms for Rio Grande Pueblos for which pipe and/or pipe fragment tabulations were available. Pecos is represented by the blue circle.

I am currently working on spatial and temporal analyses of the collection. Future directions include breaking down the preliminary results by more specific pipe forms and materials to see if other trends emerge, determining material types and design motifs more precisely, and, if possible, submitting some samples for compositional analysis and sourcing to more precisely determine material origin locations for the pipes that were determined to be non-local.

Ways to expand the research include conducting more archival research and comparative collections work on materials from other Pueblo and Plains sites and learning more about the spatial and temporal distribution of a particular elaborate pipe form, largely unique to Pecos (Figure 3).

Contact Kaitlyn Davis at:
kaitlyn.e.davis@colorado.edu

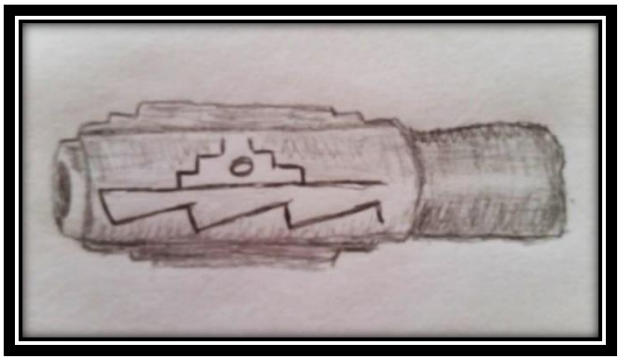

Figure 3: Rough sketch of an elaborate pipe form (ca. 7.6 cm long; drawing ACI).

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RELATIVE CERAMIC CHRONOLOGY AND POPULATION HISTORY IN THE JEMEZ REGION, NEW MEXICO

Mark R. Agostini
University of Colorado, Boulder
Peabody Museum of Archaeology & Ethnology, Harvard University

Introduction

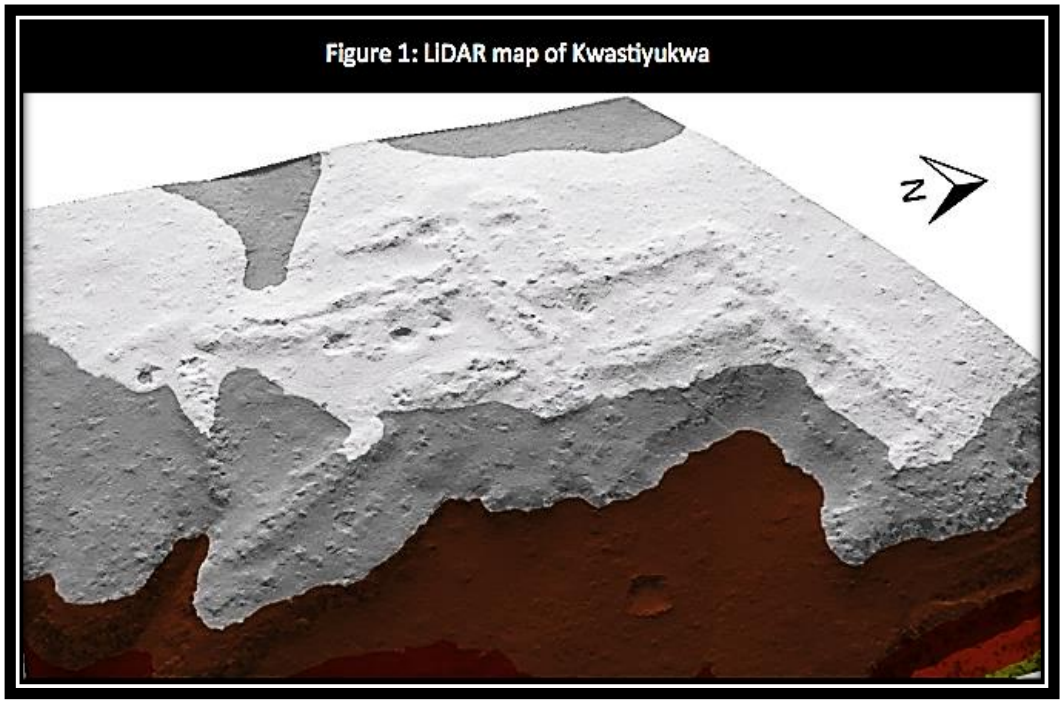
The Jemez region is among the areas in the American Southwest most affected by early Spanish colonialism. On the eve of contact, dense Pueblo populations occupied eleven large-scale pueblos in the Jemez Mountains of New Mexico. Shortly thereafter, populations were nearly decimated, which resulted in the occupation of only a single pueblo.

