The Multifaceted Forester
PAPERS IN HONOR OF JOHN S. HAYDEN
Edited by Emily J. Brown, Carol J. Condie, and Helen K. Crotty

John S. Hayden
Finding My Way

Kurt F. Anschuetz
Las Bocas Canyon: A Contested Landscape at the Intersection of the Tewa, Keres, Tano, and Spanish Colonial Homelands

Matthew J. Barbour
The Mining Camps at Cookes Peak

Jeffrey L. Boyer
Putting Round People in a Square Hole: Spanish Worldview and the Taos Pueblo League

James M. Copeland
Ranches, Springs, and Old Stone Towers: The General Land Office Surveys in and Near Dinétah

Suzanne L. Eckert and David H. Snow
The ‘Piro Province’ as Viewed from Abeytas Pueblo (LA 780)

Sharon D. Hanna
John Hayden and Torrance County Archaeological Society’s HPD Project No. 35-95-10009.06

Frances Joan Mathien and Joyce M. Raab
Anna O. Shepard’s Site in Chaco Canyon, New Mexico

Owen Severance
Prehistoric Pottery Kilns in Southeastern Utah

David H. Snow and Hayward H. Franklin
“Nodes of Individuality” and the Dimensions of Rio Grande Glazeware Variability (Or, Caveat Antiquitatis!)

Karen Takai
Through a Vision, a “Mound of Dirt” and With Gentle Persistence, Pieces of History are Brought Together, Bringing “Tijeras Pueblo” Back to Life Again

Regge N. Wiseman
Changes in Pueblo Room Shape and Village Construction During the Middle Coalition Period in the Galisteo Basin of New Mexico

Sharon D. Hanna
John Hayden and Torrance County Archaeological Society’s HPD Project No. 35-95-10009.06

Frances Joan Mathien and Joyce M. Raab
Anna O. Shepard’s Site in Chaco Canyon, New Mexico

Owen Severance
Prehistoric Pottery Kilns in Southeastern Utah

David H. Snow and Hayward H. Franklin
“Nodes of Individuality” and the Dimensions of Rio Grande Glazeware Variability (Or, Caveat Antiquitatis!)

Karen Takai
Through a Vision, a “Mound of Dirt” and With Gentle Persistence, Pieces of History are Brought Together, Bringing “Tijeras Pueblo” Back to Life Again

Regge N. Wiseman
Changes in Pueblo Room Shape and Village Construction During the Middle Coalition Period in the Galisteo Basin of New Mexico
Statements and interpretations presented in the articles are those of the author or authors and do not necessarily reflect the opinions of the Archaeological Society of New Mexico or its individual members.

Published by the Archaeological Society of New Mexico
P.O. Box 3485, Albuquerque, NM 87110

Copyright © Archaeological Society of New Mexico 2015

Printed in the United States of America
ISSN: 0587-1719
Table of Contents

Preface .................................................................................................................................................. v

John S. Hayden

  Finding My Way ................................................................................................................................. 1

Kurt F. Anschuetz

  Las Bocas Canyon: A Contested Landscape at the Intersection of the Tewa, Keres, Tano, and Spanish Colonial Homelands ................................................................. 17

Matthew J. Barbour

  The Mining Camps at Cookes Peak ...................................................................................................... 35

Jeffrey L. Boyer

  Putting Round People in a Square Hole: Spanish Worldview and the Taos Pueblo League .............. 43

James M. Copeland

  Ranches, Springs, and Old Stone Towers: The General Land Office Surveys in and Near Dinétah .................................................................................................................. 57

Suzanne L. Eckert and David H. Snow

  The ‘Piro Province’ as Viewed from Abeytas Pueblo (LA 780) ......................................................... 69

Theodore R. Frisbie

  Destination Chaco: “Two If By Land, One If By Sea” and Other “Water Matters” ..................... 83

Sharon D. Hanna

  John Hayden and Torrance County Archaeological Society’s HPD Project No. 35-95-100009.06 ......................................................................................................................... 95
Frances Joan Mathien and Joyce M. Raab
Anna O. Shepard’s Site in Chaco Canyon, New Mexico .................................................. 99

Owen Severance
Prehistoric Pottery Kilns in Southeastern Utah .............................................................. 115

David H. Snow and Hayward H. Franklin
“Nodes of Individuality” and the Dimensions of Rio Grande Glazeware Variability
(Or, Caveat Antiquitatus!). .................................................................................................. 131

Karen Takai
Through a Vision, a “Mound of Dirt” and With Gentle Persistence, Pieces of History
are Brought Together, Bringing “Tijeras Pueblo” Back to Life Again ................................. 145

Regge N. Wiseman
Changes in Pueblo Room Shape and Village Construction During the Middle
Coalition Period in the Galisteo Basin of New Mexico .................................................. 147

Publications of the Archaeological Society of New Mexico ................................................. 153

List of Contributors ............................................................................................................. 155
Preface

I first met John Hayden in his capacity as the president of the Archaeological Society of New Mexico—an office for which his love of archaeology and his skill in diplomacy made him particularly suited. I was initially surprised as I watched him conduct board meetings. A soft-spoken man, John would appear to be an unexpected candidate for steering a roomful of fractious archaeologists toward civil discussion, much less achieving consensus. And yet, his thoughtful consideration of each point made, his unwillingness to speak ill of anyone, and his persistent pursuit of a topic until agreement was reached soothed egos, nipped tangents in the bud, and achieved results.

John is an excellent botanist and prolific photographer. His passion for both the natural and cultural elements of the landscape of the Southwest inspired him to make learning a lifelong endeavor. He took on the duties of a para-archaeologist in addition to his forestry related responsibilities as an employee of the Forest Service, producing 80 reports related to site and rock art surveys over the course of his federal career. John saw the extra duties in an unfamiliar discipline as an opportunity. It was his personal work with Ghost Ranch that paved the way for the volunteer archaeology program under Florence Hawley Ellis, resulting in a much greater understanding of the Gallina culture. Characteristically self-effacing, John writes that he considers his best achievements to have grown out of working with others. Indeed, he continues to give his time and expertise to an impressive number of archaeological organizations and has engendered devoted friendships in each of them.

—Emily J. Brown
Finding My Way

JOHN S. HAYDEN

Some people ask themselves, “Why was I born?” I know the answer to that question. It was all Fred Harvey’s fault. The well-known, turn of the twentieth century restaurateur and hotelier was the root cause of my having been born. My purpose in having been born, however, took me decades to discover.

In the Beginning

My father, Scott Hayden, was born in Albuquerque, New Mexico, in 1912, the youngest of three children. My paternal grandparents, Clifford, a haberdasher of Scots-Welsh ancestry, and Cena, a homemaker of Swedish descent, moved their family several times before finally settling in Flagstaff, Arizona. As with most parents, they wanted their children to have a better life than they had. They knew that a good education could make that happen, so they encouraged their children to continue seeking knowledge after high school.

Dad did. He attended Arizona State Teachers College, where he earned a Bachelor of Arts in Education and teaching certificate in 1936. With sheepskin in hand, he made his way to Fredonia, Arizona, a small town near the North Rim of the Grand Canyon. He spent several winters there teaching high school English, music, and typing. His summers, however, were spent wrangling tourists for Fred Harvey on the canyon’s South Rim.

One sunny afternoon in the summer of 1939, while working as a touring-car driver, Dad decided to take his lunch break at the Bright Angel Lodge, another Fred Harvey enterprise. It was a fateful decision. It was there that he met a classy “Harvey Girl” waiting on tables—my mother, Jewel. Mom was one of two children born in Anderson, Missouri and raised in Pittsburg, Kansas, to Lewis Carney, a railroad worker and tavern owner of English ancestry, and Rhoda, a homemaker of English and Cherokee extraction. Like many young women in the Midwest, Mom wanted a little adventure in her life. Therefore, shortly after graduating from high school, she applied for a job with the Fred Harvey Company. She was selected and transported by the company to the South Rim of the Grand Canyon. Moving from Kansas to Fred Harvey’s Bright Angel Lodge in 1939 definitely qualifies as an adventure.

It did not take long for Dad and Mom to fall in love. Dad was never one to let grass grow under his feet, so he soon proposed. They married that summer, and the following summer I became a Flagstaff native. Thank you, Fred Harvey!

Developing a Natural Interest

With a new family to support, a change was needed. Dad got a teaching job in Williams, Arizona, where he moved Mom and me into a small house on Hancock Avenue. Within a few years the house was overwhelmed with children, my brother and three sisters and, of course, me. As the family grew in size, so did the house—by two bedrooms, and this was the Hayden hangout until the early 1960s.

Growing up in a small, crowded house had a great deal to do with my need to seek the openness and silence of the forested slopes nearby, a need that drew me outside often. During some of the longer, snowier winters, trapped inside the house, I would peruse the books and magazines Dad had borrowed from the school library, vicariously living the lives and experiences of the West’s early explorers. Meanwhile, Dad would do some serious book research on his own.

Dad gifted me with some notable summers in which he and I would venture into the field to identify
Figure 1. Scott Hayden (upper right), is shown here with his parents Clifford and Cena (seated L. to R.) and his older sisters, ca. spring 1956. Photo by Scott Hayden.

Figure 2. Jewel (Carney) Hayden (upper center) at age 16 (?) with her parents Rhoda and Lewis, and brother, Harvey Carney, ca 1935. Photographer (commercial) unknown.

Figure 3. John and his mother Jewel on his second birthday at family home in Williams, Arizona, July 1942. Photo by Scott Hayden.

Figure 4. This is the Scott Hayden family—(L. to R.) Scott holding Mary, John, Jewel with Cynthia in arms, and (front) Bruce, and Joann, winter of 1953; Williams, Arizona. Photo by Scott Hayden.
and retrace the routes taken by the explorers about whom we had read. Dad made double use of time we spent in the field. He was a regular contributor to *Arizona Highways Magazine* as both an author and a photographer. Our adventures provided him with the opportunity to photograph Arizona’s spectacular landscapes. Those images would later appear in the magazine accompanying the articles he had written. As we walked the routes of those early explorers, I happily supported my father’s freelance work by lugging the large camera case containing his 4x5 Large Format Monorail Camera, film holders, and the tripod. Thirty pounds of rather delicate equipment seemed like a whole lot more back then, but I would have carried even more, if required, just to be out in the wild countryside with my dad.

These adventures with Dad, and the frequent camping, picnicking, and outings to gather firewood with my family, neighbors, and Boy Scout troop, plus my constant wanderings in the hills and canyons surrounding Williams, furthered my love of and familiarity with the natural world. I used to think of my personal backyard as extending outward in all directions for a distance equal to a day’s drive from our house. We lived within the midst of the Kaibab National Forest and the Coconino and Prescott forests were just beyond. As I would later learn, the Sinagua Culture occupied about the same area. Within easy reach were places like the Grand Canyon, Sunset Crater, Flagstaff, Walnut Canyon, Wupatki, Sedona, Tuzigoot, Montezuma’s Castle, Verde Valley, Jerome, and Prescott to name a few. I can remember that, as a kid, I wanted to understand what made the world tick. I felt compelled to know the names of everything, animate or inanimate. These experiences generated my early and enduring awareness of, and appreciation for, the evidence of prehistoric and historic people. I wanted to know more about their identities and their ways of life.

So many people strongly influenced my youth: my parents, neighbors, teachers, forest rangers, Boy Scout leaders, ranchers, Methodist church youth leaders, good buddies, plus a skiing Catholic priest, a librarian, a fisherman, and the dentist next door. They all expanded my vision of the world around me and contributed to the development of my eclectic interests.

**Finding My Life’s Work**

I graduated from Williams High School in 1958 and rushed out to meet the world. Academic and music scholarships (I played the tuba and sousaphone) allowed me to begin my higher education at the University of Arizona in Tucson. The first year, I took courses that would lead to a degree in pre-pharmacy. It did not take long for me to realize that this was not my path to follow. The following year: I changed my major to biological sciences education, which unexpectedly led me to discover yet another field that proved to be of more interest—forest management practices. I had found my life’s work—I wanted to be a forester.

I left Tucson for Flagstaff to attend the newly developed Division of Forestry at Arizona State College (ASC) as it was called at that time. During summer breaks, I worked for the U.S. Forest Service in Williams. My travel horizons expanded in my third summer with the Service when I worked for their Intermountain Research Station on an itinerant timber-inventory team traveling to Idaho, Wyoming, and Montana.

![Figure 5. John (standing middle row, right end) and the summer field school class, Forestry School Arizona State College, summer 1961. Photo ASC.](image)
I wrote a paper on the microscopic attributes of Arizona Walnut for my Wood Anatomy class at ASC. My research indicated that its presence on slopes of volcanic cinder cones, rather than the expected wet canyon environment, might have been the result of seed gathering and transport by early Native Americans.

Archaeology had begun to make its way into my life.

After three years at ASC, I graduated in 1963 with a Bachelor of Science in Forest Management. The Forest Service hired me right out of school.

On-the-Job Training

My first assignment as a permanent employee was to my hometown of Williams with the Chalender Ranger District, Kaibab National Forest. It was the beginning of a long and fulfilling career as a scientist and a forest manager. I was living, working, and breathing natural resource management. I remained in Williams from 1963 to 1965.

Changes were afoot in the Forest Service. It was tasked to construct and operate work-training centers for the nation’s impoverished and poorly educated youth. In mid-1965, I was transferred to the newly designated Mountainair Job Corps Center, Cibola National Forest, and assigned as a work-crew leader. In this endeavor, I collaborated with others to design and carry out education modules that integrated classroom activities and fieldwork skills programs. Teachers began the process in the classroom. Work leaders, myself included, planned and supervised field projects that involved the practical use of reading, math, and basic hands-on teaching. To aid in this effort, I published an illustrated field-safety guide.

In the summer of 1966, I was transferred to the Blue Ridge Ranger District, Coconino National Forest, just south of Winslow, Arizona. Hired as the primary District Staff Officer, I worked and lived the forester’s dream. I applied my training and education to affect timber and recreation management in one of the finest ponderosa pine forests in the Southwest. A better situation I could not have imagined.

Into the Fire

Meanwhile, events were unfolding in northern New Mexico that would further influence my life. A group known as Alianza Federal de Mercedes (Alianza) promoted the retaking of old grant lands and returning them to locals. Many of the former grant lands were within the Carson and Santa Fe National Forests. Activities of Alianza members, including confrontations with Forest Service personnel, created a hostile atmosphere in Northern New Mexico.

While responding to reports of a large gathering of men at the Echo Amphitheater Campground in the Carson National Forest, forest officers—Phil Smith (Canjilon District Ranger), Chris Zamora (Staff Officer), and Walt Taylor (Forest Law Enforcement Officer)—were physically restrained and subjected to an Alianza kangaroo court. Fortunately, a state police officer intervened and, using his calm reasoning powers, managed to obtain their release. (Smith 2003:12-13)

That and other events brought public attention to the existence of the Alianza and their efforts to retake former Spanish land grants. Shortly thereafter, the Forest Service sought to fill the vacant District Staff Officer position in the Canjilon District. They chose me. Since I had just been transferred to the Blue Ridge District, I reflected on why I had been selected. Could it be that as a young bachelor—an expendable resource as it were—I was the logical choice? Thus, civil unrest and a little known land war brought me to northern New Mexico in the spring of 1967.
As the primary District Staff Officer, I handled timber, recreation, special uses, and land-use management, all of which required intensive fieldwork. These provided me with an intimate knowledge of the land and the people of the middle Chama River Valley—including artist Georgia O’Keefe’s old haunt, Ghost Ranch Conference Center, which would come to play a large role in my life.

The workload was huge. I was responsible for a very active timber sale program, to be discussed later, and was asked to assist on a large rangeland conversion project. More than 3,000 acres of dense piñon-juniper woodland were scheduled to have the overstory removed by a giant tree-crushing machine, converting woodland to grassland. My task was to survey the entire area to locate and mark for avoidance all archaeological sites—no small task to be certain.

You may be wondering, “Why was a forester conducting an archaeological survey?” Here is part of the answer. Historically, the 1906 Antiquities Act gave broad protection to cultural resources on federal lands. Providing protection for archaeological sites was part of planning and implementation for land disturbing projects. Clearly, this project had the potential to cause disturbance. Since we did not have a professional archaeologist available at the time, the job fell to me.

For the Tree Crusher Project, I was asked to give the newly appointed archaeologist for the Southwestern Region (R-3), Carl Johnson, a tour of the project area to let him review our archaeological survey procedures. As far as I know, Johnson was the first archaeologist hired for administration of cultural resources on national forests in Arizona and New Mexico. He seemingly approved, and the project moved forward.

Johnson’s successor, Dr. Dee Green, initiated a region-wide program to formalize archaeological surveys and reporting. Thus, from each national forest in R-3, a select few were given specialized training and were certified to conduct local archaeological surveys. I was one of those. The Forest Service called us “para-archaeologists.”

As I stated earlier, I came to know the people of the Canjilon District well, striking up many lifelong friendships. Two would have a particularly significant effect on my life: Gonzalo Gonzales, a prominent landowner and leader in Canjilon, and his bubbly wife Margaret, nee Margaret Lucille Boettcher, who taught cosmetology at the Northern New Mexico Community College in El Rito.

At one particular juncture in our friendship, the Gonzaleses needed help in branding, vaccinating, and earmarking calves at their corral. I joined them, along with others, to assist. Afterwards, though I was still covered in dust and smelling of cow, they did as they had done on several other occasions—they invited me to dinner. This time, however, something was very different. A second guest was there, brought in from Los Alamos—Kathleen Margaret Bottecher, Margaret’s daughter.

A petite blonde, like her mother, Kathy’s hair was stylishly coifed to draw attention to her attractive face. Her slim figure was attired in a blue business suit. When we were introduced, she smiled shyly. I was hooked. I suspect that had been the intent of this after-the-branding dinner party all along. It worked—and me a confirmed bachelor determined never to wed. Our chemistry was nothing less than magic on that night, and it continues to this day.

We eloped and married in Juarez, Mexico, on April 6, 1968. The scary thing was that while I thought I spoke fluent Spanish, when we finished the ceremony, I was not sure whether we had received a marriage certificate or a license to sell...
tacos. When we returned home, Kathy immediately took the documentation to the recorder’s office. That settled the legality question.

Not only did I gain a wife with this marriage but also a beautiful, wiggly, still-in-diapers stepdaughter, Lori Ann, born on June 5, 1967.

June 5, 1967, is a date well known and remembered among the locals. Do you recall my reference to the unrest created by members of the Alianza? Their agitation climaxed with the mounting of an armed raid on the Rio Arriba County Courthouse in Tierra Amarilla on that very date, another story for another time and place. Such was the atmosphere at the time.

Tensions still ebbed and flowed in the community. Threats to bomb the ranger station or to do other harm punctuated periods of relative calm. On these occasions, Canjilon District employees always took extra precautions, even temporarily moving our families out of harm’s way, if deemed necessary.

In spite of this, work went on and my new family thrived. Our son, Steve, was born on August 18, 1969. Looking back, this gift of family was the very best thing ever to happen to me.

Work Goes On

(Some of the preceding and much of the material to follow have been adapted from a story previously published in the *Ghost Ranch Archaeological Bulletin* (Hayden 2012). After a brief honeymoon, I returned to work and began delineating the cutting boundaries of a recently awarded timber sale north of Canjilon. In my meanderings, I noticed rock alignments in several places along the top of the basalt ridge emanating from a small volcanic cinder cone on the west flank of Canjilon Peak. I was certain that these were human-made, and that they were possibly sites of former agricultural plots and/or animal enclosures.

The presence of a few chert flakes and other lithic debris, along with the lack of modern cultural material, led me to conclude that the sites were probably prehistoric. To prevent damage to the sites, I changed the cutting boundary, which removed the ridge, the lava flow, and the sites out of the designated cutting area. I reckoned that if the area did, in fact, have cultural significance, avoidance would protect it for future investigation. In reality, my “decision” in this matter took the form of a recommendation for a specified course of action, which in turn was approved by the District Ranger and the Carson Timber-Recreation staff officer.

During additional reconnaissance in late 1968 and early 1969, others and I located and mapped extensive areas of similar occupation higher on the same ridge and in the nearby village of Canjilon. In the village, one of the residents took me to a group of low circular mounds with associated pottery. Years later, both were identified as belonging to the Gallina Culture. With these discoveries, I found myself wanting to dig deeper into the science of archaeology.

Figure 6. John Hayden family, Lori, Kathy, John, and Steve, at Ghost Ranch Living Museum, summer 1970. Photo by Scott Hayden.
Meanwhile, Back at the Ranch

To lessen regional tensions concerning landownership, Jim Hall, Director of the Ghost Ranch Conference Center, involved the Forest Service in a wonderfully conceived land exchange project. Within the Carson and Santa Fe National Forests were 125 tracts, totaling more than 200 acres, to which locals from several villages claimed ownership, but without clear title. Hall proposed that the Forest Service and Ghost Ranch put together a land exchange package for the tracts in question.

My small role in the proposed exchange was to provide assistance in locating original survey markers for the 125 tracts and to provide information as needed to the real estate appraiser. The Presbyterian Church USA offered the Ghost Ranch Museum and property (equal in value to that of the disputed parcels) in exchange for the disputed federal lands. The deal was consummated in April 1975, after nearly five years of ironing out exchange details. The short of it is that clear title for all the disputed tracts was transferred from federal ownership to the Ghost Ranch, which in turn signed over the deeds to 111 families in several villages, giving them clear title to the land. The Forest Service received the Ghost Ranch Museum, exhibits, and live animals, along with the Beaver National Forest exposition inside the museum’s main compound and the Soil and Water Conservation exhibit outside of the compound.

Some have referred to this effort as “The Great Land Trade.” Hall spoke of it as one of his greatest personal achievements. It was purportedly observed that the three-way exchange was an instance where “charity kissed justice.” I considered it a triple-win situation wherein the locals received clear title to the disputed land, the Forest Service received a fine interpretive facility and point-of-contact for the public, and the Presbyterian Church got to wear the “white hat.”

A New Career within an Old Career

The Forest Service anticipated the formal consummation of the land exchange. In mid-1969, I learned that the agency would assume management of the Ghost Ranch Museum and that it was creating a new supervisory position to administer it. Without really expecting to be taken seriously, I indicated that I wanted to be considered for the job. Amazingly, someone granted my request and I was reassigned to the newly created position: Director, Ghost Ranch Living Museum. Thus, in the spring of 1970, I began a new career within a career. In May, Kathy and I, with children in tow, moved into the modestly sized two-bedroom apartment at the east end of the museum’s main building. Our nearest neighbors, a half-mile away, were Hall and his wife Ruth and Georgia O’Keeffe. We became fast friends with the Halls; Ms. O’Keeffe we never encountered.

I was responsible for the overall supervision of museum personnel, operation and maintenance of collections, exhibits, and facilities, and the acquisition and care of animals. I also continued to serve as a para-archaeologist for the Carson National Forest.

Digging Deeper into Archaeology

I soon became well acquainted with the Ghost Ranch staff who occasionally invited me to participate in their archaeology and paleontology seminars. It was through one of these venues that I met Dr. Florence Hawley Ellis, a professor of archaeology at the University of New Mexico. She was a long-time friend of Jim Hall’s. Over the years, he asked her to present seminars and hosted her archaeology field-students. In 1970, Hall had invited Dr. Ellis to conduct a seminar called Southwestern Ethnology and Archaeology. I sat in on an evening lecture or two and was impressed with her knowledge and her stories of southwestern Native American culture.
The next year, Dr. Ellis returned to present an ethnology seminar. Her lectures were fascinating, and the field trips to nearby ruins and living pueblos were one-of-a-kind. Kathy and I accompanied the class on the field trip to the Santa Clara Pueblo, where Justina Gutierrez, Dr. Ellis’s close friend, gave a demonstration of pottery making and firing.

Dr. Ellis seemingly made lasting impressions on all whom she met. I counted myself as one of those. Her knowledge, stature, and way with the Pueblo people were admirable. My immediate assessment was that she was a person of integrity—one who could be trusted. Bolstered by that sense of trust, I decided to tell her about the curious rock alignments and structures I had discovered years earlier.

Dr. Ellis, curiosity piqued, changed her seminar agenda to include a field trip to the site. She asked me to guide her and the class on the trip. I remember many details of that September 3, 1971 adventure. Off we went, travelling in a carefully coordinated caravan consisting of nine assorted vehicles. We were a group of mixed ages, gender, experience, and backgrounds, sharing a sense of excitement in undertaking this rather spontaneous venture. We parked beneath tall ponderosa pines near a small grassy opening where we could see the boulder-strewn ridge to the west. Leaving our vehicles, I led the group upslope to the rock alignments, stopping to discuss each new item of interest: stone flakes, broken pottery, and ground stone.

As we neared the site, plot-like enclosures (some rectangular, others irregularly shaped) located on the east side of the ridgeline and just below the crest could be distinguished. The enclosure walls consisted of cobble to boulder-sized lava rocks placed end-to-end and sometimes stacked two or more high.

The unmistakable pattern repeated intermittently along the ridge, and in one place, the rock alignment seemed to define a wide, ridge-top pathway that continued a short distance down the west slope, leading to the first of the circular structures to be seen. Some group members suggested that these might have been dwellings. Dr. Ellis recounted the findings of H.P. Mera and E. T. Hall who had described similar features elsewhere as rock, bird nest-like houses of the early Gallina Culture. She stated that the potsherds we found were of either the late Rosa or early Gallina periods.

In the early afternoon, most of the adults in the group had gathered on the ridge, but the “kids” were exploring the caves and hidden places below. Up to that time, the wonders of the day lacked nothing in the way of adventure, but when two of the youngsters emerged from the depths of the lava field holding up an intact Gallina-Rosa submarine jar for all to see, the level of excitement really took on new highs. The discovery energized everyone. A rather frenzied search over the rough moonscape-like lava flow ensued.

Within a short time, another student had discovered a second vessel, a narrow-necked olla (jar) tentatively identified as Rosa plain ware by Dr. Ellis. At this point, I asked Dr. Ellis to corral her people until we could come up with a procedure to track the location of each vessel and to capture as much other information as possible. She called for everyone to gather. A short discussion defined our mission, which was to initiate a methodical visual survey of the lava flow area and to identify people with the needed skills and experience to guide the
Assignments were made, and then with a sense of purpose, we took on the challenge of revealing and recording the mysteries of the sea of basalt before us with its secrets hidden within. At this juncture, I began keeping notes and assembling information. When it was time to return to Ghost Ranch, our fairly well organized search-and-recovery operation yielded seven ceramic vessels, a constructed trail system, the locations of numerous living structures, and several rock-paved floors (Hayden 1973). On that day, and because of the discovery of the Gallina mountain sites, Ghost Ranch and Dr. Ellis sought a new direction for the archaeology seminar series.

The summer of 1971 saw the beginning of a new kind of seminar, a two-week archaeological field school known as Archaeology at Ghost Ranch. It has been my good fortune to participate every year, except one. This seminar, and a similar series of paleontological seminars, became quite popular and developed strong support among many of the participants. Therefore, as the Halls, Dr. Ellis and Ghost Ranch staff made known their dreams for a facility to process artifacts, curate and preserve the growing collections and to be able to display them—others responded with their generous contributions to fulfill those dreams. As a result, the Florence Hawley Ellis Museum of Anthropology opened in 1980, followed by the Ruth Hall Museum of Paleontology in 1985. Both museums operated under the supervision of Dr. Ellis who, bowing to health issues, turned the direction of the museums and the field school over to Cheryl Muceus in 1990.

Letters and meetings between Dr. Ellis and Forest Service personnel resulted in a permit to excavate some of the Gallina mountain structures. The new seminar continued with the methodical search, recording, and recovery of vessels during 1971 and 1972 seasons, followed by testing and excavation of some structures in 1973 and 1974. I was not allowed to dig or supervise excavations (that did not happen until 1975). I continued the mapping. I also added sketches of various site features and some of the more significant artifacts to the growing documentation. Following another one of my passions, I completed a survey and report of the flora and fauna of the area.

Our work on Canjilon Mountain completed for the time being, I was satisfied that we had indeed contributed to the body of knowledge concerning the Gallina Culture. We were able to document that the Gallina people had made use of areas and resources considerably farther east and into higher elevations than had been known previously.
From this association with Ghost Ranch, I became well acquainted with Dr. Ellis and visited many times at her Santa Fe home on Cerro Gordo Road. Eventually, she asked me to provide a few illustrations for several of her publications, including her book, From Drought to Drought (Ellis 1988).

Meanwhile back at the Ranch

For at least two weeks each summer, beginning in 1974, I, usually accompanied by a family member, would return to Ghost Ranch to participate in their archaeology program. We completed our work on the Gallina mountain sites that year.

In July 1975, the next big transition was to focus on Gallina “home country” sites, located

**Figure 9.** Sketch depicting some of the stone artifacts recovered in the Gallina mountain site studies. (Hayden 1973)
generally north of the town of Cuba and southwest of El Vado Dam. Dr. Ellis was able to arrange permission to excavate a series of Gallina structures on private land along N.M. Highway 112 south of El Vado. This was a great experience for all, especially me. Finally, Dr. Ellis “promoted” me to crew chief. I was assigned a low mound designated Ghost Ranch, Butts Ranch, Site 2 (GB-2). Ours was one of four crews excavating the ridge-top Gallina structures. The first day on GB-2 was memorable. It seemed everyone wanted to help excavate, including Dr. Harry Mackey (University of California). Mackey and his partner, Sally Holbrook, were collaborating on a study nearby and had offered their assistance.

The Archaeology at Ghost Ranch seminar continued working in the Gallina home country during the seasons of 1976, 1977, and 1978. The first week of 1979 was devoted to excavation on Ghost Ranch and the second week again back at the home country sites, where excavations continued each summer through 1984. From 1985 through 2014, the seminar took place on Ghost Ranch lands. I have served as one of the crew chiefs for this seminar from 1975 to the present.

I need to mention that my service as director of the Ghost Ranch Living Museum, barely covered here, was the most challenging and exciting four-year stretch in my long career —another story that must be told elsewhere.
The folks named Gallina by archaeologists were sedentary agriculturalists whose “home country” was centered just east of the Continental Divide from about the New Mexico-Colorado border on the north to the present day town of Cuba on the south. In their home country, Gallina villages principally occupied ridge tops. A village (my definition) typically comprised of several “unit houses” (individual family dwellings built on the ground surface), fewer semi-subterranean pit houses, and a circular double-walled tower, along with surface storage bins, and an occasional reservoir. These structures were all arranged in less than formal arrays, and often with significant space separating each structure. The Gallina did extensive farming near their villages, along with hunting and gathering in the higher elevations. The Archaeology at Ghost Ranch seminars investigated various aspects of structures in their permanent villages, and documented the existence of other structures thought to have been for temporary or seasonal use, in the vicinity of Canjilon Mountain, significantly farther east than previously known.

Moving On

In 1974, I was transferred once again, this time to the Sandia Ranger District, Cibola National Forest, Tijeras, New Mexico. I was the new primary District Staff Officer.

Many activities brought me satisfaction while working at the Sandia Ranger District. From the archaeological side of things, coming to Albuquerque was like a kid taking residence in the candy store: more goodies than one could ever possibly consume were at hand. Tijeras Pueblo ruin was in the backyard of the Sandia Ranger Station. Not only that, but for several summers, from 1971 through 1976, the University of New Mexico Department of Anthropology held a six-week field school at Tijeras Pueblo—first headed by Dr. James Judge (Judge 1974) and later taken over by Dr. Linda Cordell (Cordell 1975, 1977a-b). At every opportunity, I would be there, observing, questioning, and learning. To further a better understanding of prehistory of the Southwest, I enrolled in anthropology classes taught by Judge and others. However, it was Cordell’s influence that gave me the idea to see that Tijeras Pueblo was properly interpreted, and made accessible and presentable to the public. That became a personal mission, which was carried out over a period spanning more than 18 years. Aided by the help of many dedicated people, I was able to do my part to foster commitment, gather resources, encourage participation by others, initiate volunteers and volunteer programs, and steer funds to do just that.

A planning team, of which I was a member, set out in 1989 to develop an interpretive plan “…to meet the increasingly evident need for site interpretation through on-site development” (USDA, FS 1990). That plan provided sound guidelines for the future of Tijeras Pueblo. The major movers and shakers were my amazing Forest Service colleagues from the Southwest Regional Forester’s and Cibola National Forest Supervisor’s Offices. Thus, a weed-covered hill on an empty lot, which hid from view the remains of a once thriving village, is now the focus of interpretive features and programs that disclose many aspects of the lives and ways of its former residents. It is important to highlight the creative inspiration, hard work and long-term dedication of District co-workers such as Karen Takai, Dana Howlett, Marty Stribling, Lorene Guffy, and special volunteers Nancy Woodworth, Judy Vredenburg, Dotty and Linn Bender, Joan Wilkes, and many others. More than any others, I am grateful to the volunteers—especially the Friends of Tijeras Pueblo—who sustain this interpretive effort.

I joined the Albuquerque Archaeological Society (AAS) and the Archaeological Society of New Mexico (ASNM), which brought me in contact with mentors and programs that presented
great opportunities to learn and, in turn, eventually pass some of what I learned to others. Early on, I enrolled in the ASNM Certification Program, which consists of seminars, laboratory work, and fieldwork for which credit is received toward certification. That was five dollars well spent.

Col. James Bain—along with Jerry and Jean Brody, Jay and Helen Crotty, and others—was instrumental in developing methods and procedures for rock art recording. Bain had his way of encouraging folks. Knowing I was interested in rock art, he suggested to me, “There is no rock art east of the Sandia Mountains.” I am certain Bain understood the great possibility of the presence of rock art beyond the mountains, just that none had been reported. Needing to complete the requirement of recording rock art sites for the certification program, I accepted the challenge. In 1976, I set out from the Sandia Ranger Station in search of rock art. The canyon nearby eventually yielded no less than eight rock art sites, the first within 400 ft of the Sandia Ranger Station office. His challenge worked (Hayden 1977).

Albuquerque Archaeological Society had great field projects and associated laboratory activities, which allowed one to fulfill many of the ASNM Certification Program requirements. Richard (Dick) Bice and William (Bill) Sundt provided careful guidance throughout the life of many of those projects. Both were excellent mentors. I was involved as a member of AAS from 1974 through the late 1990s, and a member of ASNM since 1994. It was a privilege to serve at various times as an elected officer and trustee in both organizations.

In 1994, prior to my retiring from the Forest Service, Kathy and I moved at bit farther east from Tijeras to the former bean farming community of Barton. Barton, no longer listed on most maps, lies between Edgewood and Sedillo, which are on the western edge of the Estancia Basin. It seemed quite fitting to become part of the Torrance County Archaeological Society (TCAS), since the basin encompasses most of Torrance County and parts of Bernalillo and Santa Fe Counties as well. I saw a great opportunity to work, mostly in the background, with yet another group of talented and energetic folks who were serious about preserving and protecting cultural resources. I have participated as site steward for TCAS in the New Mexico Site Watch Program, assisted in arranging for monthly speakers and field trips, developed a historic site survey project (Hayden 1996), and a rock art recording program.

My career with the Forest Service ended in 1995, when I retired after 33 years of service. While one may think retirement is a quiet time of life with free time, I have not found that to be so. Whereas archaeology had not been the dominant feature in my career as a forester, until the final years, it now fills much of my so-called free time.
Reflecting

After college, I had wanted to be a forester, and that dream came true. Nevertheless, woven within that career path was something I had not expected—a new way to look at the world. This became a core part of my life, and amazingly, it was not related as much to forestry as it was to archaeology. I have met so many kind and interesting people who share this same passion. Recognizing that I have accomplished very few things strictly on my own, I believe my best achievements come from working alongside other people—to whom I am grateful for sharing their friendship, knowledge, and interests.

Acknowledgments

I wish to thank Dee and Bill Butler and Theresa Nunneley for their reviews and editorial assistance. To my wife, Kathy and the fine members of Friends of Tijeras Pueblo and Torrance County Archaeological Society, I am extremely grateful for their abiding encouragement.
References Cited

Cordell, Linda S.


Ellis, Florence Hawley


Hayden, John S.

1973  General Report on Turkey Spring Archaeological Area, Site I (LA 10641), Site II (LA 10643) 1971 through 1973.  (Note:  Personal notes, maps, photographs, data compilation [pottery], location data [residential structures, pottery], floristic survey and list, and unfinished manuscripts are in my possession and will be finalized, submitted, and filed with Museums at Ghost Ranch, Abiquiu, New Mexico.)

1977  Cedro Canyon Rock Art Survey, Cibola National Forest, Bernalillo County, New Mexico.  Manuscript submitted to the Archaeological Society of New Mexico Certification Program, Albuquerque, and to New Mexico Cultural Resources Information System, Office of Cultural Affairs, Historic Preservation Division, Santa Fe.


Hayden, John S. (organizer and editor)


Judge, W. James


Smith, Phil

2003  *Trails and Trials of Phil Smith: Five Years in the Life of a US Forest Service District Ranger.*  Self published.  (Note:  Copies may still be available from author: 14 Tortuga Loop, Belen, New Mexico 87002.)

USDA, FS

Publications of John Hayden

Note: Unless otherwise indicated, John Hayden’s publications, reports, and manuscripts are on file in the Florence Hawley Ellis Archives, Maxwell Museum of Anthropology, University on New Mexico, Albuquerque.

1973 USDA Forest Service Archaeological Site Inventory (for cave site AR-03-02-01-8). Manuscript on file, Florence Hawley Ellis Archives, Catalog No. 2009.55.118.


Las Bocas Canyon: A Contested Landscape at the Intersection of the Tewa, Keres, Tano, and Spanish Colonial Homelands

KURT F. ANSCHUETZ

Las Bocas Canyon, which is the stretch of the Santa Fe River between the traditional Hispanic villages of La Cienega and La Bajada, possesses a rich assemblage of prehispanic Pueblo archaeological traces dating from the Coalition period (A.D. 1200-1300) through the Classic (A.D. 1300-1600) period. It also has a historical archaeological record of interest to this discussion that spans the Early Spanish Colonial (A.D. 1600-1680) and Pueblo Revolt (A.D. 1680-1692) periods (Figure 1).

Figure 1. Las Bocas Canyon archaeological landscape.
Known cultural properties include the prehispanic components of the large pueblos (from northeast to southwest) of Tsiguma (a.k.a. La Cieneguilla [LA 16]),¹ La Cienega Mesa (LA 3),² and La Cienega (LA 149) (Table 1). Additionally, Tzenatay (a.k.a. La Bajada Pueblo [LA 7]) is on a broad terrace immediately west of the mouth of Las Bocas Canyon. Expansive agricultural field complexes atop La Bajada Mesa (e.g., BAN-10 [LA 38918]) and thousands of petroglyph images, such as those seen at La Cieneguilla Petroglyphs Site [LA 9063/LA 9064] and in association with LA 3, occur on basalt escarpments and boulders bordering the Santa Fe River Canyon’s flanks. The locale’s notable Early Spanish Colonial and Pueblo Revolt properties include La Cieneguilla Pueblo. LA 1098, a 50+-room pueblo, whose settlement ranged from the late Classic period until the Pueblo Revolt, and the Sanchez Ranch (LA 20000), which represents the remnants of a seventeenth-century Spanish estancia (a livestock ranch somewhat larger than a usual rancho [Simmons 1969]), might be less known, but, as it will be seen shortly, they are no less important.

The locality’s huge pueblo sites are among those investigated by Adolph F. Bandelier, Nels C. Nelson, and H. P. Mera between the late nineteenth and early twentieth centuries. Bandelier considered whether Tsiguma was a Keres or Tano (southern Tewa) pueblo (1892:91-92, 107; see also below). He also described Tzenatay as representing the ruins of medium-sized, multistory village “probably sheltering five hundred people” (1892:96), and Bandelier reports that Tano informants³ identify this settlement as one of their ancestral villages (1892:96). For his part a generation later, Nelson (1914, 1916, 1919; Snead 2001) excavated more than 100 rooms in total at Tsiguma, La Cienega Mesa, and Tzenatay during his pioneering work to develop stratigraphic methods in archaeology.

### Table 1. Selected Major Prehispanic or Early Historic Period Pueblo Settlements.

<table>
<thead>
<tr>
<th>LA No.</th>
<th>Name</th>
<th>Occupation Span</th>
<th>Room Estimate</th>
<th>Kivas</th>
<th>Plazas</th>
<th>Diagnostic Pueblo Pottery</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>La Cienega Mesa Pueblo</td>
<td>1100–1600</td>
<td>140</td>
<td>1 large open</td>
<td></td>
<td>Santa Fe B/w Wiyo B/w Biscuit A-B Tewa Polychrome *</td>
</tr>
<tr>
<td>16</td>
<td>Tsiguma (La Cieneguilla Pueblo)</td>
<td>1275–1680?</td>
<td>1000</td>
<td>1 (big kiva)</td>
<td>at least 4 partially enclosed, several informal plazas</td>
<td>Santa Fe B/w Wiyo B/w Biscuit A-B Sankawi B/c Glaze A-C, E-F</td>
</tr>
<tr>
<td>44</td>
<td>La Cienega? (not the same as LA 149)</td>
<td>1375–1600</td>
<td>60</td>
<td>1 partially enclosed</td>
<td></td>
<td>Biscuit A-B Glaze F</td>
</tr>
<tr>
<td>149</td>
<td>La Cienega Pueblo (not the same as LA 44 or LA 1098)</td>
<td>1315–1425</td>
<td>200? (site covers between 2,000 and 5,000 sq m)</td>
<td>1</td>
<td></td>
<td>Biscuit A Glaze A</td>
</tr>
<tr>
<td>166</td>
<td>Altar Mayor (La Cienega Pithouse Village)</td>
<td>900–1225 1315–1425</td>
<td>50–75</td>
<td></td>
<td></td>
<td>Glaze A</td>
</tr>
<tr>
<td>1098</td>
<td>La Cienega? (not the same as LA 149)</td>
<td>1500–1700</td>
<td>50+</td>
<td>1 partially enclosed</td>
<td></td>
<td>Rio Grande Glazewares Ogapoge Polychrome Posuque Red Powhoge Polychrome Tewa Polychrome</td>
</tr>
</tbody>
</table>
Mera, in turn, made artifact collections at Las Bocas area settlements and mapped La Bajada Pueblo. His studies contributed to his classic discussion, *Population Changes in the Rio Grande Glaze-Paint Area* (1940).

Since Mera’s time, archaeological study in Las Bocas Canyon has included a variety of archaeological surveys (e.g., Anschuetz 1999; Dickson 1979; Kludt 2005), which provide useful baseline information about settlement patterns over time. Analyses of glaze-ware pottery from the area’s big and small pueblos (e.g., Creamer and Renken 1994; Habicht-Mauche et al. 2002; Schleher and Boyd 2005) offer insights into interactions among year-round and seasonal residences locally and regionally. The excavation of the Sanchez Ranch...
by Marianne Stoller and David H. Snow (Pratt and Snow 1988), although not fully reported, is notable for ethnobotanical analyses that followed (Trigg 1999, 2005). Trigg’s work contributes to an informative understanding of the economy of the seventeenth-century Spanish colony.