This article presents data from the ongoing Jemez FHiRE project (Fire and Humans in Resilient Ecosystems), which aims to explore the interplay between prehistoric human occupations, southwestern forests, and fire on the landscape. Among the multiple inter-disciplinary sources of data being generated through this project, a crucial tier is the archaeological study that I discuss here of several large ancestral Pueblo sites situated in the Jemez Mountains.

This preliminary study employs uniform probability density analysis along with empirical Bayesian statistical methods (Ortman 2007; Ortman 2014) to understand archaeological survey data from two densely populated ancestral Pueblo villages called Kwastiyukwa (LA 482) and Tovakwa (LA 484). The study ultimately seeks to generate population estimates and demographic data for use in modeling how these prehistoric peoples mediated forest fire effects on the cultural landscape.

Kwastiyukwa and Tovakwa

Kwastiyukwa, idiomatically referred to as "Giant Footprint Ruin" after a large footprint petroglyph in the area, is comprised of approximately 1,250 rooms atop Holiday Mesa (Elliott 1986). The village contains a central set of four major room blocks enclosed by a plaza, several semi-enclosed plazas, four plaza kivas, and a large kiva in the southeastern part of the site (Figure 1).



Tovakwa, atop Stable Mesa, is of similar size and contains four enclosed and three semi-enclosed kivas, four plaza kivas, and a large kiva in the eastern portion of the site. A Harvard University team collected ceramic samples from both Kwastiyukwa and Tovakwa in 2012 and 2013 under the supervision of Matthew Liebmann. Ceramic tallies were compiled by type, building upon previous research on inter-site ceramic chronologies (Liebmann 2012; Reiter 1938), which can then be translated into population estimates for quantifying population histories of each settlement.

Ceramic Analysis

The methods for conducting this analysis are adapted from a prior study (Ortman 2014) that addresses the common archaeological problem of needing both demographic and chronological resolution for sites inhabited through the *longue durée*. The method used apportions the probability of sherd deposition of a given type with the type's production span, as defined by absolute dates and stratigraphic evidence from a given region (Ortman 2014: 1, 5). The resulting values may be interpreted as relative rates of potsherd deposition, or the relative intensity of occupation during each period of time.

Table 1 presents uniform distributions for pottery types found in the Jemez Region; pottery types are identified in the left column, and the table lists 12 periods across the top. The ceramic periods are based on the starting and ending dates of the pottery types. Total ceramic weight (in grams) in the sample is paired with each type. The values in each row represent the probability a sherd of that type of pottery was deposited on a site during each pottery period. The sums from Table 1 are then combined against a representative sample of pottery from a site to produce a probability density distribution, where the area under the curve equals 1.0 and the curve's height represents the probability of occupation during each of the pottery periods.

Table 1: Uniform distributions and pottery periods in the Jemez Region.

			Begin	950	1200	1250	1300	1325	1400	1425	1450	1490	1515	1600	1640
			End	1200	1250	1300	1325	1400	1425	1450	1490	1515	1600	1640	1680
			Span	250	50	50	25	75	25	25	40	25	85	40	40
CERAMIC TYPE	Begin Date	End Date	Weight												
Jemez B/W	1300	1680	380	0	0	0	0.07	0.197	0.066	0.07	0.11	0.07	0.22	0.132	0.132
Plain Corrugated	950	1300	350	0.71429	0.14	0.143	0	0	0	0	0	0	0	0	0
Indented Corrugated	1200	1450	250	0	0.2	0.2	0.1	0.3	0.1	0.1	0	0	0	0	0
Blind Indented Corrugated	1250	1515	265	0	0	0.189	0.09	0.283	0.094	0.09	0.15	0.09	0	0	0
Glaze A	1325	1425	100	0	0	0	0	0.75	0.25	0	0	0	0	0	0
Glaze B	1400	1450	50	0	0	0	0	0	0.5	0.5	0	0	0	0	0
Glaze C	1425	1490	65	0	0	0	0	0	0	0.38	0.62	0	0	0	0
Glaze D	1450	1515	65	0	0	0	0	0	0	0	0.62	0.38	0	0	0
Glaze E	1515	1640	125	0	0	0	0	0	0	0	0	0	0.68	0.4	0
Glaze F	1600	1640	40	0	0	0	0	0	0	0	0	0	0	1.25	1.25
Glaze NFS	1325	1640	315	0	0	0	0	0.238	0.079	0.08	0.13	0.08	0.27	0.127	0.127
Jemez Plain Gray	1490	1640	150	0	0	0	0	0	0	0	0	0.17	0.57	0.333	0.333
SUM				0.71429	0.34	0.532	0.26	1.768	1.089	1.22	1.61	0.79	1.74	2.242	1.842

After producing a probability density distribution, Baye's Theorem (see Iversen 1984) was employed to combine the probability of occupation for each period from the probability density analysis, called the "prior probability, and the mean conditional probability of obtaining the sample data from that site based on the uniform deposition model.

The resulting distributions, referred to as posterior distributions (Figure 2), specify the relative intensity of occupation per pottery period. The height of the posterior distribution is considered to be proportional to the average number of individuals who used and discarded pottery at a site through time. Given that the peak occupations at sites had been previously calculated based on site size, number of room blocks, and similar variables, the posterior distributions were then rescaled to produce an estimate of the population history for each period, as shown in Table 2.

The preliminary results from Table 2 suggest initial habitation at Kwastiyukwa by the late 13th century and at Tovakwa sometime around the turn of the 14th century. Interestingly, Kwastiyukwa show a strong bi-modal population distribution. Habitation reaches an initial high at Kwastiyukwa earlier in the pre-Hispanic period (1325 –1400), a high only weakly mirrored at Tovakwa. Both sites show a population peak during the historic era (1515 – 1600).

A shortcoming of this initial analysis is that most of the pottery types in the assemblage are glaze wares, which were imported in small quantities. Thus it is unlikely these types would accumulate at consistent rates per person per unit time. The troughs visible in Figure 2 express the glaze wares' undue influence on the potsherd deposition rate. In order to avoid this problem, future use of these statistical methods will modify the uniform distribution for each type based on the way observed proportions of that type interact with expectations of the uniform deposition model.

Figure 2: Prior and posterior distributions for Kwastiyukwa (LA 482) and (Tovakwa) LA 484.