The Class III archaeological survey and data treatment investigations of the 8,357-acre New Mexico Army National Guard Camel Tracks Training Area (Gerow and Doleman 2002; Gerow and Hogan 2005; Gerow and Kurota 2004) provide valuable cultural-historical context for understanding the patterns of the prehispanic occupation of Las Bocas Canyon. Studies to list segments of the Camino Real in the National Register Historic Places (Merlan et al. 2011; Morrow and Guist 2013) have compiled valuable Spanish colonial background.

Bandelier dismissed the potential scientific value of the canyon’s archaeological record when he wrote, “The Bocas themselves offer hardly anything of archaeological interest except some rock carvings of which it is impossible to say whether they are due to Pueblo Indians or nomads” (1892:95). Archaeological research in this setting since Bandelier’s inspection more than a century ago has not garnered broad attention. The incomplete reporting of some larger studies and/or the comparatively limited distribution of project reports have hindered the public’s appreciation of the locality’s potential to contribute to valuable information about times of potent cultural transformation in New Mexico’s past. Consequently, the dense and diverse petroglyph assemblage remains the canyon’s single greatest cultural-historical resources attraction. Comprehension of the economic, social, and political systematics underlying the formation and structure of the locality’s archaeological traces, including the petroglyphs, remains limited.

The incorporation of historical, ethnohistorical, and ethnographic data for fuller cultural-historical context facilitates recognition of Las Bocas Canyon’s considerable archaeological research values. Available information indicates that the human occupation of this locality over the five centuries bounded by the years A.D. 1200 and 1700 was characterized by two compelling intervals of human drama. The first episode relates to the reorganization of the prehispanic Northern Rio Grande Pueblo World following the depopulation of the northern San Juan drainage and San Juan Basin during the thirteenth century. The second transformational period corresponds to the web of interactions within and among the region’s indigenous Pueblo communities and the Spanish colonial populations during the seventeenth century.

This paper presents a synthetic summary of selected archaeological, historical, ethnohistorical, and ethnographic information relevant to Las Bocas Canyon. In addition to available reports, I draw upon my own archaeological field observations, which include the inspection of all four of the large pueblos, the La Bajada field complexes, and the principal petroglyph panels associated with Tsiguma and La Cienega Mesa Pueblo. I also rely on the recent identification of a world-quarter shrine associated with LA 16 and information shared with me by knowledgeable members of the Pueblo of Tesuque during a series of field trips to Las Bocas Canyon and La Bajada Mesa over the past two decades.

Building from the premise that Las Bocas Canyon lies at the intersection of the aboriginal Tewa, Keres, and Tano homogeneous, I examine the possibility that shifting and/or overlapping occupations by these contrasting communities characterized the Pueblo occupation of the locality as their people competed for access to the Santa Fe River’s water and the valley’s arable bottomlands. I also consider the idea that Keres and Tano groups might have used Spanish colonization, which included the establishment of the Sanchez Ranch, to solidify their respective pushes into the middle reaches of the Santa Fe River Valley, even as Spanish colonial agents manipulated relations among the different Pueblo ethnic communities for their own purposes.
The Archaeological Landscape

During his survey, Dickson (1979) found that the Santa Fe River Canyon Natural District, which includes Las Bocas Canyon and the lower reaches of the Cienega and Alamo Creeks above their confluence with the Santa Fe River, contains archaeological traces spanning the northern Rio Grande’s entire cultural historical sequence. He reports that this area exhibited Ancestral Pueblo population levels as dense, or even more dense, than any other setting in his study area after about A.D. 1200 (Dickson 1979:Table 4).

The Developmental period (A.D. 600-1200) occupation of the Santa Fe River Canyon Natural District was not quite as intense as that found Rio Grande floodplain and terraces below the mouth of Las Bocas Canyon (Dickson 1979:Table 4). Nevertheless, Las Bocas Canyon was decidedly not a tabula rasa waiting to become a cultural landscape prior to the great population influx into the region during the thirteenth century. This locality was home to an aboriginal Pueblo community that substantially predates the arrival of waves of immigrants from other parts of the Ancestral Pueblo World during the thirteenth century. For instance, archaeologists have reported finding 56 archaeological sites with Developmental components in the within the 8-km-radius (5-mile-radius) catchment surrounding Tsiguma (Figure 1). These properties include habitation components at two large villages (La Cienega Mesa Pueblo and Altar Mayor [LA 166]), eight small pueblos, two small pithouse settlements, and 11 temporary shelters (e.g., rock shelters and so-called “fieldhouses”). Other notable site types include four agricultural and six water management components. Thirty-six other feature type components, such as miscellaneous ash stains, rock alignments, rock piles and petroglyphs, are also present.

Altar Mayor represents the apparent center of Las Bocas Canyon’s late Developmental period community (Dickson 1979:Table 5, Appendix C). Situated on a mesa overlooking the confluences of the Cienega and Alamo Creeks with the Santa Fe River, this settlement has 50 to 75 rooms and 7 pit structure depressions.

According to Dickson (1979) the Santa Fe River Canyon was the focus of increasingly dense Pueblo occupation during the subsequent Coalition and Classic periods. Archaeologists have recorded 52 sites within the 8-km radius (5-mile radius) of Tsiguma. The early Coalition component of this assemblage documents the significant growth of La Cienega Mesa Pueblo, while Altar Mayor fell into disuse. Tsiguma dominated the latter part of the period. Three small roomblocks, one small pithouse village, and 13 temporary shelters complete the habitation settlement assemblage. Archaeologists also report finding seven agricultural, three water management, and 31 other feature type components.

Las Bocas Canyon and its environs witnessed a dramatic increase in the density of Pueblo habitation and land use during the early Classic period (A.D. 1300-1425). Among the assemblage of 148 Classic period archaeological sites within LA 16’s 8-km-radius (5-mile-radius) catchment, the principal habitations are Tsiguma, La Cienega Pueblo, and LA 442. Other habitations include the final vestiges of settlement at La Cienega Mesa Pueblo and a renewal of occupation at Altar Mayor. Eighteen small pueblos and one small pithouse settlement also date to this time. Located beyond the study area’s catchment boundary, Los Aguajes (LA 5) and Tzenatay are located to the northwest and southwest, respectively.

Eighty-seven temporary shelters, three agricultural plots, 19 water management devices, and 116 other feature type components complete the Classic period settlement pattern in Tsiguma’s hinterlands. Most of these traces relate to the large-scale expansion of the prehispanic agricultural landscape in accompaniment with the arrival of large numbers of immigrants in many localities throughout the Northern Rio Grande region.

At the beginning of the fifteenth century, Pueblo populations in Las Bocas Canyon, just as the greater Santa Fe district generally, underwent further reorganization. Many of the district’s large habitations, including La Cienega Pueblo,
LA 44, Agua Fria Schoolhouse Site, Pindi, and Arroyo Hondo, all underwent depopulation soon after A.D. 1425. Tsiguma, in comparison, initially increased greatly in size (Snead et al. 2004) before it underwent its own cycle of depopulation sometime prior to the sixteenth-century Spanish Entradas.

By the time of Spanish contact, the Arroyo Hondo, Agua Fria, and Las Bocas Canyon areas, just as other major parts of the greater Santa Fe district (Anschuetz and Scheick 2006), were devoid of large-scale, year-round habitation. In comparison, the nearby Keres Pueblo of Tzenatay and the great Tano pueblos of the Galisteo Basin, including San Marcos (LA 98) and San Cristóbal (LA 80) that are germane to the following discussion, were among those visited by Spanish explorers during one or more of the Entradas.5 While the places of San Marcos and San Cristóbal Pueblos in Early Spanish Colonial history are beyond question, it is notable that the Enrico Martínez Map of 1602 (Hammond and Rey 1966:frontispiece) shows Tzenatay persisted as a sizeable habitation into the early part of seventeenth century.

As I examine further below, Tsiguma and LA 1098 seemingly were reoccupied by Keres and Tano peoples, respectively, during the early decades of the seventeenth century. Their settlement, which took place even as La Bajada Pueblo fell into residential disuse,6 were either under the direct administration of—or in response to—Early Spanish Colonial period policies and actions (Barrett 2002:60; Elliott 1988; Schroeder 1979; Snow and Snow 1990; Trigg and Anschuetz 2011). Besides LA 16 and LA 1098, archaeologists have reported finding 17 Pueblo sites, including four temporary shelters and 14 other site type components, within the 8-km radius (5-mile radius) of Tsiguma. LA 146, a pueblo settlement of approximately 100 rooms with Glaze F pottery as its dominant ceramic type (Lycett 1995:Table 7.10; Ortman 1010), is along the Santa Fe River near the present-day Hispanic village of Agua Fria.

Although the Native appellation for LA 7, Tzenatay, purportedly is of Tano origin (Bandelier 1892:95-96; cf. Harrington 1916:470-471), this large village at the mouth of Las Bocas Canyon was unequivocally a Keres community at the time of Spanish Contact (see Barrett 2002:35-38). The prehispanic ethnic cultural-historical affiliation of Tsiguma at the head of this gorge is much less certain. Fray Alonso de Benavides (1916) might have included Tsiguma in his list of five Tano pueblos when he inspected the New Mexican colony in the 1620s (Barrett 2002:60). Fray Silvestre Vélez de Escalante, Governor Antonio de Otermin, and Governor Diego de Vargas, however, identified Tsiguma as a Keres village during the time of the Pueblo Revolt of 1680 and the subsequent reconquest of the region by Spanish forces in the 1690s (Bandelier 1892:92, n1; also see Barrett 2002:146, n88).

Bandelier introduces further confusion by initially professing “doubt to which stock its inhabitants belonged” (1892:92). Nonetheless, he then cites statements by Keres-speaking Cochiti residents, who did not claim affiliation with LA 16, that the word tsiguma signifies the phrase “lonely cottonwood tree” (1892:92, emphasis added) in the Tewa language to support his tentative conclusion that LA 16 was really a Tano community.7 The problem with Bandelier’s published opinion is that Harrington reported a generation latter, “One thing is certain: the name does not mean ‘lonely cottonwood tree’ in Tewa or Keresan” (1916:468, emphasis added). The question of Tsiguma’s cultural affinity, as a result, has remained unsettled since.

Recent ethnographic and archaeological observations not only allow reassessment of this issue, they frame the comprehension of Las Bocas Canyon as a dynamic and multilayered cultural landscape. Foremost, during conversations and fieldtrips with knowledgeable members of the Pueblo of Tesuque, it has become clear to me
that Las Bocas Canyon represents a place of tremendous importance in the culture and history of their community. Given that the Tewa cultural community writ large represents an amalgam of people who had always lived in the Northern Rio Grande region since time immemorial and immigrants who subsequently arrived from Mesa Verde (Anschuetz and Wilshusen 2011), Tesuque’s history of occupation of Las Bocas Canyon likely extends back to at least the Developmental period. This culturally and historically informed heritage is important given the thesis that the Tewa’s forebears who were indigenous to the region, just as their immigrant ancestors, contributed essential ideas about place and time in the construction of a qualitatively new cultural landscape (Anschuetz and Wilshusen 2011:324, 326-327). In this discourse of cultural transformation, the indigenous populations, through their emphasis on intra- and inter-settlement continuity, contributed their long-established, historically contingent conceptualization of “center.” The fact that Las Bocas Canyon was part of an established pueblo landscape during the Developmental period is congruent with Tesuque Pueblo’s claims about their deep cultural-historical ties to this locality.

Tesuque’s representatives view the Santa Fe River and the sizable tracts of irrigable land extending from the upper end of Las Bocas Canyon through the valley’s middle reaches in the vicinity of the present-day City of Santa Fe’s downtown district as highly valued resources with respect to their rarity throughout the region. These individuals add that their Tewa ancestors neither readily nor willingly relinquish their habitation settlement of the Santa Fe River Valley. Moreover, their intended eventual return to this locality for year-round occupation was precluded by the arrival of the Spanish and the imposition of colonial policies that cut the people of Tesuque off from a major part of their traditional homeland.

A pair of archaeological observations corroborates the statements made by Tesuque members about the middle reaches of the Santa Fe River Valley, including the upper portion of La Bocas Canyon, representing a part of their traditional Tewa homeland. First, I have identified a world-quarter shrine, which Duwe characterizes as “a uniquely Tewa phenomena [sic]” (2011:342), in association with Tsiguma. This feature is of further interest given its assemblage of associated petroglyphs includes comparatively fresh metal-etched and -scraped images, as well as patinated stone-pecked motifs. The shrine, therefore, almost certainly evidences use during Tsiguma’s contrasting Classic and Early Spanish Colonial period occupations.

Second, although formal analyses have not yet been undertaken, it appears most rock images represented in the La Cieneguilla Petroglyphs Site and those on the escarpment separating La Cienega Pueblo and La Cienega Mesa Pueblo, are of Tewa composition and origin (author’s observation; Richard I. Ford, personal communication, 2003-2004). For the purposes of this discussion, it is important that stylistic analyses of petroglyphs on the Pajarito Plateau support a long-standing archaeological interpretation of the Rito de los Frijoles marking a divide between early Keres populations to the south and Tewa groups to the north (Olsen 2004; Schaafsma 1975; Steen 1979). Of particular interest is Olsen’s (2004) use of quantitative methods to demonstrate that 57 of the 70 (81.4%) her motif categories possess spatial distribution patterns, which conform to ethnohistorical ethnic divisions. For example, masked-face designs occur more frequently in the southern part of the Pajarito Plateau, which is strongly associated with the Keres Pueblos, while ungulate motifs and anthropomorphic figures, such as flute players, are found commonly to the north in the area associated with the Tewa Pueblos. In terms of Las Bocas Canyon’s archaeological record, the striking petroglyph panels on the basalt rock faces north of Tsiguma feature numerous anthropomorphic, deer, and mountain lion images. Although Tewa-like motifs predominate on the volcanic rock escarpment between LA 3 from LA 149, the regular placement of masked-face designs on rock faces that “look” downstream (i.e., west) toward the traditional Keres homeland at the mouth of Las Bocas Canyon is striking.
Another relatively recent archaeological finding warrants mention. During the cultural resources management inventory survey of the Santa Fe Canyon Ranch, which is along the south margin of Las Bocas Canyon on the southwest side of the present-day La Cienega community, Kludt (2005) substantially updated the documentation for LA 1098. Originally listed as a Spanish Contact/Colonial period “house ruin” (Alexander 1964; Dickson 1979), Kludt recognized the structural remnants of a 50+-room, C-shaped mound with a ceramic assemblage that includes late prehispanic glazeware sherds and historic matte paint polychromes.10

These new ethnographic and archaeological data in combination suggest that Las Bocas Canyon’s settlement history is far more complicated than researchers have previously recognized. The statement that this locality is part of Tesuque Pueblo’s community’s traditional homeland carries the profound implications that some of this community’s Tewa ancestors lived at Tsiguma and other nearby prehispanic villages, constructed the world-quarter shrine, and interacted with the area’s petroglyphs during the prehispanic past. Considering the proximity the Keres Pueblos of Tsenatay, Los Aguajes and Cochiti (LA 126), among others, to the north and west, and the Tano Pueblo of San Marcos to the southeast, it is clear that Las Bocas Canyon is at the nexus of the Tewa, Keres, and Tano homelands (Figure 2).

Figure 2. Las Bocas Canyon at the intersection of the Tewa, Keres, and Tano homelands.
As I note previously, the archaeological record is clear that the Classic period Pueblo occupation of Las Bocas Canyon experienced a cycle of population reorganization followed by the withdrawal of year-round residence between the early fifteenth and the mid sixteenth centuries. The factors underlying this withdrawal of Tewa populations northward are beyond the scope of this paper; nonetheless, it is a near-certainty that changing natural environmental conditions played a critical role in these settlement processes (e.g., see Towner and Salzer 2008). Many other upland settings and narrow valleys susceptible to cool temperatures through the northern Rio Grande region followed similar settlement pattern changes during this same time span (Anschuetz and Scheick 2006; Cordell 1979).

Throughout their prehispanic history, the Tewa had proven themselves to be adept in maintaining access to a broad land base despite the impermanency of their communities in cool settings and the repeated movement of their people in accord with changing conditions across the dimensions of space and time (Anschuetz 2007a; Duwe and Anschuetz 2013). These people did not readily “abandon” homes in their homeland landscape. Instead, they periodically fallowed depleted farming and foraging localities, including during natural environmental downturns, to allow these lands to rest and renew with the expectation that the people ultimately would return to these locations (Anschuetz 2007b). In the cases of Las Bocas Canyon and the greater Santa Fe district, the establishment of the Spanish colony and the imposition of administrative policies, whose consequences forever altered the indigenous communities’ access to, and uses of, their traditional homelands.

Even as Tsiguma’s houses fell into disuse during toward the end of the Classic period, Tzenatay, which occupied a warmer settlement on a broad terrace at the base of La Bajada Mesa’s escarpment (and strikingly higher elevation), remained a major habitation into the early years of the Spanish colony (see Enrico Martínez Map of 1602, in Hammond and Rey 1966:frontispiece). Barrett suggests, “The demise of La Bajada Pueblo (LA 7) early in the seventeenth century might have been related to the Spaniards’ removing its residents to a pueblo in the La Cienega area of the Santa Fe River Valley in order to have a closer supply of labor for the villa [of Santa Fe]” (2012:80, 106).

Following Barrett’s (2002:100) lead, I think it is probable that Keres people moved into the former Tewa pueblo of Tsiguma. This relocation would be in keeping with reports submitted by Benavides, Vélez de Escalante, and Otermín between the 1620s and 1680 that Tsiguma was a Keres pueblo. Besides, Vargas offered Keres-speaking people the opportunity to reoccupy this settlement in 1694 during his reconquest of New Mexico, but none were willing to accept his offer, objecting that this village was too close to Santa Fe (Espinosa 1942:219).

In her latter publication, Barrett (2012:80) revisits the question about the location of a Pueblo settlement, which Spanish colonial authorities knew as “La Cienega.” Although she is clearly aware that some Spanish authorities at times referred to Tsiguma as “La Cienega,” Barrett implicitly discounts this possibility in her 2012 account. Barrett (2002:63, citing Scholes 1929; see also Barrett 2002:106) knows that Tsiguma, which was a visita [a satellite church of the mission] of Santa Fe, and La Cienega, which was a visita of San Marcos, could not possibly be the same pueblo. With her subsequent reasoned dismissal of LA 44 as the enigmatic Early Spanish Colonial period pueblo of “La Cienega” (see Note 4), Barrett is left without an alternative site for this settlement. She states simply, and without further discussion, that “[t]he site of this pueblo, called La Cienega, has not been discovered, but it was probably located about 12 miles below the villa [of Santa Fe] in the area that today carries that name” (2012:80).

The significance of Kludt’s (2005) identification of a the remnants of a 50+room Pueblo housemound at LA 1098, which dates to the Early Spanish Colonial period, now becomes clear. This pueblo represents more than an archaeological site, which documents the continued aboriginal settlement in Las Bocas Canyon during the
seventeenth century. Rather, LA 1098 might also represent the archaeological traces of the Tano’s fugitive La Cienega Pueblo, whose leadership, as we will see below, played an instrumental role in alerting Spanish authorities to the pending outbreak of the Pueblo Revolt back in August 1680.

Before considering the implications of the presence of a Tano pueblo in Las Bocas Canyon on the eve of the Pueblo Revolt further, a few comments about the Sanchez Ranch are in order given that it represents the focal settlement of the Spanish colony’s occupation of the study area. LA 20000, whose archaeological traces consist of a large residence, a possible barn, and a corral, was occupied from 1630 through 1680 (Pratt and Snow 1988; Trigg 1999, 2005). Investigators believe that this estancia was occupied by an extended family (Trigg 1999:85), one possibly headed by Francisco de Anaya Almázan I, who received the grant of an encomienda at La Cienega (Chávez 1954:4).11

The presence of Pueblo-style cooking stones and the large proportion of native ceramics in the site’s artifact assemblage indicate the colonists’ dependence on the area’s Pueblos. Trigg’s (1999, 2005) ethnobotanical studies are enlightening, because they show the Sanchez Ranch’s residents relied on a mixed agricultural economy of local and introduced field crops that required more good land, especially irrigable land, than was available in the immediate vicinity of the estancia.

Discussion: Las Bocas Canyon as a Contested Landscape

The seventh-century Spanish colonial occupation of Las Bocas Canyon emphasized the locality’s water and arable land resources (Trigg 1999, 2005; also Beninato 1999) in ways not too dissimilar to observations shared by Tesuque Pueblo’s members. It seems reasonable to presume that nearby Keres and Tano populations likewise would have found favor in this locality for the same reasons. Challenging natural environmental conditions characterize much of the Early Spanish Colonial period as a time of persistent crop failure, however (Van West et al. 2013). The Santa Fe River Valley between downtown Santa Fe and the present-day community of La Cienega, consequently would have been valued by all of the region’s inhabitants.

There exist a variety of documentary sources, some explicit and others indirect, that provide glimpses into the ways that Spanish, Keres, and Tano groups obtained access to Las Bocas Canyon. In this process, these communities disrupted Tesuque Pueblo’s traditional strategy of reoccupying fallowed areas of its homeland landscape when environmental conditions in these settings were again favorable to agriculture compared to other locations.

Wielding their power over the region’s aboriginal peoples, seventh-century Spanish authorities and privileged colonists frequently imposed their will for their preferential, if not exclusive, benefit (after Levine and Anschuetz 1998). The institution of the encomienda, which awarded land and labor rights of aboriginal peoples to individuals as compensation for wages in service of the fledging colony, was characteristically exploited by encomenderos (i.e., the individuals granted a encomienda), is an obvious example. Colonial repartimiento policies, which required aboriginal peoples to pay heavy taxes in the forms of certain commodities and labor to the government and church alike, and the administrative policy of reduccion, which displaced settled native village dwellers from their traditional homes and forcibly concentrated them in villages near colonial settlements where encomenderos and mission priests could exert control, are other relevant cases.

The founding of the Sanchez Ranch in Las Bocas Canyon within 3.2 km (2 mi) of La Cieneguilla and LA 1098 was in certain violation of official dictates forbidding the establishment of colonial settlements within one and a half leagues (roughly 6.25 km [3.9 miles]) of an inhabited Pueblo village. As I note earlier, Barrett (2012:80, 106) suggests that the depopulation of the Keres Pueblo of Tzenatay early in the seventh century might have been the product of colonial reduccion. In applying this policy, LA 7’s populace was
relocated to the upper end of Las Bocas Canyon to provide the labor needed to support the Villa de Santa Fe and the area’s estancias, such as Sanchez Ranch, if not La Cienega’s (purported but still-unidentified) encomendero himself.\textsuperscript{12}

It is incorrect to presume that Pueblo populations were entirely reactive to Spanish colonial policies and agents. In their accommodation of the Spanish colonial presence, some Pueblo people used the presence of the colonial authorities to obtain power within their home communities (Levine and Anschuetz 1998). For example, the Spanish government created secular governments within each of the Pueblos and appointed individuals friendly to the new regime to positions of authority. While comparatively little is known about the Pueblos’ secular governments during the Spanish colonization period, it is clear that some of the individuals appointed to their communities’ colonial administration, were more responsive to the requests of their Spanish patrons than they were to their own people. For example, Nicolás Bua, the governor of San Juan Pueblo (now known as Ohkay Owingeh) (Knaut 1995:169), the cane-bearing office holders at Isleta Pueblo (Hackett and Shelby 1942, 1:1), and the “leaders from the Tano pueblos of Pecos, San Cristobal, San Marcos, and La Cienega” (Knaut 1995:4, emphasis added), were openly sympathetic to the colonists either before or during the initial phases of the Pueblo Revolt.\textsuperscript{13}

Surviving pre-Pueblo Revolt colonial documents offer precious little information on this topic beyond what I have reported. Yet, it seems reasonable to suggest that during this era of persistent crop failure, Tano populations associated with San Marcos, if not also San Cristóbal or some other Galisteo Basin pueblo, would have tried to obtain a foothold in the La Cienega area even as the Keres moved east up toward the middle reaches of the Santa Fe River Valley. On the one hand, the Keres and Tano settlement around Las Bocas Canyon might have served Spanish colonial interests by placing larger numbers of people within service of the Villa de Santa Fe, the area’s estancias, and La Cienega’s supposed encomendero. On the other hand, this action also would have offered some Pueblo populations relatively more reliable and productive farmlands outside their customary homeland landscapes during a time of severe and prolonged economic hardship.

\textbf{Summary and Conclusions}

The best known and heretofore most available archaeological, historical, and ethnohistorical information for Las Bocas Canyon presents a confusing list of place names. Identifications made by Spanish colonial observers, nineteenth-century anthropologists, and present-day archaeologists about the linguistic affiliations of the Pueblo people who inhabited villages in this locality over time are also fraught with over simplification, if not outright error (Trigg and Anschuetz 2011:7). These latter problems are a product of a basic lack of understanding of the dynamics inherent within cultural landscapes important to people of different cultural communities.

\textit{Movement} is a big idea in how Pueblo people have traditionally talked about and acted within their cultural landscapes (Anschuetz 2007a, 2007b; Duwe and Anschuetz 2013). Movement is not only a key to survival in the Pueblo World. In both literal and figurative senses, movement represents the pathway of each Pueblo community’s history and identity. As a practical matter for archaeologists, movement is inherently a messy part of traditional Pueblo life. Under certain economic, social, and political conditions, the scope and mix of ethnic affiliations with major archaeological features in a multilayered Pueblo landscape might be undergo profound transformation, even though the material record of these relationships can appear comparatively static. In the present example, the residential occupation of Las Bocas Canyon appears to have been most closely affiliated with Tewa populations through much of the prehispanic Pueblo past. With Spanish colonization, this locality was incorporated into the physical homelands of Keres and Tano groups to the west and southeast, respectively. Although this settlement pattern
change resulted in the permanently displaced Tewa populations from a locality in which their ancestors had long resided, their cultural-historical relationship was never extinguished.

As if its location at the intersection of the Tewa, Keres, and Tano homelands does not already pose a sufficient challenge to archaeologists, the cultural landscape of Las Bocas Canyon was complicated further by the imposition of a new layer of relationship with the establishment of the Spanish colony at the end of the sixteenth century. Pueblo and Spanish communities in this landscape not only were intertwined geographically, they challenged one another for access to land, water, other material resources, and, in the case of the encomienda and repartimiento, the labor the Pueblo populations needed to sustain their subsistence economies (Trigg and Anschuetz 2011:8).

With its placement in proximity to a pair of inhabited Pueblo villages, the estanica known today as the Sanchez Ranch deliberately violated colonial directives forbidding the establishment of Spanish settlements within the sustaining areas reserved for use by native residents. This and similar land encroachments, in conjunction with severe abuses by Spanish administrators, priests and privileged colonists for labor and economic resources for their own benefit, have fueled a widespread perception that “the Pueblo peoples as merely victims of Spaniards’ rapacious colonial designs” (Trigg and Anschuetz 2011:8).

Some Pueblo individuals, such as those men who formed alliances with colonial administrators in exchange for the secular governorship of their communities, used the arrival of the Spanish to their advantage. The circumstances underlying the relocation of the Keres-speaking residents of Tzenatay to Tsiguma, which then became a visita of the Villa de Santa Fe, and the establishment of the Tano pueblo of La Cienega in Las Bocas Canyon as a visita of San Marcos, are not known. While reduccion and encomienda policies were enacted overtly for the benefit of the colonists, there exists the possibility that some Pueblo persons could have used their relationship with their Spanish sponsors to leverage advantages for themselves. Tzenatay and La Cienega’s residents, even if saddled with heavy taxes for commodities and labor under Spanish administration, were still able to occupy some of the region’s remaining prime agricultural land, which previously had been within the Tewa homeland, during a sustained and severe downturn in natural environmental conditions. Compared to their Tewa neighbors, who suffered similar taxes and labor demands but lacked access to Las Bocas Canyon’s arable land and irrigation water, the people of Tsiguma and La Cienega might have had an advantage.

Contrary to Bandelier’s (1892) opinion, Las Bocas Canyon’s archaeological record possesses considerable scientific potential. Without question, these traces of New Mexico’s history between A.D. 1200 and 1700 can contribute to a more comprehensive understanding of the cultural landscape dynamics of shifting settlement and ethnic affiliations. They also possess the potential to enable the recognition and evaluation of how factions of the region’s Pueblo populations used the Spanish presence for their own benefit, even as the Spanish manipulated extant power relations among these indigenous peoples to fulfill their own colonial needs and aspiration.
Acknowledgments

I owe special gratitude to members of the Pueblo of Tesuque who have shared insight about their community’s traditional relationships with the Santa Fe metropolitan area and Las Bocas Canyon over the years. Our fieldtrips to Tsiguma and its environs not only have challenged my thinking, they have opened my eyes to considering the reported archaeological record with revised perspective. I extend sincere appreciation to Lolly Martin, El Rancho de las Golondrinas, for telling me about the existence of a reputed torreón in the present-day community of La Cieneguilla during the time I was conducting an archaeological study of a torreón on the museum’s property. While the La Cieneguilla torreón designation ultimately proved incorrect, the recognition that this feature was actually a world-quarter shrine has enriched my understanding of Las Bocas Canyon’s culture history. I am equally indebted to Heather Trigg, who gave freely of her knowledge of the Sanchez Ranch and the Early Spanish colonial agricultural landscape. I also thank Richard Ford, Scott Ortman, and Sam Duwe for their views of Tewa culture, history, and archaeology. Despite the many contributions of these friends and colleagues, I alone am responsible for all errors in fact and interpretation.

Notes

1. The catalog of place names for Tsiguma and some of the other principal Las Bocas Canyon pueblos is confusing. Some Spanish observers, especially Governor Antonio de Otermin, refer to LA 16 as “La Cienega Pueblo” in their commentaries. Archaeologists and ethnohistorians also frequently refer to LA 3 and LA 44 as “La Cienega Pueblo.”

2. Besides being called La Cienega Mesa Pueblo, LA 3 is sometimes cited as “La Cienega Pueblo” or “La Mesita” in archaeological reports.

3. Bandelier does not identify his Tano informant(s) in this specific context. He notes elsewhere, however, that he talked with “an old Tanos Indian living at Santo Domingo [a.k.a. Kewa]” (1892:90, n2) and observes that other Tano descendants live at Kewa.

4. Barrett (2002) initially identified LA 44 as “La Cienega Pueblo,” the seventeenth-century visita of San Marcos Pueblo in the Galisteo Basin of the Tano homeland. In a subsequent study, Barrett (2012) retracts this designation. Citing Mera (1940) and personal communication with Cordelia Snow, Barrett concludes that the Pueblo component at LA 44 is a “prehistoric site...that was occupied by Spaniards prior to 1680” (2012:104). She adds that the seventeenth-century Spanish colonial component consisted “of what was a small L-shaped building characteristic of a Spanish habitation, not a pueblo, and therefore it is not likely the pueblo of La Cienega mentioned in prerevolt documents” (Barrett 2012:104).

5. Sixteenth-century Spanish explorers affiliated with the Chamuscado-Rodriguez (A.D. 1581-1582), Espejo (A.D. 1583), Castaño de Sosa (A.D. 1591), and Oñate (A.D. 1598) Entradas reported the existence of La Bajada Pueblo (Barrett 2002:Table 6). Coronado (A.D. 1540-1542), as well as members of the four subsequent expeditions, visited San Marcos and San Cristóbal (Barrett 2002:Table 8).

6. Although Tzenatay was no longer used for habitation, the area’s Keres communities have not forsaken this settlement. The Pueblo of Cochiti maintains strong cultural-historical affiliations with this pueblo, and I observed a fresh offering placed at a shrine at this former home during a site inspection several years ago.

7. Bandelier (1892:92) acknowledges that he did not confirm the Cochiti identification of Tsiguma as a Tano pueblo with Tano informants at Kewa.

8. Duwe (2011:342) neatly describes world-quarter shrines as characteristically consisting of rock ring structures measuring 10 to 12 m (33-39 ft) in diameter, opening toward the east, and averaging 500 m (0.31 mile) southeast, south or southwest of its related community. He adds that the term world-quarter shrine adopted by anthropologists and archaeologists is a misnomer. Rather than pertaining to the four cardinal directions (i.e., north, west, south, and east) or “quarters” at the edge of the Tewa cultural landscape, Duwe explains that a world-quarter shrine actually more likely embody the idea of centeredness (see Anschuetz 2007b) given its essential association with the nearby large community. Most of the largest Classic period Tewa Basin pueblos have remnants of one, but never more than one, of these features (Duwe 2011:342). Based on tree-ring dates from Tsi’pin, Duwe argues world-quarter shrines became an integral part of the Tewa ritual landscape assemblage before A.D. 1350. It appears that use of these features as a kind of an open-air kiva (Ohkay Owingeh elder, personal communication 1999) ceased soon after colonization. Zealous Spanish clergy drove sensitive Tewa ritual performances underground, literally and figuratively, where sensitive traditional cultural practices were hidden from view.

9. Archaeologists originally reported this feature, designated LA 6295, as consisting of possible subterranean and adobe structures. Having learned of the existence of a possible torreón (Spanish colonial tower used as a lookout and for refuge during raids...
by nomadic Native marauders) at this location from Lolly Martin, El Rancho de las Golondrinas (personal communication, 2010), I inspected this site soon after only to discover that the structure actually represents world-quarter shrine remnants. Richard I. Ford, Samuel G. Duwe, and Scott G. Ortman have subsequently inspected this feature; they confirm my identification.

10. Kludt describes the housemound as a “prehistoric roomblock” (2005:33) in his project report. Information maintained in the computerized state-wide database for cultural and historic properties, however, includes the statement under Feature Remarks that the site actually “appears to be wholly historic.”

11. In the absence of additional historical documents dating to this time period and comprehensive artifact analyses, conclusive identification of the Sanchez Ranch’s occupants and definitive statements concerning the wealth, status, and background of these people are impossible.

12. The refusal of displaced Keres people to accept Vargas’ offer of resettlement of Tsiguma, saying that this location was too close to Santa Fe (Espinosa 1942:219), supports the idea that the memory of the abuses that their people had suffered in Las Bocas Canyon over the decades leading up to the Pueblo Revolt was still much too strong.

13. The Tano leaders were secular governors appointed by Spanish authorities (Knaut 1995). They demonstrated their allegiance to the Crown by informing Governor Otermín (or his agents) of the proposed rebellion. It is of additional interest that the Pueblo of Tesuque, which would have likely contested La Cienega Pueblo’s founding in Las Bocas Canyon, was also involved in this historical drama. The two runners, whom the Tano leaders informed upon as messengers citing their people to partake in the pending uprising, were from Tesuque. It is useful here to add that while the cane-bearing officials were allies of the Spanish, their constituencies typically were not. Within the opening days of the Pueblo Revolt, the surviving appointed officials had to seek refuge among their colonial sponsors after their publics joined the uprising, usually in mass (e.g., see Hackett and Shelby 1942).
References Cited

Kurt F. Anschuetz

Alexander, Robert K.
1964 *Highway Cultural Inventory Final Report 1961–1964.* New Mexico State Highway and Transportation Department Report No. 1964-10-00 2AB 0. Ms. on file, New Mexico Historic Preservation Division, Laboratory of Anthropology, Archaeological Resources Management Section, Santa Fe.

Anschuetz, Kurt F.
1999 *An Archaeological and Historical Cultural Landscape Study of El Rancho de las Golondrinas Living History Museum.* Community and Cultural Landscape Contribution III. Rio Grande Foundation for Communities and Cultural Landscapes, Santa Fe.

2007a *Room to Grow with Rooms to Spare: Agriculture and Big Site Settlement Systematics in the Late Pre-Columbian Tewa Basin Pueblo Landscape.* *Kiva* 73(2):173–194.


Anschuetz, Kurt F., and Cherie L. Scheick

Anschuetz, Kurt F., and Richard H. Wilshusen

Bandelier, Adolph F.

Barrett, Elinore M.

2012 *The Spanish Colonial Settlement Landscapes of New Mexico, 1598–1680.* University of New Mexico Press, Albuquerque.

Benavides, Fray Alonso de

Beninato, Stefanie

Chávez, Fray Angélico
Cordell, Linda S.
1979  *A Cultural Resources Overview of the Middle Rio Grande Valley, New Mexico.* Southwestern Region, USDA Forest Service, Albuquerque, and Bureau of Land Management, Santa Fe.

Creamer, Winifred, and Lisa Renken

Dickson, D. Bruce, Jr.

Duwe, Samuel G.

Duwe, Samuel G., and Kurt F. Anschuetz
2013  Ecological Uncertainty and Organizational Flexibility on the Prehispanic Tewa Landscape: Notes from the Northern Frontier. In *From Mountain Top to Valley Bottom: Understanding Past Land Use in the Northern Rio Grande Valley, New Mexico,* edited by Bradley J. Vierra, pp. 95–112. University of Utah Press, Salt Lake City.

Elliott, Michael L.

Espinosa, Jose Manuel (translator and editor)

Gerow, Peggy A., and William E. Doleman
2002  *Across the Caja del Rio Plateau: Hunters and Farmers in the Northern Rio Grande.* A Class III Inventory of the NMARNG Camel Tracks Training Site, Santa Fe County, New Mexico. Office of Contract Archeology, University of New Mexico, Albuquerque.

Gerow, Peggy A., and Patrick Hogan, editors

Gerow, Peggy A., and Alexander Kurota
2004  *Across the Caja del Rio Plateau II: Hunters and Farmers in the Northern Rio Grande.* Archeological Investigations at 15 Sites in the NMARNG Camel Tracks Training Site, Santa Fe County, New Mexico. Office of Contract Archeology, University of New Mexico, Albuquerque.

Habicht-Mauche, Judith A., Stephen T. Glenn, Mike P. Schmidt, Rob Franks, Momer Milford, and A. Russell Flegal

Hackett, Charles Wilson, and Charmin Clair Shelby

Hammond, George P., and Agapito Rey
1966  *The Rediscovery of New Mexico, 1580–1594.* University of New Mexico Press, Albuquerque.

Harrington, John Peabody
1916  *The Ethnogeography of the Tewa Indians.* In *Twenty-ninth Annual Report of the Bureau of*
Kurt F. Anschuetz

Smithsonian Institute, Washington, D.C.

Kludt, Trevor


Knaut, Andrew L.


Levine, Frances, and Kurt F. Anschuetz


Lycett, Mark T.


Mera, H. P.


Merlan, Thomas, Michael P. Marshall, and John Roney


Morrow, Baker H., and Kristina Guist

2013 La Cienega South Section, El Camino Real del Tierra Adentro. National Register of Historic Places Registration Form. On file at the Department of Cultural Affairs, Historic Preservation Division, Santa Fe, New Mexico.

Nelson, Nels C.


Olsen, Nancy H.


Ortman, Scott G.


Pratt, Boyd C., and David H. Snow


Schaafsma, Polly


Schleher, Kari L., and Jennifer E. Boyd

2005 Petrographic Analysis of Glaze-Painted Ceramics. In Across the Caja del Rio Plateau III: Hunters and Farmers in the Northern Rio

Scholes, France V.
1929 Documents for the History of the New Mexican Missions in the Seventeenth Century, New Mexico Historical Review 4:45–58.

Schroeder, Alfred H.

Simmons, Marc

Snead, James

Snead, James E., Winifred Creamer, and Tineka Van Zandt

Snow, David H., and Cordelia Thomas Snow
1990 Preliminary Report of the Plaza Excavation Project, September through October, 1990, Santa Fe, New Mexico. Ms. on file, Cross Cultural Research Systems and Santa Fe City Planning Division, Santa Fe.

Steen, Charlie R.

Towner, Ronald H., and Matthew W. Salzer

Trigg, Heather


Trigg, Heather Bethany, and Kurt F. Anschuetz

Van West, Carla R., Thomas C. Windes, Frances Levine, Henri D. Grissimo-Mayer, and Matthew W. Salzer
The Mining Camps at Cookes Peak

MATTHEW J. BARBOUR

The Cookes Range is located northeast of Deming in Luna County, New Mexico. It is dominated by a single large peak, known as Cookes Peak (Figure 1). This peak is named after General Cooke, who led the Mormon Battalion during the Mexican American War, and rises 8,408 feet above sea level (Luna County Historical Society 1978:1). The range is a geologic mix of igneous, metamorphic, and sedimentary rock.

Precious minerals in the Cookes Range include copper, fluorite, lead, gold, silver, and zinc. Tectonic activity and erosion has resulted in an ore body at or near the present day ground surface. Hence, mineral deposits are easily detectable and exploitable. Mines in the Cookes Range have been the most productive in Luna County, with more than $4 million in lead, zinc, copper, silver, and gold recovered (McLemore et al. 2001).

Precious minerals were discovered in the Cookes Range in 1876 by rancher and prospector Edward G. Orr (Couchman 1990:226). The range and surrounding area was collectively known as the Cookes Peak Mining District by 1890 (Boyer et al. 1997:10). This district was divided into multiple sub-districts and included three major mining camps: Cooks Town, Hadley Town, and Jose Town.

The largest of the three camps was Cooks Town (Figure 2; Couchman 1990). Located in the northeast corner of the Cookes Range, the camp flourished between about 1882 and 1927. Cooks Town may have contained as many as 30 permanent structures in addition to hundreds of

![Figure 1. Cookes Peak, Luna County, New Mexico.](image-url)
tents which typically characterize mining camps in the west. These structures comprised of numerous commercial business, including a reported 16 saloons. Interestingly, the camp possessed a schoolhouse, but no church.

Hadley Town was named after Walter C. Hadley, a miner and prospector which helped found nearby Lake Valley (see Ackerly and Stuedli 2005). It was the earliest of mining camps, located just north of Fort Cummings. Hadley was occupied from ca. 1880 to 1929 (McLemore et al. 2001:60). The community was centered on the Graphic Mine (Figure 3), one of the most productive silver and lead mines in the Cookes Range (Deming Headlight October 11, 1897). The camp included a post office, five saloons, two “female” places, and a general store.

The exact founding of Jose Town remains unclear. The camp was originally named Rafael and only named Jose in 1902 after the name Alma was already taken (Couchman 1990). Very little about the camp is known other than it consisted of a “few old shacks,” one of which served as post office for about 3 years (1902-1905). However, the camp
included many prosperous mines, such as Gladys owned by the Faywood Lead Company (Figure 4). Based upon the mining operations at these claims, most historians date the camp between ca. 1880 and 1937.

Over twenty tons of ore a day were removed from the Cookes Peak Mining District in 1898 (Sherman and Sherman 1975:56). While operations in the district were widespread, mines were typically speculative and small-scale. The majority of mines were relatively shallow, less than twelve feet in depth, and there was only limited use of cribbing (wood supports) and rail systems (Figure 5) (Barbour et al. 2014). Moreover, the layout of both the mines and camps demonstrates a lack of formal planning, made apparent by the small number of legally patented mining claims.