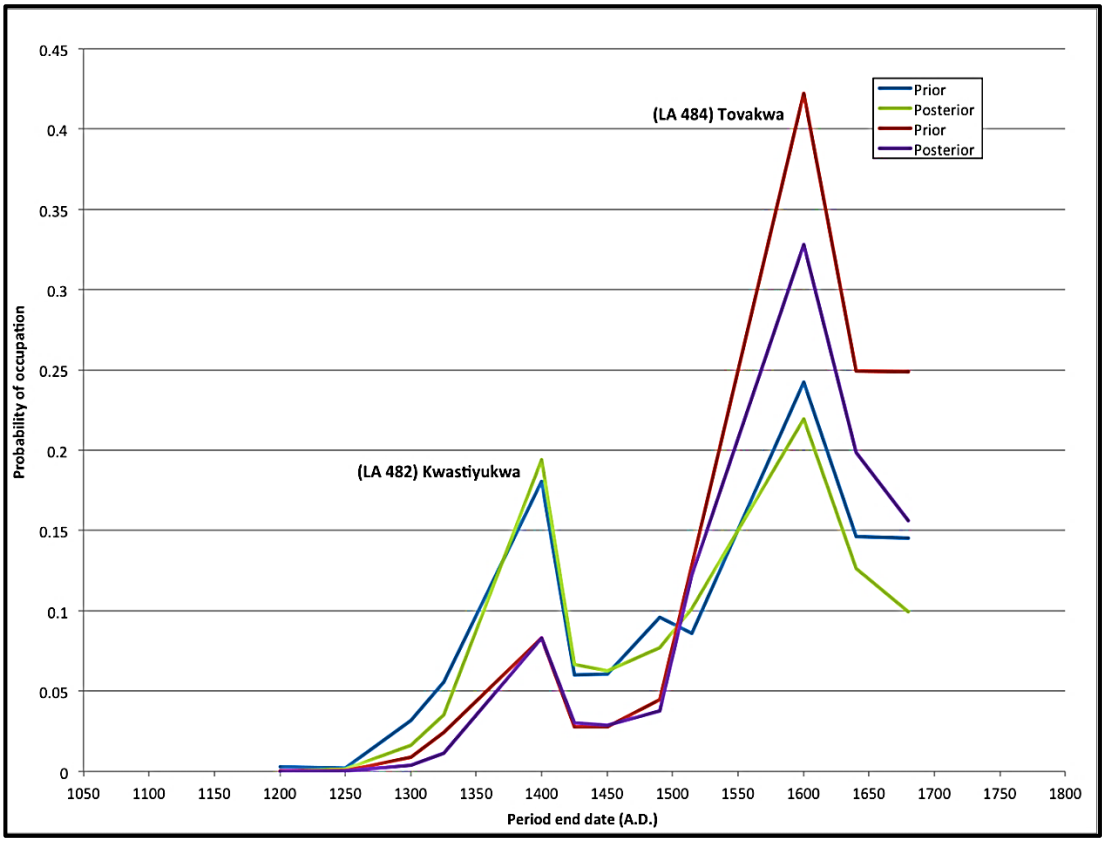


Table 2: Rescaled population estimates by peak occupation, Tovakwa (LA 484) and Kwastiyukwa (LA 482).

Begin	**950**	**1200**	**1250**	**1300**	**1325**	**1400**	**1425**	**1450**	**1490**	**1515**	**1600**	**1640**
End	**1200**	**1250**	**1300**	**1325**	**1400**	**1425**	**1450**	**1490**	**1515**	**1600**	**1640**	**1680**
Span	**250**	**50**	**50**	**25**	**75**	**25**	**25**	**40**	**25**	**85**	**40**	**40**
LA 482	0	0	107	233	1278	437	413	506	666	1444	830	655
LA 484	0	0	0	42	313	114	109	143	462	1240	750	590

Summary

This ceramic analysis produced date estimates for the 17th-century occupations of Kwastiyukwa and Tovakwa that are consistent with the late 1630s dates obtained from tree ring regrowth analyses. When the probability of occupation in Figure 2 is examined, it is evident that ancestral Pueblo people have left the mesa top villages by the 1640s Pairing population estimates for these mesa top sites from the time of depopulation with Spanish census records likely will also support these date estimates. Moreover, subdividing pottery types from the Jemez Region, such as Jemez Black-on-white and utility wares, through multivariate seriation methods will increase the precision with which archaeologists can make chronological interpretations, thereby enhancing our ability to measure the histories of population growth and decline across a broader demographic context.

Acknowledgements

This research would not have been possible without the hard work, hospitality, and friendship of the people from Jemez Pueblo and students from Harvard University. Matt Liebmann introduced me to archaeology in the Jemez region and generously provided space at the Peabody Museum to generate and share these results, for which I am continually grateful. Scott Ortman was instrumental in applying and explaining the quantitative methods for the compiled pottery tallies. ***Contact Mark Agostini at:* mra1221@gmail.com**

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NEW MEXICO ARCHEOLOGICAL COUNCIL 2015 FALL CONFERENCE

FIRE AND ARCHAEOLOGY IN THE SOUTHWEST

Hibben Center, University of New Mexico, Albuquerque
Saturday, November 14, 2015

Co-sponsored by the Maxwell Museum of Anthropology, UNM
Agenda subject to change before or during the conference

Preliminary Event: Friday, November 13, 2015

7:30-9:00 P.M. Public Presentation ***Humans, Forests, and Fires in the Southwest: Multi-Century Perspectives from Tree Rings, Fire Scars and Archeology*** by Tom Swetnam, Laboratory of Tree Ring Research at the University of Arizona. Free event. Hibben 105, UNM Campus.