Longtime resident, Mertie McDaniel Moore (Deming Headlight October 31, 1968), the daughter of Upton McDaniel and half-sister of Riley George (Figure 6), described the mining in the following way:

[…] there were as many as 1,000 men working in the mines at one time. Most of the workers before the turn of the century were from a tribe of Indians in Mexico. These Indians were employed mostly as ore carriers. A bag with a 50 pound capacity was held on their backs by a strap across their forehead. Carrying this load in such an awkward way, the men would walk through the tunnels and up the primitive ladders at the mine entrance, deposit their burden, and go back for another load. A few years later tracks were laid through the mine and one man could push a car containing 200 pounds of ore.
Figure 5. Ore cart rail in Jose Town.

Figure 6. McDaniel Family. Courtesy of the Deming-Luna Mimbres Museum.
Miner owners operating in the Cookes Peak Mining District can be identified through the limited number of homestead and mining claim patents filed. Prominent mine owners included Eleazon Orr, Upton McDaniel, Riley George, Charles Poe, Edwin Hyatt, and A. P. Taylor (Barbour et al. 2014). Most of these men had no formal background in mining. McDaniel initially served as the post master at nearby Fort Cummings (Couchman 1990:212); George controlled the only drinkable spring at the north end of the range (Luna County Historical Society 1978:88-89); Poe owned the Cooks Town general store (Couchman 1990:236); and Hyatt was a rancher (Luna County Historical Society 1978).

The population at the camps appears to have fluctuated quite heavily, based upon the season and the price of silver. Unfortunately, the 1880 U.S. Census does not document those living in the Cookes Peak Mining District and the 1890 U.S. Census was lost to a warehouse fire. The loss of this latter census is most unfortunate, as this would have provided numbers at the height of mining operations.

The 1900 U.S. Census records 343 people living at Cooks Town (Figure 7). This sizeable population was in fact larger than that which was recorded for the more well-known town of Lake Valley (see Ackerly and Stuedli 2005). Over half of the population listed for Cooks Town in the census were either born in Mexico or born in the United States to Mexican Nationals, not native born New Mexican Hispanics. The most common surnames were Rodrigues(z), Gardia, Delgado, Jaso, and Gutierrez (Gutierrez). Hence, while the mine owners were primarily Anglo, the mining camps of the Cookes Peak Mining District were largely Mexican in their ethnic composition (Barbour et al. 2014).

By all accounts life within these camps was particularly brutal (Varney 1987:114). While there were seven brothels and as many as twenty-five saloons, there were no churches and only a single

![Figure 7. Miners outside the Summit Mine. Note the hoisting mechanism and ore cart track, post-1881. Courtesy of the NM State Archives Neg. No. 62627.](image)
source of drinkable water. Cattle rustling was common, as was claim jumping. Disputes were settled without the aid of law enforcement, often with violent and horrific consequences. Blizzards could occur in winter and dust storms were not uncommon in the summer months. Making matters worse, there is circumstantial evidence that many of residents suffered from the effects of lead poisoning.

The decline of the Cookes Peak Mining District was slow. As the ore bodies were played out and the price of silver declined, families began to move into nearby Deming (Figure 8). Major mining operations in the range ceased by 1943, but limited gold and silver prospecting continues to this day (Barbour et al. 2014).

Private land was consolidated into the hands of a few ranching families. Ranching in the Cookes Range had existed before, and continued to exist after, the mining boom. However, ranching changed from sheep, goats, and cattle to simply cattle by the mid-twentieth century. This was due in large part to a late season blizzard in April 1905 that killed many of the already sheered goats and sheep grazing in the range (Deming Graphic April 7, 1905).

Today, the archaeological remnants of Cooks Town, Hadley Town, and Jose Town, as well as the thousands of mines which once operated in the Cookes Peak Mining District, are still visible upon the landscape (see Barbour et al. 2014). However, visitation to the range is strongly discouraged. Much of the land remains privately owned and the abandoned mines are extremely dangerous (Figure 9). Be that as it may, the landscape of the Cookes Range remains an important piece of history to Luna County.

Figure 8. Ruins of the Rodgers Family house outside Cooks Town.
Figure 9. Open mine in the Cookes Range.
References Cited

Ackerly, Neal W. and Esther Stuedli
2005 *An Archaeological Inventory of the Lake Valley Mining District, Sierra County, NM*. Dos Rios Consultants, Silver City, New Mexico.

Barbour, Matthew J, Susan M. Moga, and Donald E. Tatum
2014 *In the Shadow of Standing Mountain: An Archaeological Survey of the Northern Portion of the Cookes Range, Luna County, New Mexico*. Archaeology Notes 444. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

Boyer, Jeffrey L., John T. Zachman, and Guadalupe Martinez

Couchman, Donald Howard

Deming Graphic
1905 April 7.

The Deming Headlight
1897 October 11.
1968 October 31.

Luna County Historical Society
1978 *The History of Luna County*. Luna County History Society, Deming.
1982 *The History of Luna County, Supplement 1*. Luna County Historical Society, Deming.

McLemore, Virginia T., Kelly Donahue, Michael Breese, Meghan L. Jackson, Jeffrey Arbuckle, and Glen Jones

Sherman, James E., and Barbara H. Sherman

Varney, Phillip
1987 *New Mexico’s Best Ghost Towns*. University of New Mexico Press, Albuquerque.
Putting Round People in a Square Hole: Spanish Worldview and the Taos Pueblo League

JEFFREY L. BOYER

The plaza itself, considered limited in space by its four sides, is the most exquisite expression of social life ever achieved by Man’s city planning and architectural genius . . . The simplicity of its space is clearly an invitation to the social and moral freedom of the people. But its fortress-like lines are a definitive reminder that life and freedom can be lived only in a concrete and limited location, for a well-defined purpose. If those limitations disappear, there would be nothing left but the naked countryside, in which nature has absorbed and destroyed the essential freedom of human art and ingenuity. (Fernando Guillén Martínez 1958; quoted by Low 2000:31)

Plazas: Spanish Settlers, Rectilinear Communities, and Orderly Worlds

In a succinct paper on the origins and realities of Spanish plaza-centered communities, Boyd Pratt (1988) points out that Ordinance 112 of the “Royal Ordinances Concerning the Laying Out of New Towns,” issued in 1573 by order of Spain’s King Philip II, begins with the directive that, “The main plaza is to be the starting point for the town.” Pratt (1988:5, emphases added; see also Low 2000:86, 95) also states that the use of a square or rectangular, grid-centered community for colonizing “new” lands can be traced back at least to the Greek colonies around the Mediterranean and Roman military camps and colony communities:

The idea of a city established de novo, as a colony of another culture . . . both introduced the concept of town planning by a central authority and suggested the form that colonial towns should take: an orderly plan, usually in the form of a grid of streets, with a central area for political, economic, and religious functions—the forum. Aristotle even discussed the proper laying out of cities in Book VII of his treatise, Politics.

This Greek precedent was adopted by the Romans with a few changes, and was readily applied to their military camps and the founding of towns in their colonies (Barteet 2011; Rodriguez 2005; Rogers 2005).

Indeed, according to Pratt (1988) some specifications regarding size and orientation of the Roman forum in new towns are echoed virtually verbatim in Spanish King Philip II’s 1573 Laws of the Indies (Mundigo and Crouch 1977; Nuttall 1922), although Barteet (2011:11) asserts that, “To date, despite extensive research, the exact origins for the Spanish-American urban system and its supporting legislation have not been definitely determined, suggesting that no single model exists as the primary source. The ordinances and laws directed that new towns were to be plaza-centered, and that the plazas were to be square or rectangular and proportionate in size to the number of inhabitants. The plazas were to be lined with the buildings of the church, by the casas reales for governmental administration, and by shops and houses. Portales were to run along the sides of the plaza, providing covered walkways around it. Regular grid-pattern streets were to lead out from the four corners of the plazas, and the lands beyond the plazas were to be gridded in lots. Finally, recognizing—or perhaps hoping—that the towns so established would grow in population numbers exceeding the space within the original plazas, the extramural, gridded land and road system would allow for expansion of the towns through construction of smaller plazas adjacent to the plaza.
Pratt and Snow (1988:42-50) provide plans of several Old and New World Spanish cities to illustrate the rectilinear regularity intended by the royal ordinances, while Low (2000:95) notes that, “as has been pointed out by many scholars, by 1573 the majority of major cities in the New World had been built, and the Laws of the Indies only reflected what was already established practice.”

There were several reasons for insisting, or attempting to insist, that Spanish colonial towns be laid out in this relatively regimented manner. From a cultural standpoint, perhaps the most significant is expressed in a directive from King Ferdinand V in 1513:

. . . let the city lots be regular from the start, so that once they are marked out the town will appear well ordered as to the place which is left for the plaza, the site for the church, and the sequence of streets; for in places newly established proper order can be given from the start, and thus they remain ordered with no extra labor or cost; otherwise order will never be introduced. (Barteet 2011:14; Pratt 1988:6, emphases added).

Barteet (2011:11-12) links this sense of order to “theological descriptions of the heavenly city of New Jerusalem” from “biblical references in the book of Revelation to the written works by the Catalan Franciscan friar Francesc Eiximenis (1340-1409).”

Marc Simmons (1969), David Snow (1979), and Boyd Pratt (1988; also Pratt and Snow 1988) have made it clear to us that Spanish settlement of New Mexico, both before and after the 1680 revolt, did not always conform closely—or even at all in many cases—to the laws and ordinances promulgated by the Kings of Spain; it is also clear that those individuals with either secular or sacred authority over the New Mexican settlers saw the realities of settlement as regrettable deviations from an appropriate standard, beginning with Santa Fe, the provincial capital established by and for Spaniards in 1607 (see C. Snow 1988). For instance, in 1782, Fray Juan Agustín de Morfi described Santa Fe as “a settlement in part regular and most of it without order” (Simmons 1977:14, emphasis added), a description echoing that of Fray Francisco Atanasio Dominguez six years earlier:

Surely, when one hears or reads “Villa of Santa Fe,” along with the particulars that it is the capital of the kingdom, the seat of political and military government with a royal presidio, and other details that have come before one’s eyes in the perusal of the foregoing, such a vivid and forceful notion or idea must be suggested to the imagination that the reason will seize upon it to form judgments and opinions that it must at least be fairly presentable, if not very good. But as soon as the description is seen, the reason will recognize the fantasy of the imagination and rightly replace it with the true facts. The location, or site, of this villa is as good as I pictured it in the beginning, but its appearance, design, arrangement, and plan do not correspond to its status as a villa [...].

To conclude, the Villa of Santa Fe (for the most part) consists of many small ranchos at various distances from one another, with no plan as to their location [...]. (Adams and Chavez 1956:39-40, emphases added)

The well-documented tendencies of New Mexico’s Spanish settlers to either spread out in an unregulated fashion from plaza-centered towns or to forego such towns completely had an equally well-documented result: a significant and sometimes complete inability on the parts of the settlers themselves and of their governmental authorities to effectively defend them when their Native American neighbors—whether Pueblo or otherwise—were inspired to attack them. This situation was especially obvious during two crisis periods for the settlers. Firstly, the very high casualty rate during the 1680 revolt can in part
be attributed to the dispersion of Spanish settlers that prevented them from being able to aggregate and create groups of people large enough for self-defense. In 1760, Bishop Pedro Tamarón y Romeral concluded, “If there had been a fort [at Santa Fe] at the time of the uprising in the year 1680, the Indians would not have dared to do what they did” (Adams 1954:47).

Secondly, during the third and fourth quarters of the 1700s, for a variety of environmental and socio-cultural reasons, Spanish and Pueblo communities of New Mexico were besieged by what must have seemed like constant raiding by bands of surrounding non-Pueblo Indians. In 1776, during the height of this crisis period, Antonio de Bonilla, secretary to Teodoro de Croix, Commandant General of the recently established Provincias Internas de Norte, stated bluntly,

The settlements of the Spaniards are scattered and badly defended . . . and quite exposed to entire ruin. Because the greater number of them are scattered ranches, among which the force of the settlers is divided, they can neither protect themselves nor contribute to the general defense of the country. This, in consequence, results in the abandonment of their weak homes and the terror of seeing themselves incessantly beset by the enemy (Simmons 1969:17).

Indeed, Bonilla’s observation echoes one made about the provincial capital, Santa Fe, by Bishop Tamarón: “Santa Fe is a very open place; the houses are far apart; and therefore it does not have the least defense” (Adams 1954:47). In 1772, New Mexican Governor Pedro Fermín de Mendinueta recommended to the Viceroy in Mexico that settlers be compelled by law (and force, if necessary) to congregate in plaza-centered towns for their own defense. Orders to that end were finally issued in 1778 from Commandant General Croix to newly appointed Governor of New Mexico Juan Bautista de Anza (Simmons 1969:18), although the degree to which Spanish settlement was ever effectively aggregated is debated (D. Snow 1979; Pratt 1988; Pratt and Snow 1988:217-227). Nonetheless, as Simmons (1969) points out, it was following issuance of this order that many of the plaza-centered towns of the Spanish frontier were established. This is certainly true of the Taos Valley.²

However, the practical need for self-defense is perhaps not the most important reason for complaints by Spanish authorities regarding the commonly dispersed nature of Spanish settlement during the Colonial period. There was a deeply embedded cultural issue that demanded the establishment and use of ideally-regularized, plaza-centered settlement. That issue involved a sense of order that needed to be imposed upon this part of the expanding Spanish world. Recall King Ferdinand’s directive that new towns be “properly ordered” from their birth, and his concern that if they were not so begun, “order will never be introduced.”

In his study of Bent’s Fort and its role in United States’ colonization of the Plains and Southwest, Douglas Comer (1996) links the fort’s rectangular (if not quite square) plan to the Latin “quadra,” a term that “implies form in equilibrium and [that] has a static meaning in ancient cosmology” (Comer 1996:58). That is, in Roman cosmology, the “quadra”—the square—represents static rather than dynamic conditions, stability rather than flexibility. It is that Roman-to-Spanish sense of static, stable order that I contend is reflected in King Ferdinand’s directive, in the 1573 Laws, and, indeed, in Bishop Tamarón’s, Fray Dominguez’, and Fray Morfí’s discouraged descriptions of Santa Fe.

Mircea Eliade, perhaps the world’s foremost historian of religion, has demonstrated that one activity common to all people as they move into new (to them) areas, regions where they or their people have not lived before, is the imposition of order on the “new worlds” (especially Eliade 1957:20-65; also Eliade 1991:37-38):

In extremely varied cultural contexts, we constantly find the same cosmological schema and the same ritual scenario: settling in a territory is...
equivalent to founding a world.

[S]ettling somewhere—building a village or merely a house—represents a serious decision, for the very existence of man is involved; he must, in short, create his own world and assume the responsibility of maintaining and renewing it (Eliade 1957:47, 56; emphasis in original).

Those “new worlds” are frontiers, regions at the edge of socio-cultural and, usually, population expansion. Frontiers are, Eliade maintains, lands that are without form, without boundaries, and chaotic—that is, without order. They are terra incognita, but not because frontier settlers don’t yet know the natural resources and landmarks of the new worlds, a situation that will be remedied with time and experience. Rather, their unknown qualities reflect the essential disorder of frontiers, a situation that will be remedied when order is established:

An unknown, foreign, and unoccupied territory (which often means, “unoccupied by our people”) still shares in the fluid and larval modality of chaos. By occupying it and, above all, by settling in it, man symbolically transforms it into a cosmos through a ritual repetition of cosmogony. What is to become “our world” must first be “created,” and every creation has a paradigmatic model . . . (Eliade 1957:31).

Comer says succinctly (1996:3),

. . . unknown land is unsanctified land, land that does not fit into the forms our assumptions about the world have taken so far. It is unfathomable and threatening until it is sanctified, until our belief and value system has been stretched to make room for it or, more likely, until we tailor the land to our preexisting notions of what the real world should be.

Taken together, the need to establish social and geographical order on the Spanish frontier and the Spanish world-view notion that such order is linear or rectilinear in form combined to direct that Spanish communities established on the frontier be rectilinear and plaza-centered. Those communities would be proper towns, towns of order in a chaotic new world, providing form and boundary to that world. They could provide for themselves and defend themselves against the onslaughts of people who might resist the establishment of this new world, not because of the strength of their arrangement but because of the power of their order.

It is in that context that Fray Morfi declared that the condition of those settlers who lived in dispersion was that they wanted to be free from the prying eyes of secular and sacred authorities, to commit all manner of lewdness and immorality (Simmons 1969:17). Fray Dominguez reached similar conclusions, if not quite so coarse, about the scattered settlements, observing that people lived where they found it convenient rather than in appropriately planned and patterned regularity (Adams and Chavez 1956:40). What we see in their interpretations is that those settlers who lived in dispersion lived improperly, out of order according to standards appropriate to Spanish colonizers. Guillén Martínez (1958), quoted earlier, reifies this Spanish-American perspective centuries later when he asserts: “The simplicity of [plaza] space is clearly an invitation to the social and moral freedom of the people. But its fortress-like lines are a definitive reminder that life and freedom can be lived only in a concrete and limited location.” Viewed in this light, the “defensive crisis” of scattered farms and ranches being unable to adequately protect themselves from insurrecting and marauding Indians was a practical consequence of ideological and moral disorder.

The Taos Pueblo League

So, what has the Spanish world-view notion of an orderly, rectilinear world to do with Taos Pueblo?
I contend that the need, on the part of Spanish colonizers, to establish social and geographical order to their “new” world had several consequences for the Taos Pueblo community. We will view just one of them, the pueblo league, in this paper. Taos Pueblo is located along the Rio Pueblo in the southeastern Taos Valley. The Rio Pueblo is the central feature of a system of rivers draining the Taos Mountain, Tres Ritos Hills, and Picuris Mountain portions of the Sangre de Cristo Mountains; that drainage system, in turn, feeds into the Rio Grande (Figure 1). We do not
know exactly when the ancestors of Taos Pueblo residents first occupied that specific location. Archaeological data show that Pueblo ancestors appeared in the Taos Valley between A.D. 1050 and 1100 (Boyer 1997); their homes, fields, and other sites have been observed from the Red River in the north to the confluence of the Rio Grande del Rancho and the Rito de la Olla in the south. Sometime after about A.D. 1200, as Pueblo settlers in the valley aggregated into small and then larger towns, four sites emerged as communities that would later—how much later we don’t know—be recognized as directly ancestral to Taos Pueblo (Figure 2). It is probably important that those sites were located near or at the northern and southern limits of earlier pueblo occupation of the valley.

Figure 2. Taos Pueblo and four ancestral sites.
During research for the Taos Pueblo’s land-claim in the 1960s, Pueblo elders identified a series of specific geographic locations that were or had historically been used for acquisition of specific resources or for performance of specific activities (Ellis 1974). The area circumscribed by these locations is a roughly circular area some 30 miles (ca. 48.3 km) in diameter and encompassing about 700 square miles (ca. 448,000 acres; ca. 181,305 ha), with Taos Pueblo near the center, and with its northern and southern limits very close to the limits of distribution of older Pueblo sites and to the locations of the four ancestral sites (Figure 3). How it corresponds to Taos Pueblo’s use area prior to the advent of the European colonists in the seventeenth century is not known, but it represents

Figure 3. Approximate location and size of Taos Pueblo traditional use area.
our best knowledge of the region regularly used by Taos residents.

During the seventeenth century, prior to the 1680 revolt, the Spanish Crown gave two land grants in the Taos Valley to soldier-settlers, one to Fernando Durán y Chavez and the other to his son-in-law Diego Lucero de Godóy (Martinez 1968). Both men survived the revolt by being elsewhere at the time and neither returned to New Mexico during or after the “reconquest” of the early 1690s. Their grants were, in the eighteenth century, given to two other applicants. Three other grants in the valley were given to individuals or groups of individuals, and another two to the aspiring communities of Don Fernando de Taos and Arroyo Hondo (Martinez 1968; U.S.

![Figure 4. Spanish land grants in the Taos Valley.](image-url)
In addition to these seven grants given to Spanish settlers after 1700, and in order to mitigate or alleviate encroachment by those settlers onto lands needed by the residents of Taos Pueblo for economic and other activities (Jenkins 1966), the Spanish Crown also recognized a grant of land to Taos Pueblo (Figure 5). Such grants, given to most, perhaps all, of the pueblo communities in New Mexico, became referred to as “pueblo leagues” because they were defined by measuring one league out in the four cardinal directions—mas o menos—from the cross erected by Franciscan missionaries in front of each pueblo’s mission church. Pueblo leagues

Figure 5. Taos Pueblo league among the Spanish land grants.
were, then, four square leagues, two leagues on a side.6

Like four other New Mexican pueblos, Taos Pueblo could not produce documents from the Spanish government establishing its four-league grant for the U.S. Surveyor General in the 1850s following New Mexico’s annexation by the United States (Jenkins 1966:113; USGAO 2001:17). In the end, the lack of original documentation was common to all the pueblos because the so-called Cruzate grant documents, supposedly dating to 1689 when then-governor in absentia Domingo Jironza Pétriz de Cruzate allegedly gave the grants to the pueblos, were shown to be forgeries in 1890.7

Myra Ellen Jenkins (1966) documents a long list of complaints made by Taos Pueblo about encroachments on pueblo lands during the post-1700 Spanish Colonial period, affirming that both the Pueblo and its Spanish neighbors recognized Pueblo ownership of a bounded parcel of land. That bounded land was acknowledged as a four-league grant in 1815 when Taos Pueblo Governor José Luján petitioned the local alcalde, José Tafoya, for redress from settler trespasses:

Since the king, God keep him, has given us one league of land to the four winds, we request Your Excellency that it be delivered to us so that our families may have more land for planting and our livestock may have ample pasturage (Jenkins 1966:101).

Alcalde Tafoya referred the request to New Mexico Governor Alberto Maynez, who sent back the following somewhat brusque reply:

The five thousand vara league, measured from the cross of the cemetery in all directions, which His Majesty granted to each Indian pueblo from the beginning of its establishment, is for the purpose of conserving this land for the maintenance of the sons of the same, so that they may have the use of it . . . (Jenkins 1966:101).

In a later letter to Alcalde Pedro Martínez, who replaced Tafoya, Governor Maynez stated bluntly, “their rights to the [Taos Pueblo] league which His Majesty granted them are incontestable” (Jenkins 1966:103). Wanting to address the Indians’ complaints, Governor Maynez apparently instructed the alcalde to measure the Taos Pueblo league and report on encroachments. Alcalde Martínez reported back to Governor Maynez as follows:

. . . and in consideration of what Your Excellency has advised me, I measured the league with a vara of the kind in ordinary use, which I showed to the pueblo. As a result, 1700 varas from east to west and 3950 from north to south were taken from the settlers, all land cultivated at the expense and sweat of the settlers. Included in this territory are three plazas7 which may contain about 190 families and a church built solely by the residents . . . (Jenkins 1966:103).

Because of these documents, and since a Cruzate document for Taos Pueblo, spurious though it might have been, does not exist, the Taos Pueblo league is officially dated to 1815 although the documents, as well as the history of encroachment battles, make it clear that the pueblo league was recognized long before 1815.

Creating a Proper Plaza for a Pueblo Community

The Taos Pueblo league, as confirmed by the U.S. Surveyor General in 1859 and patented by Congress in 1864, encompassed 17,360.5 acres (27 square miles; 7025.8 ha) (USGAO 2001:27). These numbers represent a 96 percent reduction from the estimated size of the Taos traditional use area. Not to diminish the socio-economic significance of such a reduction, what is important for this discussion is the way in which the pueblo league was laid out and its resultant configuration. Even a cursory glance at a map of the Colonial period land grants in the Taos Valley (Figure 5) reveals a significant
difference between the Taos Pueblo league and the grants made to Spanish settlers. The latter are large and very irregular in shape, having been defined by metes and bounds and bordered by lines running from one geographic point to another: “from this tree to that rock to the brow of that hill.” This is true whether the grants were given to individuals or to aspiring communities. In distinct contrast, the Taos Pueblo league is a very regular square with sides two leagues in length and the pueblo in the center—and, as we know, the mission church cross in the exact center.

Reaching back to our discussion of the linear and rectilinear form of orderly Spanish world-view, it is my contention that the pueblo league represents the action of the Spanish Crown, through its secular and sacred officials, to do what all people do when they move into what is, for them, a frontier—an unformed, unbounded, chaotic world: they impose order on that new world using forms that are culturally appropriate and acceptable. “Settling in a territory is equivalent to founding a world” (Eliade 1957:47). For its own Spanish settlers, the Crown and its officials could direct that new towns be built in well-ordered, rectilinear, plaza-centered forms. That the settlers did not always comply was a sign not of administrative laxity (although it might have been that, too) but of their cultural demoralization, their willingness to sacrifice the proper way of things for their own conveniences, or worse.

What to do, then, with the Pueblo Indians? They already lived in aggregated communities, but they were clearly not proper Europeans—they resisted forsaking their own religious notions, activities, and facilities in favor of Catholic conversion; they resisted forsaking their own languages for Spanish; and their towns, while aggregated, could be haphazard in planning and design. For them to be appropriately assimilated into the King’s empire, order had to be imposed upon them. My contention, then, is that the pueblo league was a square, orderly plaza established to bring Pueblo people and their towns into the ordered Spanish world of which they had become a part.

Note that the center of the league was not the open space within a pueblo, not a kiva, or an emergence-location feature, or any other feature of cultural importance to the Pueblo people; it was the cross erected in front of the mission church. In the process of establishing order on the new Spanish world, that cross was an axis mundi connecting the “new world” in New Mexico with the “world before” in Spain and Mexico, thereby establishing continuity for the “world to come.” It was a benchmark by which the new world was legitimized, sanctified, made orderly, given form and bounds (e.g., Eliade 1991:27-56). As Eliade (1957:42) puts it, “‘Our world’ is always situated at the center.” How else to establish the limits of the pueblo league than to start with a center point from which to measure the length and width of the encompassed land?

Why not use a pueblo feature as the axis mundi, the center of new world formation? Because, as Comer (1996:5) puts it succinctly, “The people who occupy the terra incognita, those who are indigenous, are strangers and less than human until we establish their humanity… They must either prove themselves human in our terms, or our terms must be expanded.” Consequently, those people can be overlooked when newcomers work to form and sanctify their new world. By establishing a new referent center first, that world is identified, making it “right” for newcomers and indigenes alike to live here. Then the natives can be made “right” by bringing them into an orderly world and, in so doing, their humanity is both conferred and confirmed.

To make all that happen, it was necessary to establish a new center point for the pueblo communities and thus to impose an orderly square form over those communities. Since the pueblos didn’t have proper square communities of their own, the Spanish provided square communities for them, in the form of the pueblo league. Even if pueblo communities happened to be rectilinear in form, as some were (not Taos, though), Spanish officials with the requisite legal authority had not laid them out. They were not, therefore, real plaza communities in the context of the new, orderly world. In order for pueblo people to live in the new world, they had to live within a properly bounded plaza space of the form prescribed, if
not always realized, for Spanish communities. Doing so sanctified Pueblo people and protected them from the sorts of moral and practical failures sadly seen in the haphazard communities of many Spanish settlers. If Spanish authorities were unable to consistently impose appropriate order over their own people, they could, at least, bring their new charges into an orderly world and thereby preserve them from the vicissitudes of free will.

Afterward

The discussion provided and conclusions drawn here are not value-laden statements about the imposition of Spanish worldview on native people, at Taos Pueblo or elsewhere. It has been, for some time now, de rigueur in anthropology to decry Euroamerican colonialisms and their many cultural, social, and material consequences for native peoples. If we learn anything from our historian colleagues, however, it is that colonization and its consequences are hardly limited to the post-1500 Americas; indeed, archaeologists, including myself, constantly examine the results of pre-Euroamerican colonizations throughout the Americas. This paper is intended to provide not only a historically-informed but a culturally-informed view of one aspect of Spanish interaction with native Pueblo communities. The Spanish policy of reducción, wherever it was applied, was not merely a matter of colonialist oppression and administrative convenience; it represented human-wide processes by which people moving into frontier areas make sense of and bring order to their new worlds and the peoples who already live there.

Notes

1. At the ca. 1790 community that became known as Don Fernando de Taos a second plaza was established to house the Nuestra Señora de Guadalupe church, built ca. 1802, because the primary plaza was too small. C. Snow (1988:47-48) observes that, a century earlier in 1693, Santa Fe had two public plazas.
2. Rapid expansion of Spanish settlement in the Taos Valley in the 1790s was directly related to Anza’s successful negotiation of peace with Comanches in 1786 (Thomas 1932). Still, most of the resulting, small communities were compact and plaza-centered when they began.
3. Another consequence of imposing Spanish worldview on Taos Pueblo, which for reasons of time and space I cannot develop in this forum, was construction of the well-known wall around the village, probably in the 1760s or early 1770s. Fray Dominguez’s description of the wall, the first known written mention of the feature, provides us with a view of Taos Pueblo as a fortified European castle with high walls, towers, and gates.
4. This name was given by Spanish colonists, another example of imposing (Spanish) order on an otherwise unordered world (e.g., Steele 1983). The Taos people name it “red willow water” in reference to the willows that line it—and most rivers in the valley—that turn red in the fall and that also give identity to the people and their town (Parsons 1936:17); the fullest description is by Harrington (1916:178, 180).
5. The circular region is considerably larger in size and different in form than the roughly rectangular area identified by Ellis (1974) as Taos Pueblo’s “traditional use area” for purposes of the community’s land claim. Ellis’ recommended use area does, however, represent approximately the southern half of the area illustrated here in Figure 3. Although Ellis’ area was based on specific landmarks identified by elder members of the Pueblo council, it is not entirely clear from her report why she recommended that the smaller area be recognized as Taos’ traditional use area.
6. The Spanish league was 5000 varas in length (Cardarelli 1998; Galván Rivera 1844). A vara varied between about 32½ inches and 33½ inches long, averaging about 33 inches (Boyd 1954; Cardarelli 1998). A league averaged 13,750 feet or 2.6 miles long (4191 m, 4.19 km), leading the Surveyor General, the Court of Private Land Claims, and most subsequent researchers to use a measurement of 2.6 miles per league.
7. The Cruzate documents were probably written sometime after 1832 (Jenkins 1961:52). Mathews-Benham (2009:11-12) shows that they were probably not present in New Mexican public archives in the 1840s and they didn’t appear in recorded legal proceedings until 1854. She (Mathews-Benham 2009:8, 9) suggests that some but not all of the existing Cruzate documents might be copies of originals although there is no way to demonstrate that.
8. Although the alcalde did not identify them, the three plazas were Don Fernando de Taos (later known as Taos), Los Estiercoles (later known as El Prado), and, probably, the plaza that became known as La Loma. The church was probably Nuestra Señora de Guadalupe at the Taos plaza.
References Cited

Adams, Eleanor B.
1954 Bishop Tamerón's Visitation of New Mexico, 1760. Publications in History No. 15. Historical Society of New Mexico, Albuquerque.

Adams, Eleanor B., and Fray Angelico Chavez, translators and annotators
1956 The Missions of New Mexico, 1776: A Description by Fray Francisco Atanasio Dominguez with Other Contemporary Documents. University of New Mexico Press, Albuquerque.

Barteet, C. Cody

Boyd, E.

Boyer, Jeffrey L.

Cardarelli, François

Comer, Douglas C.

Eliade, Mircea


Ellis, Florence H.

Galván Rivera, Mariano
1844 Ordenanzas de Tierras y Aguas, Ó Sea: Formulario Geométrico-Judicial. Leandro J. Valdez, Mexico City.

Guillén Martínez, Fernando

Harrington, John P.

Jenkins, Myra E.


Low, Setha M.

Martínez, Rowena
Mathews-Benham, Sandra K.

Mundigo, Axel I., and Dora P. Crouch

Nuttall, Zelia

Parsons, Elsie C.

Pratt, Boyd C.

Pratt, Boyd C., and David H. Snow

Rodriguez, Roberto

Rogers, Karen L.

Simmons, Marc

1977 *Father Juan Agustín de Morfi's Account of Disorders in New Mexico, 1778.* Historical Society of New Mexico, Albuquerque.

Snow, Cordelia T.

Snow, David H.

Steele, Thomas J., S. J.

Thomas, Alfred B., editor
1932 *Forgotten Frontiers: A Study of the Spanish Indian Policy of Don Juan Bautista de Anza, Governor of New Mexico, 1777-1787.* University of Oklahoma Press, Norman.

U.S. Government Accounting Office
Ranches, Springs, and Old Stone Towers: The General Land Office Surveys in and Near Dinétah

JAMES M. COPELAND

The General Land Office

On April 25, 1812, the General Land Office (GLO) was created by an act of Congress and charged with the task of executing and performing “… all such acts and things, touching or respecting the public lands of the United States, and other lands patented or granted by the United States…” and to “… make a plat of any land surveyed under the authority of the United States, and give such information respecting the public lands, and concerning the business of his office, as shall be directed” (GLO 1812). The GLO was an independent agency within the Department of the Treasury and overtook several functions relating to public lands that had previously been carried out by the Secretaries of State, Treasury, and War.

Preparation and submission of plats were accompanied by field notes that sometimes included summary descriptions of the natural environment and cultural features of the individual townships. Official acceptance and publication of the plats would take place shortly after fieldwork or a year or more afterwards.

In General Instructions Regarding Surveys issued in 1831 by Elijah Hayward (1983 [1831]), fifth commissioner of the GLO, surveyors were instructed “… to enjoin on your deputies a strict regard to the moral integrity of their subagents. None must be employed in whom implicit confidence cannot be reposed, as the interest of the public service is at stake.” They certainly were taking the task and public trust seriously. Eventually the GLO would have additional mandates that included administering the Preemption and Homestead Acts in the disposal of public lands. The GLO became part of the Department of the Interior in 1846 and it merged with the United States Grazing Service in 1946, becoming the Bureau of Land Management.

The records generated by the GLO, particularly the original survey plats and the occasional resurvey and accompanying survey notes, as well as the land patent records, provide an important body of information regarding the natural and cultural character of the lands at a time of, or immediately preceding, historic settlement.

Examples from northwest New Mexico, primarily in the Largo and Gobernador Canyons and adjacent areas (a.k.a. Dinétah) are used to show how these records provide an early snapshot of a now largely depopulated and abandoned Native American, Hispanic, and Anglo rural landscape, documenting the existence of cultural features such as ranches and Native American sites, the timing and pattern of ethnicity in settlement, and local environmental change.

Euro-American Sites

Original GLO surveys and their subsequent maps often indicate the location of historic or modern features. In a 46-township area 113 non-Native American features, excluding wagon roads and fences, have been identified by topographic symbols in the Largo and Gobernador Canyon area from surveys conducted for 51 GLO maps prepared or published from 1882-1919. These features include 82 domiciles (Figure 1) variously called...
Figure 1. Distribution of GLO map-labeled historic domiciles in Dinétah, 1882-1884 and 1915-1919. The absence of later features throughout much of the area reflects absence of later surveys, not an absence of settlement.
ranches, houses, cabins, and deserted houses. In many cases (n=49) the residents are listed by name on the maps (Table 1). Additional information about residents shown or not shown on the plats is sometimes given in a general description of a township provided in the field notes. For example, in the fall of 1914 the surveyor (Lyman 1914a:92) noted in Township 28 North, Range 7 West, that “The settlers are Milquides Valdais, in sec 25, William Lobato, probably in SW 1/4 of SW 1/4 of sec. 21, and Juan B. Medina in sec. 30 (house built after survey of section), and Juan D. Medina is cutting house logs and preparing to build.” These individuals are not enumerated on federal census records in this area and the GLO survey is the only tangible public documentary evidence that they were present in the canyons. In this example, Juan D. Medinas’ place has been found but the others have eluded discovery. Occasionally a distinctive cartographic symbol for domiciles was used with no labeling. Other identified features include stables, corrals, ovens, dams, and, in one case, a church at the residence of Ignacio Garcia.

Twenty-six springs were labeled on the maps. Of all the labeled springs, only one appears to be in the vicinity of one identified on current USGS topographic maps. About 25 percent (n=7) of the springs are in close proximity to residences (<150 m; 500 ft). A few of the springs had names (Black Spring—1882; Delgadito and Snyder

<table>
<thead>
<tr>
<th>Map Year</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1882</td>
<td>White’s</td>
</tr>
<tr>
<td>1882</td>
<td>Stack’s</td>
</tr>
<tr>
<td>1882</td>
<td>Cordova’s</td>
</tr>
<tr>
<td>1882</td>
<td>Butler’s</td>
</tr>
<tr>
<td>1882</td>
<td>Borda</td>
</tr>
<tr>
<td>1882</td>
<td>Otero’s</td>
</tr>
<tr>
<td>1882</td>
<td>Burn’s</td>
</tr>
<tr>
<td>1882</td>
<td>Lujan</td>
</tr>
<tr>
<td>1882</td>
<td>Bavasques</td>
</tr>
<tr>
<td>1882</td>
<td>Montoyo’s</td>
</tr>
<tr>
<td>1882</td>
<td>Henera’s</td>
</tr>
<tr>
<td>1882</td>
<td>Suaso’s</td>
</tr>
<tr>
<td>1882</td>
<td>Archilatos</td>
</tr>
<tr>
<td>1884</td>
<td>P.J. Jaramillo</td>
</tr>
<tr>
<td>1884</td>
<td>P.J. Jaramillo</td>
</tr>
<tr>
<td>1915</td>
<td>Juan I. Lobato</td>
</tr>
<tr>
<td>1915</td>
<td>Manuel Lobato</td>
</tr>
<tr>
<td>1915</td>
<td>Manuel Ballejos</td>
</tr>
<tr>
<td>1915</td>
<td>Abelino Lobato</td>
</tr>
<tr>
<td>1915</td>
<td>Charles Warrant</td>
</tr>
<tr>
<td>1915</td>
<td>Telesforo Ballejos</td>
</tr>
<tr>
<td>1915</td>
<td>Fitche’s</td>
</tr>
<tr>
<td>1915</td>
<td>V. Sparks</td>
</tr>
<tr>
<td>1915</td>
<td>Garcia</td>
</tr>
<tr>
<td>1917</td>
<td>A.M. Fernandez</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Map Year</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1917</td>
<td>Benino Martinez</td>
</tr>
<tr>
<td>1917</td>
<td>J.B. Fernandez</td>
</tr>
<tr>
<td>1917</td>
<td>N. Florez</td>
</tr>
<tr>
<td>1917</td>
<td>D. Florez</td>
</tr>
<tr>
<td>1917</td>
<td>Ramon Martinez</td>
</tr>
<tr>
<td>1917</td>
<td>J.B. Samora</td>
</tr>
<tr>
<td>1917</td>
<td>Juan Ruix’s</td>
</tr>
<tr>
<td>1917</td>
<td>V. Valdais</td>
</tr>
<tr>
<td>1917</td>
<td>Juan B. Medina</td>
</tr>
<tr>
<td>1917</td>
<td>W. Lobato</td>
</tr>
<tr>
<td>1917</td>
<td>Jose M. Valdais</td>
</tr>
<tr>
<td>1917</td>
<td>S. Sanchez</td>
</tr>
<tr>
<td>1917</td>
<td>Felix Salazar</td>
</tr>
<tr>
<td>1917</td>
<td>A.M. Fernandez</td>
</tr>
<tr>
<td>1917</td>
<td>Ignacio Garcia</td>
</tr>
<tr>
<td>1917</td>
<td>Doloritas Martinez</td>
</tr>
<tr>
<td>1917</td>
<td>Juan N. Martinez</td>
</tr>
<tr>
<td>1917</td>
<td>W.B. Horn</td>
</tr>
<tr>
<td>1917</td>
<td>F. Martinez</td>
</tr>
<tr>
<td>1919</td>
<td>J. Archuleta</td>
</tr>
<tr>
<td>1919</td>
<td>Candelario</td>
</tr>
<tr>
<td>1919</td>
<td>Doniciano Lopez</td>
</tr>
<tr>
<td>1919</td>
<td>Juanita Lopez</td>
</tr>
<tr>
<td>1919</td>
<td>Patricio Martinez</td>
</tr>
</tbody>
</table>
Springs—1917) which are not acknowledged on current topographic maps. Springs associated with residences may have been known at one time by the settler’s name. Occasionally springs are mentioned in field notes but not labeled on the maps.

For the past several years the Farmington BLM has been working with volunteers (Bill and Rena Bennett, Roland and Martha Mace) to locate those historic features that appear to lie on public lands. Original GLO maps covering the area of interest were downloaded from the publicly available General Land Office Records website (http://www.gloreCORDS.blm.gov/default.aspx) and imported and geo-referenced into a GIS map project. Any features such as “ranch,” “spring,” or “ruin” were digitized. These locations were then overlaid on current aerial imagery taken to the field by the volunteers to give them a starting point from which to search.

The results have been mixed. In some cases the features were easily found, but others seem entirely absent, perhaps due to an error in plotting by the GLO surveyors, modern and natural disturbances, or less likely by salvaging or stripping the locations of all usable materials. A recent BLM-designed Class III professional survey similarly used 1880s GLO maps to locate historic ranches and springs in upper Largo Canyon with mixed results (Leckman et al. 2013). Actual ground-verified locations were upwards of 800 m (2,640 ft) from GLO map locations. Similar results occurred near Chaco Canyon when BLM field crews attempted to identify ranches shown on 1882 maps (BLM 2013). A ranch located along Betonnie Tososie Wash and previously recorded as LA 78775 was located approximately 900 m (3,000 ft) southwest of its 1882 location and a ranch shown in Section 19, Township 23 North, Range 9 West remains unidentified. The impression is, particularly but not exclusively with the 1880s surveys, the farther the feature was from a surveyed section line, the greater the likelihood of error in plotting due to free-handing or eyeballing the location on the map. Lyman (1915:105) as much as said so when he observed that the location of several homes “that are not with precise exactness in the foregoing field notes, either were not visible from the line, or were constructed after the lines in that vicinity were run.” Any criticism should be tempered; after all, they were establishing a rectangular survey, not conducting a cultural resources survey.

Native American Sites

In addition to documenting historic features and some natural landmarks, GLO surveyors occasionally identified Native American sites they encountered (n=16). In the Largo and Gobernador area terms used included Prehistoric Pueblo, Ancient Pueblo Ruin, Prehistoric Ruin, Ruins, Old Stone Ruin, and Old Stone Tower. Occasionally a distinctive cartographic symbol was used with no labeling. Descriptions, if given, are usually very brief but often represent the first identification of archaeological sites in areas preceding subsequent professional investigations (e.g., Kidder 1920). The BLM has made a concerted effort over the years to identify and relocate these sites and as a testimony to the accuracy of the GLO surveyors in mapping these sites, the success rate has been 100 percent. The proximity to a section line is an important variable as they were surveying the line and measuring by hand with a survey chain and most of these sites are on or very close to section lines. In fact, a few shown on the original GLO map are more accurately plotted than the few shown on current USGS maps.