Conference: Saturday, November 14, 2015

8:00 – 9:00 A.M. On-site registration; continental breakfast (Hibben Atrium)

8:00 – 9:00 A.M. NMAC Business Meeting (Hibben 105)

Symposium (Hibben 105) – Organizers/Moderators, Amalia Kenward and Anastasia Steffen, Ph. D.

9:00 – 9:10 A.M. Welcome and Announcements

Understanding Fire Concepts

9:10 – 9:25 A.M. Joe Lally, *Fire, It's Complicated*

9:25 – 9:55 A.M. Craig D. Allen, *Historical Ecology, Climate, and Fire History in the Southwest*

9:55 – 10: 15 A.M. Kurt Anschuetz, *Playing with Fire: Risks in Not Managing Forests as Cultural Landscapes*

10:15 – 10:40 A.M. BREAK

Managing Contemporary Fires

10:40 – 10:55 A.M. Jennifer Dyer, *Working with Tribes in Fire Suppression and Fire Planning*

10:55 – 11:15 A.M. Margaret Hangan, Neil Weintraub, and Jason Nez, *Managed Wildfires: A Remarkably Effective Tool in Historic Preservation on the Kaibab National Forest*

11:15 – 11:30 A.M. Harding Polk II: *The BIA Perspective on Fire and Fuels Management and its Relation to Cultural Resources on Tribal Lands in the Southwest Region*

11:30 – 11:45 A.M. Mike Bremer, *Forest Fire History and Fire Effects to Cultural Resources on the Santa Fe National Forest*

11:45 A.M.-12.00 P.M. Lisa Gassaway, Life of a Fire Archaeologist Can Be Rough

12:00. – 1:15 P.M. LUNCH

Archaeological Fire Effects (ArcBurn)

1:15 – 1:30 P.M. Anastasia Steffen and Rachel Loehman, *ArcBurn: Quantifying Cultural Resources Fire Vulnerability in Southwestern Forests*

1:30 – 1:45 P.M. Connie Constan, Rachel Loehman, and Jennifer Dyer, *Wildfire Effects to Archaeological Ceramics in the Jemez Mountains*

1:45 – 2:00 P.M. Alexander Evans and Rebekah Kneifel, *Connecting Forest Management, Fire, and Cultural Resources*

2:00 – 2:15 P.M. Megan Friggens, Rachel Loehman, Connie Constan, Rebekah Kneifel, and Anastasia Steffen, *Developing GIS-Based Models to Predict Fire Damage at Archaeological Sites*

2:15 – 2:30 P.M. BREAK

Fires Past, Fires Future

2:30 – 2:45 P.M. Ronald Towner, *Wildland Fire and Early Navajo Archaeology*

2:45 – 3:00 P.M. Rachel Loehman, *Smoke from a Distant Fire: Reconstructing Human-Wildfire Interactions in Prehistoric Forests and Woodlands of the Southwestern US*

3:00 – 3:15 P.M. Ariane Pinson, *The Future of Wildfire in New Mexico*

3:15 – 3:30 P.M. Adam Markham, Looking at the Past to Understand the Future: How Archaeologists Can Help Solve the Current Climate Crisis

3:30 – 3:45 P.M. Discussion / Wrap Up

SATURDAY BOOK SALE

From 10:00 A.M. to 4:00 P.M., the Maxwell Museum will be selling used publications on Southwest Archaeology. Journals will be sold at 25 cents each and most other publications will cost one dollar.

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2015 NMAC Contacts

Mail: PO Box 25691, Albuquerque NM 87125

Web Site: http://www.nmacweb.org

News Group: NM-ARCH-L@unm.edu

President: Toni Goar
505-898-8488
tgoar@marroninc.com

President-Elect: Cherie Walth
cwalth@swca.com

Vice-President: Chris Turnbull
505-252-1695
cturnbow@q.com

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kmead@swca.com

Treasurer: Ken Brown
505-243-6362
km9brown@q.com

Grants: Phillip Leckman
505-323-8300
pleckman@sricrm.com

Publications: Kathy Roxlau
505-268-1324 x26
Kathy@vcpreservation.com

NM-ARCH-L and Conferences:
Dave Phillips
dap@unm.edu

***NewsMAC* Editor:** Rebecca Hawkins
918-541-0782
algonquin@neok.com or
algonquinconsultants@gmail.com