In 1882 GLO surveyor Jacob F. Laderer (1882) documented an “Old Stone Tower” in Carrizo Canyon (Figure 2). An 1887 map entitled “Railroad and County Map of New Mexico” (Grant 1887:172), apparently using the GLO data, shows the same “Old Stone Tower” in Carrizo Canyon (Figure 3). This is the first known publicly published depiction of an archaeological site in Dinétah. The site, LA 136483, relocated by the BLM several years ago, is a protohistoric eighteenth century Navajo defensive pueblito dating to ca. A.D. 1738, one of approximately 200 now known in the area. As it turns out, every one of the 16 sites identified by the GLO surveyors in the Largo and Gobernador watersheds between 1882 and 1919 is an eighteenth century Navajo pueblito.
As previously noted, descriptions of sites are rather brief, usually little more than an acknowledgment of its existence, but on some occasions the observations indicate a level of preservation that can be readily compared to current conditions. For example, in field notes describing a Navajo defensive site in December 1913, later to be known as Old Fort (LA 1869) and excavated by Earl Morris in 1915 (Carlson 1965), the GLO surveyor (Lyman 1914b:172) noted that it had “A stone wall 170 x 70 ft and from 5 to 15 ft high with numerous houses and rooms inside.” Earl Morris found the wall in a similar state of preservation two years later, but today the wall is less than half of the height observed nearly 100 years ago. At another site (LA 114345), the surveyors noted in 1914 that “There is a small prehistoric Pueblo in Sec 21 built under an overhanging cliff of the canyon. The building has two rooms and the walls, laid up in sandstone, are about 6 feet high (Lyman 1914c:87).” Today the site appears to remain relatively unchanged (Figure 4).

Just west of Dinétah, an 1881 GLO map of the Aztec, New Mexico area (Taylor 1881a) shows a significant concentration of structures labeled as “Aztec Ruins,” now known as Aztec Ruins National Monument. Two townships to the west on another 1881 map of early Farmington, New Mexico, the same surveyor (Taylor 1881b) noted several structures and labeled them as “Aztec Ruins.” In aerial photography commissioned by the Soil Conservation Service in 1935 clear remnants of what appears to be a pre-Columbian Chaco road headed in the general direction of the “Aztec Ruins” (Figure 5) can be seen (Richard Friedman, personal communication, 2014). Today, one can only imagine what the Farmington “Aztec Ruins” must have looked like to have attracted the attention of, and labeling by, the surveyor. The location is now occupied by a Wendy’s and Arby’s restaurant on East Main. The Chaco road has likewise been destroyed by modern development.

GLO references to archaeological sites were not limited to structures. The first known reference to rock art in Dinétah appears to have been made by Lewellyn D. Lyman, United States General Land Office surveyor. In one of his surveys (Lyman 1914c:87) he noted that “In sec. 28 and 29 on the west wall of the canon, are found some very interesting prehistoric picture writings, carved on the sandstone cliffs.” These images (LA 572221) are predominantly prehistoric Pueblo petroglyphs dating to the A.D 500s to 900s (Figure 6). It’s very likely he and other surveyors of the era saw much more than they reported.

GLO surveyors were also able to identify at least one “Indian trail” (Taylor 1881c). It has not
Figure 4. LA 114345. Navajo defensive site or pueblito dating ca. A.D. 1750 identified by GLO surveyor Lewellyn D. Lyman (Lyman 1914c). Carrizo Canyon drainage. Photograph by Vicki Ramakka.
Figure 5. 1881 GLO map of Farmington, New Mexico (Taylor 1881b) with georeferenced 1935 aerial photograph showing pre-Columbian Chaco road oriented towards “Aztec Ruins.” Georeferenced photograph and road route courtesy of Richard Friedman.

Figure 6. Early Anasazi petroglyphs (LA 57221) observed by GLO surveyor Lewellyn D. Lyman (Lyman 1914c). Carrizo Canyon drainage. Photograph by Vicky Ramakka.
been field verified but a portion of the trail appears to coincide with the course of a modern dirt road. Of particular note is a northwesterly trending “Trail” (Lindsey 1882) identified on the plat in Sections 20, 29, 32, and 33, Township 22 North, Range 11 West that closely parallels and appears in places to be co-located with a site known as the Ah-Shi-Sle-Pah Road (Kincaid 1983), a pre-Columbian Chaco road heading generally northwest from the Chaco great house site Penasco Blanco (Figure 7). Unfortunately the original survey notes do not elaborate and simply identified it as a trail.

**Settlement Patterns**

GLO records, including maps, surveyors’ notes, and homestead patents, clearly characterize certain trends in settlement not otherwise obvious from the remains themselves. For instance, in Largo Canyon the first patent was issued in 1885 and others were infrequently issued preceding World War I. Afterwards, the vast majority of patents were issued in the 1920s and 1930s. This pattern repeats itself in adjacent areas as well. The possible socioeconomic variables involved are uncertain but later patents may represent, in part, responses to Depression era hardships and attempts at a new start.

One noticeable pattern in Largo Canyon is a clustering of patents by people with Anglo and Spanish surnames. In upper Largo Canyon the patents tend to bear Spanish surnames while those farther down-canyon are Anglo. A similar pattern is noticeable in Carrizo Canyon where the dominant patent surnames are Spanish. Currently named topographic features of the landscape as well as named settlers on the early GLO maps and in the field notes also reflect the dominant Spanish character of settlement. In some cases the named topographic features can be directly associated with the name of a homesteader listed in the patent records (e.g., Tafoya Canyon, Gonzales Canyon, Haynes Canyon, Forbes Spring). A review of 1880 to 1930 U.S. Federal Census records in this area also reflects the dominance of Spanish surnamed families.

**Environmental Change**

Not only did the GLO surveyors document the human environment, but they also documented aspects of the natural environment. Observations regarding vegetation, soils, and the suitability of lands for agriculture are common. In July 1914, Lewellyn D. Lyman noted that “The rolling slopes and the valleys…are covered with sage bush and a good growth of grasses, which is often very short from the grazing of large herds of sheep and goats and considerable numbers of horses and cattle (1914d:28).” Lyman repeated this observation throughout the area, often commenting on the overgrazed state of the land and used the phrase “sheeped off” to describe the conditions (1914e:80).
Lyman, as well as his 1882 predecessors, also measured the width of major arroyos or wash channels, such as Largo Wash, when crossed by surveyed section lines (Figure 8). As part of a senior division high school science fair project, Shandiin Copeland (2006) proposed that degradation of the watersheds by oil and gas development would be reflected in increased runoff and a widening of major drainage channels over time. Her GIS analysis of 70 years of aerial photography showed the exact opposite: since the 1930s the active stream channels of five major drainages have been narrowing, not widening. In 2007 she focused her attention on Largo Canyon and examined GLO maps from 1882 for information on channel width as recorded by the surveyors (Copeland 2007). By comparing those measurements with 1935 georeferenced Soil Conservation Service aerial photographs, she discovered that the average width of Largo Wash had increased over 400 percent between 1882 and 1935. Additional study of the GLO records identified the probable cause. The first homestead patent in Largo Canyon was issued in 1885. The number of homesteads in Largo Canyon greatly increased by the 1930s, as did livestock numbers in New Mexico. The majority of householders documented in Largo Canyon by the 1880 to 1930 federal census records described themselves as ranchers. Ms. Copeland concluded that the unrelenting pressure of nearly nonstop grazing on the land was responsible for dramatic changes in the watershed and subsequently the course of Largo Wash, and that this change was recognizable only because of GLO data. With the passage of the Taylor Grazing Act of 1934 controls were eventually placed on the grazing of livestock on public lands, and since then Largo Wash appears to be slowly returning to its original state as observed and documented in 1882 by the GLO.

Figure 8. 1882 GLO map, Township 26 North, Range 7 West (Fuss 1882). Width of Largo Wash at the section line between Sections 9 and 10 was “47 links” or about 10 m (31 ft). Fifty-three years later (1935) the width at the same location was 455 m (1500 ft) wide. (One link measures 7.92 in.)

Conclusion

The records of the General Land Office are a valuable asset in studying and understanding the natural environment, prehistory, and subsequent historical settlement of the western United States. Some of that information as previously discussed is found nowhere else and should be rigorously examined in a wide variety of situations, such as prior to archaeological surveys and in the development of historic contexts. Take a look1. You’ll be surprised at what you find.

Notes

1. GLO records can be found online at http://www.glorecords.blm.gov/default.aspx. Land patents, survey plats, field notes, and other records can be easily searched. The survey plats and some field notes can be downloaded. Not all field notes are digitally available at this writing.
References Cited

Bureau of Land Management (BLM)

Carlson, Roy. L.

Copeland, Shandiin C.
2006 The Effect of Oil and Gas Development on Floodplains, Northwest New Mexico. Manuscript on file, San Juan County Museum, Bloomfield, New Mexico.


Fuss, Warner

General Land Office (GLO)
1812 An Act for the Establishment of a General Land Office in the Department of the Treasury, April 25, 1812; 2 Stat. 716.

Grant, A. A.

Hayward, Elijah

Kidder, A.V.

Kincaid, Chris (editor)

Laderer, Jacob F.

Leckman, Phillip O., Jorge A. Provenzali, Carrie J. Gregory, Monica L. Murrell, Robert A. Heckman, and Bradley J. Vierra

Lindsey, James P.
Lyman, Lewellyn D.


Taylor, John C.


The ‘Piro Province’ as Viewed from Abeytas Pueblo (LA 780)

SUZANNE L. ECKERT AND DAVID H. SNOW

In this paper, we had initially planned to focus on one site, Abeytas Pueblo (LA 780), which is believed to have been the northernmost Piro pueblo of the lower Rio Grande (Bletzer 2009; Marshall and Walt 1984; Mera 1940). At what time in prehistory that might have been the case and just who, in fact, might have been the occupants of Abeytas Pueblo led us to explore various avenues of information. This exploration led to even more questions. The short answer to our accumulating list of questions is that we don’t know, and likely never will for a certainty. But the questions are not merely rhetorical ones, for they provide an entrée into several issues of general interest to Rio Grande archaeologists and historians concerning the Rio Abajo region. Our attempt to focus on one apparently obliterated pueblo village at Los Abeytas, New Mexico, provides us with a springboard for discussion and possible insights into these various issues.

Abeytas Pueblo

Abeytas Pueblo is located just north of the confluence of the Rio Puerco with the Rio Grande, and just south of the confluence of the Abó Arroyo with the Rio Grande (Figure 1). The village sits within a riparian environment on the first bench of the western bank of the Rio Grande about 300 meters from the present day channel. Originally recorded by Mera (1940), the site has been revisited on numerous occasions by multiple researchers. Marshall and Walt (1984) provide the only published description, stating that the site consists of two artifact concentrations in approximately 350 m². They suggest that there were probably structures of puddled coursed adobe beneath the surface that consisted of 200-300 rooms but that “this site has been virtually obliterated” due to modern construction (1984:227).

More recent visits to the site have led to a reevaluation of that assessment. Combining information gleaned from various unpublished sources, we propose that the site extends further than Marshall and Walt originally realized, adding up to 200 additional rooms to their count (Figure 2). Site size estimates available from the Museum of New Mexico’s Laboratory of Anthropology records range from 350 to 3000 to 15,000 m². Various researchers report that the site is at least 100 cm deep. Although no one denies that much of the site has been impacted by modern agriculture, estimates on the extent of destruction range from 20% to 100%. Further investigation through geophysical subsurface sensing and systematic test excavations would help clarify the size and depth of this pueblo, especially in the western portion of the mound where one or two possible plaza configurations have been identified.

It has been argued that this site marks the Tiwa-Piro cultural boundary, with Abeytas Pueblo being the “last” of the most northern of the Piro villages (Bletzer 2009; Marshall and Walt 1984; Mera 1940). However, as Bletzer (2009) has pointed out, defining the geographic extent of Ancestral Piro settlements is not straightforward. For example, Ford and colleagues did not mention Piros and stated simply that the “Southern Tiwas” extended from just north of Albuquerque south to Socorro (1972:30). Similarly, in his recent treatise on Tewa-Tanoan origins, Ortman (2012) mentioned the Piros only three times, merely referring to their (proposed) affiliation with the Tanoan language family. Ellis (1967) implied, somewhat vaguely, a Piro development from Mogollon culture. Marshall and Walt (1984:135) suggested that the Piros resulted from “intrusive populations of unknown affinity derived from adjacent Basin and Range and Plateau regions.”
Figure 1. The Rio Abajo region showing location of Abeytas Pueblo (LA 780) and contemporaneous sites identified as “Ancestral Piro” by Marshall and Walt (1984) and Bletzer (2009).
Figure 2. Map of Abeytas Pueblo (LA 780) based on authors’ field notes, notes available through Museum of New Mexico’s Laboratory of Anthropology records for Site Number LA 780, information provided by the site’s landowner and other local residents, and examination of aerial photographs from 1935-2009 available at the University of New Mexico’s Center for Southwest Research & Special Collections.
More recently, the inclusion of the Piro province in a discussion of Pueblo IV clusters across the Chihuahuan Desert, implies a relationship with the “greater Paquimé” arena (Lekson et al. 2004). Who exactly were, then, the Piro?

**Who were the Piros?**

The “Piro Province” and “Nation of the Piros” are terms applied during the early years of Spanish occupation of the upper Rio Grande Valley. The various sixteenth century Spanish *entradas* into the Rio Grande Valley clearly distinguished, on the basis of spatial separation and language differences, those Pueblo people who became known as Piros. Interestingly, except possibly for Vásquez de Coronado’s 1540 “Province of Tutahaco” (Snow 2007), subsequent *entrada* journals fail to provide us with a name for those people below the “Province of Puaray,” or Tiwas (Hammond and Rey 1966). As their sixteenth century *entrada* journals tell us, to the Spaniards, the Piros seemingly were no different than their Southern Tiwa neighbors upstream, living in multi-storied adobe pueblos, wearing similar clothing, producing pottery, practicing maize agriculture, and so on. Apparently, then, linguistic differences and little else distinguished the Piros from other Pueblo people encountered by the Spaniards.

The 1598 “vassalage and obedience to the crown” taken by Juan de Oñate in September of 1598 (Hammond and Rey 1953:346) lists the “province of Atzigues down the river,” south of the “Chiguas” (that is, Tiguas or Tiwas), a province presumably intended for what became known as the Piros. However, Oñate even referred to this down river “province of the Tsiguais” (Hammond and Rey 1953:483). Although we do not know if Abeytas Pueblo was abandoned just prior to, or shortly after, Spanish contact, it would have possibly been one of these Atzigues (or Tsiguais) pueblos.

*Atzigues,* apparently a native word, was soon replaced by “Piro,” a word that occurs in a letter from Fray Alonso Peinado to the viceroy dated October 4, 1622 (personal communication, Michael Bletzer, 2014), and subsequently was used by Fray Alonso de Benavides in his 1630 Memorial where he stated that the “Province and Nation” of the Piros had “many pueblos and adobe houses of one or two stories” (Forrestal 1954:14-15). The 1634 Revised Memorial of Benavides also failed to enumerate the Piros, remarking simply that there were “many pueblos” (Hodge et al. 1945:62).

Most investigators agree that Piro was a member of the Tanoan language family (Harrington 1909; Davis 1959), but there is no way to assess the extent to which Bartlett’s word list (Hodge 1909) reflects the proposed affiliation. Bartlett’s list was used by Harrington (1909) for comparison with other Tanoan languages, and his work serves as the basis for believing Piro to have been a Tanoan language. Nevertheless, Harrington ignored morphophonemic and sound changes between various Tanoan languages and the Piro vocabulary, and the status of Piro as a member of the Tanoan language family remains unclear. Bandelier (1892:218-219), for example, claimed that Piros and Tiwas in the El Paso area were not able to understand one another’s language, while a Piro informant told Harrington (1909:569) that Piro “escuasi [sic, casi] la misma idioma,” that is, “almost the same idiom” (whether Harrington’s or his informant’s Spanish, it is incorrect, as ‘idioma’ is masculine).

It is relevant here to note that Bartlett’s Piro term *a-tsi-hem,* meaning “Indians, people,” seemingly contains the same or similar morpheme recorded as initial “chi-” in Oñate’s rendering of “Tiguas” as “Chiguas” (Hammond and Rey 1953). It is evident that the Spaniards dropped an initial “ts-” or “tz-” sound, as also seen in the case with “Tsama” or “Zama” which were rendered “Chama” in New Mexican Spanish. The similarity of [a] *tziguais* to “Chiguas” or “Tiguas,” however, might suggest merely dialectal differences between the two peoples. Nevertheless, Bartlett’s list, we
suggest, likely reflects a pidgin language with a heavy Southern Tiwa (Isleta) input, as suggested by Harrington’s comparative analysis with other members of the Tanoan family. Leap (1971) argued similarly, suggesting that Bartlett’s Piro vocabulary might reflect this situation.

In short, Leap suggested the possibility that Piro originally comprised a separate language group unrelated to the Tanoan family, although linguists have been reluctant to accept Leap’s conclusions (e.g. Davis 1969; Hale and Harris 1979:171). For about 350 yrs or so, intermarriage and other social relations between Piros (and Tompiros) and Southern Tiwa people, together with Janos, Sumas, Mansos, Apaches, Spaniards, and others in the El Paso area must certainly have effected substantial language changes in each.

Piro apparently was not their name for themselves and might originally have been a Southern Tiwa word applied to their downstream neighbors. Interestingly, Parsons (1932:241) provides the term *piru ka'ade* as the “…Snake Father or doctor, who has to find the snake for the victim to spit into its mouth, thus making the snake cure the man.” Similarly, Michael Bletzer (personal communication to Snow, May 3, 2014) notes that he has heard the Tiwa term *pirru* meaning “snakes.”

Such possibly derogatory terms for others groups among the Rio Grande pueblos is documented elsewhere (e.g. Parsons 1929:305, 1939:12).

**Historical Clues to the Piro Province?**

Determination of Piro settlement has been predicated on an apparent geographical gap in the distribution of the “appropriate” glaze ware communities identified through archaeological surveys (Marshall and Walt 1984; Mera 1940). A temporal component is also a critical factor in distinguishing Piro from Southern Tiwa archaeological sites. We will address these two criteria below, but first we turn to a third component in efforts to distinguish among Piro and Southern Tiwa villages: sixteenth century documents surviving from Spanish *entRADAS*.

Three of the late sixteenth century Spanish expeditions into New Mexico provide some details of their journey through a series of pueblos prior to reaching the “province of Puala” (Puaray, that is, the Tiwas). The list of pueblos encountered by the 1580-81 expedition under Francisco Chumuscado identified a pueblo they named “Tomatlán, containing two and three stories, and divided into two sections, the one being an harquebus-shot distant from the other” (Hammond and Rey 1966:103-104). Between that pueblo and one they called Puaray, were three more pueblos, one of which they estimated contained one hundred “houses” (Hammond and Rey 1966:104), but affiliation with either Piro or Tiwa cannot be determined from the sparse information provided.

In Luxán’s itinerary of the subsequent Espejo *entRADA* of 1582, a small party left the river valley at a pueblo they called “El Término de Puala, for the Puala are a different nation from this and speak a different tongue” (Hammond and Rey 1966:174). Here, at El Término de Puala, referred to as “the last of Puala,” Luxán noted their camp was between “two pueblos two harquebus shots apart….the walls are of stone from the river” (see Russell [2010:11] and Marshall and Walt [1984:137] for “cobbles set in an abundance of mortar” as indication of Ancestral/Colonial Piro construction). One of them he estimated had “about sixty houses and the other twenty” (Hammond and Rey 1966:174).

The description of Tomatlán in 1580 suggests the same divided community described by Luxán less than a year later. Might these two small pueblos be *Pueblo Casa Colorada* (LA 50249) and *Pueblo Campo Santo* (LA 50250), situated some 400 meters apart (Marshall and Walt 1995:94)? Casa Colorada lies some 8 or 9 miles upriver from Pueblo Abeytas. How it was determined during Espejo’s journey up river that El Término was “the last of Puala” is not stated; nor is it clear from the text whether by this was meant the southernmost village of that province, or the northernmost of the one through which they had previously traveled.

From El Término, a small party under Espejo left the river to explore the “province of Magrias”
which, according to Luxán (erroneously), had not been seen by Chamuscado. Espejo’s route might well have been via the Abó Arroyo into the Salinas pueblo region, thus placing El Término some place between Abeytas Pueblo and Casa Colorada. Returning to the Rio Grande valley, but just where exactly is not at all clear, they traveled four leagues to a place between two deserted pueblos, having passed “some small pueblos and many deserted ones” empty, Luxan suggested, out of fear of being “killed for having murdered the friars” (Hammond and Rey 1966:176). Some seven leagues further on, having passed one of the pueblos “that had taken part in the murder of the friars,” they reached 13 large settlements “within one league” and stopped at Puaray. Espejo’s summary of the entrada, however, noted that there was but half a league between the “province of the Tiguas” and that of the previous province (Hammond and Rey 1966:221). Unless his memory was faulty on this point, the extent of that previous province (presumably of Piros) extended very nearly to the boundary of the Southern Tiwas.

Finally, in the itinerary of Oñate’s colonists up the Rio Grande, they halted at a pueblo they called “Nueva Sevilla, because of its site.” From here, a side trip was undertaken to “the pueblos of Abó”; undoubtedly they left from the same location (or very nearby) from which Espejo also left the river to explore the “province of Magrias.” Oñate’s Nueva Sevilla is believed to have later become a mission pueblo and subsequently called Sevilleta (Hammond and Rey 1953:319; Marshall and Walt 1984:203). From there, according to Oñate’s itinerary, “…we traveled four leagues to the pueblo of San Juan Bautista, newly built, but deserted because of our coming.” The party then traveled another “…six leagues in the same direction in search of Puaray, passing many pueblos, farms, and planted fields on both banks of the river.” Over the following two days, the expedition continued to the pueblo of Puaray, but there is no further mention of pueblos or fields in that 10-league stretch beyond the six leagues above San Juan (Hammond and Rey 1953:319). Thus, for a distance of six leagues (approximately 15 miles) up river from abandoned San Juan Bautista, evidence of habitation and cultivation was seen. The four leagues (approximately 10 miles) between San Juan and Nueva Sevilla (LA 774) is very nearly the distance between the sites of Abeytas Pueblo and Sevilleta. Was San Juan our Abeytas Pueblo? If so, we are left in doubt as to the ethnicity of those occupying the “many pueblos, farms, and planted fields” up the river before reaching Puaray.

Settlement Clues to the Piro Province?

Piro denotes a language group with not only an indeterminate geographical distribution but also of an indeterminate temporal dimension. As the above examples attest to, descriptions of pueblos in the historic documents are somewhat ambiguous, and the task of correlating known pueblo ruins with those mentioned in the Spanish accounts remains a speculative endeavor. Efforts to match those down-river villages named or mentioned in historic documents with known archeological sites was first attempted by Bandelier (1892:235-239), but he was unable to determine which ruins were those of the “last” of the Piros upstream, or the “last” of the Tiwas down river. Nevertheless, Bandelier (1892:237) mentioned excavations at the site of Tomé that had disclosed a “former pueblo,” and he noted the “Pueblo del Alto” situated at Casa Colorada, six miles south of Belen east of the river.” He was also informed of “at least one ruin” at Sabinal (which apparently he did not visit). He indicates that these villages may have belonged to the Piros tribe, but this classification is not certain and the first ruin which can be identified as that of a Piros pueblo is the one near La Joya, or that of the old village of Sevilleta, a pueblo well known in history (Bandelier 1892:237-238). Sabinal, nevertheless, lies but a scant mile or so north of LA 780, and it is possible that the ruined pueblo at Los Abeytas was the one intended by his informant.

Oñate’s list of 44 pueblos comprising the “province of Atzigues” or Piros (Hammond and Rey 1953:346) is difficult to interpret. Schroeder (1979:239) identified 16 and 17 Piro pueblos,
respectively, from the journal accounts by the late sixteenth century Chamosco and Espejo expeditions up the river. In his survey of the Piro District, Mera (1940) did not attempt to match names in the Spanish documents and counted only 13 Piro pueblos for his Period 4 (Glaze E), and 10 for his Period 5 (Glaze F). His maps show a clear gap in the distribution of his Period 4 Glaze ware sites between Sevilleta Pueblo (LA 744) and Los Lunas; a gap, presumably, that marks the division between Piro and Tiwa provinces. Mera’s numbers tally with the 23 Ancestral/Colonial Piro sites recorded by Marshall and Walt (1984). Lekson and colleagues (2004:54) identify only 16 presumably Piro pueblos or components dated to the seventeenth century. All yielded Glaze A in quantities, in addition to Glaze E and/or Glaze F, indicating occupation at least since the early decades of the seventeenth century, if not somewhat earlier.

According to Marshall and Walt (1984), a site in the Rio Abajo region with one or more Rio Grande Glaze ware types is a primary criterion for defining the distribution of Ancestral and Colonial Piro settlements. This follows closely Mera's (1940) Piro District, which includes a series of small sites with glaze wares situated below the southern edges of Chupadera Mesa, a considerable distance east of the Rio Grande Valley. Similarly, applying Pueblo IV to their northern districts of the Chihuahuan Desert sites, Lekson and colleagues (2004:54, Fig. 6.1a) clearly reflect the distribution of Rio Grande Glaze wares. Why that cluster of small sites at Chupadera Mesa should be considered Piro rather than, for example, Tompiro is nowhere explained. Similarly, sites considerably to the west in the Magdalena Mountain region, with Rio Grande Glaze wares, are also included within the Piro District (Lekson et al. 2004; Marshall and Walt 1984; Mera 1940). Neither Marshall and Walt (1984) nor Mera (1940) surveyed within the valley below Milligan Gulch; consequently, the last Glaze ware village there (LA 597) reflects the southern boundary of their Piro District.

Lekson and colleagues (2004:56) state that “Piro sites are found….from the village of Abeytas in the north to the Fra Cristobal Mountains in the south, a distance of more than 100 km.” Related sites, that is Pueblo IV sites (presumably ones with Rio Grande Glaze wares), are found “in the lower Rio Salado and Rio Puerco drainages, in the mountains around Magdalena, and, possibly, in the Chupadera Basin, [and] the Los Pinos Mountains.” How can we know that Pueblo IV villages across this vast expanse, with significant gaps in their settlement distribution, were occupied by Piro-speaking people? As discussed above, a similar gap is believed to have separated the northernmost Piro pueblo (Abeytas Pueblo) from the southernmost Tiwa pueblo, whose inhabitants also produced and used Rio Grande Glaze ware pottery. If Abeytas Pueblo is the northernmost Piro pueblo, as argued by many investigators, the Piro “cluster” of prehistoric communities to the north seemingly has been neatly defined. But given the difficulty in defining the Piro in both space and time, the question becomes: at what time period, if at all, might Abeytas Pueblo have represented the northern boundary of the Piro province?

Ceramic Clues to Piro Boundaries?

Currently, the Abeytas Pueblo chronology is based entirely on ceramic data, primarily Rio Grande Glaze Ware rim form. Although Bletzer (2009) referencing Mera (1940) describes this site as being exclusively Glaze A, and one field survey reported the presence of Glaze F, the vast majority of visitors to the site have reported the presence of Glaze A, B, C and possibly D rim forms (Marshall and Walt 1984; Marshall 1989; documents on file at the Laboratory of Anthropology). For example, Marshall and Walt’s grab sample of 60 sherds from the site recovered A (71.5%), B (6.9%), C (8.7%) and D rims (2.3%); our grab sample of 180 sherds recovered the same suite of rim forms (Figure 3). Numerous visitors have commented that the majority of decorated sherds observed, regardless of presence of rim, are glaze-on-red; however, both polychrome slipped and polychrome painted pottery are present (Figure 4). Temporally diagnostic intrusives include
Figure 3. Glaze-painted bowl rims recovered by authors from surface of Abeytas Pueblo in 2008.

Figure 4. Glaze-painted bowl rims (left, interiors; right, exteriors) recovered from the surface of Abeytas Pueblo in 2008 and believed to be produced in the Rio Abajo based on the presence of augite basalt temper and red paste. *Top and middle rows,* “typical” red slipped bowls; *bottom row,* less common polychrome slipped bowls.
Kwakina Polychrome, Heshotauthla Glaze-on-red and Polychrome, and Jeddito Black-on-yellow. Based on these data, Abeytas Pueblo was probably occupied during the late 1300s, into the 1400s, and possibly as late as 1540 but certainly not beyond that (Eckert 2006a:49; Snow 1997).

If pottery can be used to provide chronological control of Abeytas Pueblo, can it also be used to identify the residents of the site as Piros? “Ancestral Piro” sites exhibit a predominance of basalt-tempered, red-slipped, glaze-painted vessels with Glaze A rim forms and red-to-brown pastes; Abeytas Pueblo has all of these characteristics and thus would appear to be a Piro village (Bletzer 2009; Marshall and Walt 1984; Mera 1940). However, yellow-slipped, latite-tempered, glaze-painted pottery with Glaze B and C rim forms occur commonly at the site (Marshall and Walt 1984; Mera 1940), with an estimated 15% of the decorated pottery having been produced in the Galisteo Basin (Marshall 1989). With this in mind, Marshall (1989:11) has argued that Abeytas Pueblo was possibly the southernmost Tiwa village.

Rio Grande glaze wares produced in the Galisteo Basin are not the only decorated imported pottery types recovered from Abeytas Pueblo, however. A petrographic analysis of 40 sherds shows that pottery from the Galisteo Basin, the Albuquerque area, the Rio Puerco, and other Rio Abajo villages made its way to Abeytas Pueblo (Figure 5). Finally, the presence of Western Pueblo glaze ware types and Hopi yellow types reflects interaction with multiple Western Pueblo villages. This evidence for interaction with various Pueblo regions has various implications for the residents of Abeytas Pueblo in terms of identity and their social and economic place within the broader Rio Abajo region. As with other the contemporaneous site

**Figure 5.** Tempers present in a petrographic analysis of 40 sherds recovered from the surface of Abeytas Pueblo in 2008.
of Pottery Mound (LA 416) located along the Rio Puerco, the presence of Western Pueblo types may reflect the presence of Western Pueblo immigrants. However, pottery types are not people. Why has the presence of Western Pueblo wares at Abeytas Pueblo been interpreted as reflecting regional interaction while the presence of latite-tempered Rio Grande Glaze ware been interpreted as a potential cultural affiliation, and not vice versa?

Bletzer (2009) argues that historical and archaeological lines of evidence indicate a potentially fluid Tiwa-Piro boundary, which would help explain its elusiveness both in the archaeological record and historic documents (Barrett 2002; Riley 1995). Could it be that the presumed Tiwa-Piro cultural boundary was not only geographically fluid, but socially fluid, with villages along this stretch of the river having some residents who were socio-linguistically associated with their more northerly neighbors, while others residents were socio-linguistically associated with their more southerly neighbors? Does this explanation help account for the “many pueblos, farms, and planted fields” as described in the Spanish documents discussed above? These are questions that need to be explored with more quantifiable ceramic data than are currently available.

What does it mean to be Ancestral Piro?

Surveys of the Rio Abajo region (Lekson et al. 2004:56-57; Marshall and Walt 1984) indicate that an indigenous pueblo population was present as early as the late Basketmaker period but the term “Piro” is used to refer to the historic occupants of the latter decades of the sixteenth century. Marshall and Walt (1984:135) argued that the fusion of “indigenous and intrusive populations gave rise to a composite culture which was subsequently modified by the events of the fourteenth and fifteenth centuries and which has come to be known as Piro” (Marshall and Walt 1984:135). Whether, or how, these distinctions between an indigenous and a Piro population reflect continuous occupation by the same people or a large migration is an interesting issue that can be addressed through both pottery and settlement patterns.

There was undeniably a population living in the Rio Abajo prior to the glaze ware producing “Ancestral Piros.” Although no black-on-white component has been identified at Abeytas Pueblo, 12 of the 23 Ancestral Piro (A.D. 1300-1550) sites identified by Marshall and Walt (1984) do. This leaves perhaps 11 Piro settlements newly established during the glaze ware period, but do these “new” villages reflect settlement of the local population or the presence of immigrants? In some instances, evidence suggests the prior. For example, Marshall and Walt recorded two adjacent Pueblo III/Glaze A sites at Casa Colorada; further, they recorded glaze ware pottery at seven of their 12 Late Elmendorf Phase sites (A.D. 1100-1300). Throughout much of the Pueblo world, there is a transition at approximately A.D. 1300 from the production of black-on-white to glaze-painted decorated wares; although immigration has been linked to the adoption of glaze ware at some sites (Eckert 2006b), it by no means can account for the presence of glaze ware throughout most of the Pueblo region. The presence of glaze ware alone is not a sufficient criterion for evidence of a large immigration into the Rio Abajo region.

So what about utility wares? Prior to 1300, utility wares in the Rio Abajo region (as far north as Albuquerque) were dominated by brown wares reminiscent of Mogollon types (Hammack 1966; Skinner 1965). Of the 247 utility wares collected by Marshall and Walt (1984) from their Late Elmendorf sites, 90% were brown wares. This is similar to sites found in the southernmost extent of the “Piro District” as defined by Lekson and colleagues (2004). Situated on the “nebulous borderland between the Mogollon and northern Pueblo ceramic traditions” (Laumbach 2006:143-143), these late thirteenth century villages on the northern reaches of the Jornada Mogollon have yielded ceramics reflecting strong ties with western Reserve, Tularosa, and later phases of the Mogollon. The utility ware of these sites provides a link with the underlying Elmendorf Phase
occupations of Marshall and Walt’s Rio Abajo study, with 99.4% of the utility wares consisting of brown ware types.

The pottery reported from the most southern Piro and most northern Jornada Mogollon sites reflects ties not only to Mogollon peoples, but to the makers of Chihuahua and Salado style pottery as well. However, these ceramic types are all but absent from Rio Abajo sites (Marshall and Walt 1984); yet they are plentiful in the Roswell area, along with brown ware utility types (Speth 2004). Painted wares recovered from pre-Ancestral Piro sites in Marshall and Walt’s survey, with few exceptions, are represented by Cibola White Wares and subsequent White Mountain Red Ware types, but with an overwhelming brown ware utility assemblage. This brown utility ware tradition extended, until around the mid-thirteenth century, as far north as Isleta (Vivian and Clendenen 1965), again with the dominant white wares reflecting ties with the Cibola White Ware series. Ceramics in the Mogollon tradition of red wares and brown ware utility varieties occur as far north, in limited numbers, as Albuquerque (Hammack 1966; Skinner 1965).

This contrasts sharply with the Ancestral Piro period, where the presence of brown wares is seen to rapidly decrease in the Albuquerque region (Skinner 1965:22) south into the Rio Abajo. Marshall and Walt (1984) collected only nine brown wares from Ancestral Piro sites, with all other utility wares being recorded as gray wares (84%). Here, then, is a neat switch. With the onset of the Rio Grande Glaze Ware tradition, painted ceramics were now fired in an open/oxidizing atmosphere, in contrast to the preceding white ware situation; while utility wares, formerly fired in an open/oxidizing atmosphere, now apparently were fired in a reducing atmosphere. These “new” gray wares do not look like Western Pueblo gray wares, but more like local brown wares fired in a reducing atmosphere. Although a change in technology is often associated with the presence of immigrants, this presence need not be large or even a majority of the population (Eckert 2006b). Ultimately, as with the glaze ware data, we do not see evidence of a massive migration into the region based on the utility ware data.

If we cannot rely on pottery to identify a proposed immigrant population in the Rio Abajo, then can we rely on number of sites and room counts? This is also problematic. Based on evidence of increasing site numbers as well as increasing room counts, Marshall and Walt (1984:137) estimate a seven-fold increase in population during the Ancestral Piro period. However, they recognize a settlement shift: while large Late Elmendorf phase sites were built on elevated summits, the Ancestral Piro sites were mostly located along the Rio Grande. In terms of estimating room counts, they dismiss evidence for population increase in the Late Elmendorf phase as more of a result of “visibility than of actual population growth” (Marshall and Walt 1984: 98). But couldn’t the same argument hold true for the Ancestral Piro period? Given that their survey admittedly focused on settlements near the Rio Grande with occasional forays to known sites on higher ground, and that there is evidence of at least some Ancestral Piro sites having been built on earlier components, it is quite possible that what is being observed is a population reorganization rather than a large immigration.

A further conundrum when counting settlements is that the size of Ancestral Piro pueblos as estimated by Marshall and Walt (1984), including estimated room counts, is no proxy for the actual number of inhabitants at a given point during the sites’ occupations. For example, excavations at Qualacú Pueblo (LA 757) revealed evidence of “a series of major construction phases, abandonment-reoccupation episodes and periods of deterioration and midden deposition” (Marshall 1987:27). Similarly, ongoing work at Goat Spring Pueblo (LA 285) has revealed three separate occupations over a 300+-year period. As discussed above, the entrada journals suggest that the number of “houses” occupied at any one time was generally small when compared to pueblos upriver. Overall, then, we see no evidence of a seven-fold increase in population during the 1300s, but rather a moderate size population with deep
roots in the area adopting ceramic and settlement patterns similar to those of other contemporaneous regions of the Pueblo world.

Conclusion

This paper has led to more questions than it has answered. What began as a simple report about the Ancestral Piro site of Abeytas Pueblo has led us to question everything we know about the Piro. The location of Abeytas Pueblo near the confluence of three major drainages, the ceramic evidence for interaction with multiple regions, and the historical data concerning the size and location of Piro settlements, lead us to argue that further investigations at this village are warranted. However, the issues that we raise are much larger—large enough to include the entire Rio Abajo region. We argue that current data point to a moderate population living in the Rio Abajo region throughout time with a cycle of occupation and reoccupation of multiple sites along the river, rather than the dramatic population increase brought on by immigration as proposed by Marshall and Walt (1984). If any in-migration did occur into the “Piro Province,” we propose that it was most likely by the former inhabitants of the small sites west of Truth or Consequences. The aggregation witnessed in the 1300s almost certainly was indigenous, from former Elmendorf sites on the benches above the valley floor (Marshall and Walt 1984; Weber 1973) to aggregate pueblos adjacent to their fields on the floodplain. The spatial distribution, timing, and size of Piro settlements along the Rio Abajo prior to the Spanish entrada remains unclear, but needs to be investigated if we are to understand the social, economic, political, and religious role the residents of this region played in the greater Pueblo world.

Acknowledgments

Thank you to Charlie Carillo and Linda Cordell who first took us to Abeytas Pueblo; and to the Carillo family for their hospitality. Thank you also to Deborah Huntley, Judith Habicht-Mauche, and Kari Schechler for numerous discussions concerning the pottery and people of the Rio Abajo. All errors, implausible interpretations, and wild speculations are completely our own.

References Cited

Bandelier, Adolph F.

Barrett, Elinore

Bletzer, Michael

Benitez, Robert

Davis, Irvine

Eckert, Suzanne L.

Ellis, Florence Hawley

Ford, Richard I., Albert H. Schroeder, and Steward L. Peckham

Forrestal, Peter P., translator

Hammack, Laurens C.

Hammond, George P., and Agapito Rey
1953 Don Juan de Oñate, Colonizer of New Mexico 1598-1628. University of New Mexico Press, Albuquerque.

Hale, Kenneth, and David Harris

Harrington, John P.

Hodge, Frederick W.

Hodge, Frederick W., George P. Hammond, and Agapito Rey, translators and editors

Laumbach, Toni S.

Leap, William L.

Lekson, Stephen H., Michael Bletzer, and A. C. Mac-Williams

Marshall, Michael P.
Marshall, Michael P., and Henry J. Walt


Mera, Harry P.

Ortman, Scott G.
2012 *Winds from the North: Tewa Origins and Historical Anthropology*. University of Utah Press, Salt Lake City.

Parsons, Elsie Clews


Riley, Carroll L.

Russell, Will G.

Scholes, France V.
1940 *Documentary Evidence Relating to the Jumano Indians*. In *Some Aspects of the Jumano Prob-


Schroeder, Albert H.

Skinner, S. Alan

Snow, David H.


Speth, John D., editor

Vivian, R. Gwinn, and Nancy Wilkinson Clendenen

Weber, Robert H.
Every American school kid has learned of the midnight ride of Paul Revere on April 18, 1775, immortalized by Henry Wadsworth Longfellow’s poem. Therein the line, “One if by land, two if by sea,” is what sticks in the mind. Everyone should also recall it relates to the lantern hanging in the steeple belfry of the Old North Church of Boston to warn the residents which way the British militia was approaching. Another quote wherein Revere supposedly rode along on his horse yelling, “The British are coming, the British are coming,” is also indelibly etched in our minds; however, it is well documented that instead he quietly uttered, “The Regulars are coming out.” His warning was not to be heard by British sympathizers!

The above historically important event was the prelude to the American Revolutionary War, and I dare say this paper introduces a hitherto unconsidered notion that is also revolutionary, as well as controversial. Essentially, while the two routes on either side of the Sierra Madre Occidental from heartland Mesoamerica to the American Southwest are very well documented prehistorically and historically, no one has addressed the possibility of the use of waterways aside from a brief mention by Lekson (2008:114). Large dugout canoes with paddlers and, quite likely, sails could have navigated the Sea of Cortez (Gulf of California) and the Colorado River to eventually reach Chaco via a much shortened land route traversing Arizona into New Mexico. An alternative might have entailed sailing/paddling up the Gila River for an undetermined distance once its confluence with the Colorado was reached (see below). The numerical reversal of Revere’s “land” and “sea” is simply a play on words, but I felt a good way to introduce what could well have been a highly feasible alternative to the two major land routes.

Seriously considering a new and somewhat revolutionary approach to connect the two regions by sea has led me to pursue a considerable amount of research that was totally tangential to my continuing quest to ferret out data specifically related to the connection of Mesoamerican long-distance traders (Pochteca) to Chaco. The results of this endeavor were somewhat surprising given the fact available data indicate seaworthy vessels, as well as a variety of others for use in rivers and lakes were (and are) not uncommon in many areas of Mesoamerica. In addition, continuing research and publications relating to the Epiclassic/Early Postclassic (Toltec era—contemporaneous with Chaco) have provided a totally new awareness of the extremely widespread cultural interactions that were ongoing during this period. Of particular interest in this regard is the volume: Twin Tollans: Chichen Itza, Tula, and the Epiclassic to Early Postclassic Mesoamerican World, edited by Jeff Kowalski and Cynthia Kristan-Graham (2007). The 15 articles by noted scholars comprise a total of 640 pages—it is a volume to be highly recommended. The lengthy introductory chapter by Kristan-Graham and Kowalski (2007) is especially noteworthy.

“Two If By Land…”

Of the two land routes the more westerly one along the coastal plain and inland is better known and documented. Prior to major anthropological inquiry, early historians such as Winship (1896) dealt with the 1540 Spanish Entrada of Coronado recorded by Pedro de Castañeda (see also, Bolton 1949). Herein much of the route traveled, initially terminating at Hawikkuh (Zuni), is indicated—via known Mexican place names. However, north of these the precise route taken becomes somewhat
problematic. Fairly recent major efforts have been made to reconstruct it. In general, there can be little doubt early native trails played a significant role in Coronado’s and other early Spanish explorers’ sojourns—all of whom used native guides who had previously traversed the west Mexican route. Several different branches were utilized once on the Southwestern periphery. Sauer (1932) provides a classic study in The Road to Cibola. However, the latest research may be found in Flint and Flint (2011), as well as online via The Planetary Science Institute’s “Research News and Recent Publications on the Coronado Expedition.” In general, Riley (1982:7-14, 2005:184-193) provides an excellent overview of Spanish contacts/entradas/et al.

The second route on the eastern side of the Sierra Madre Occidental followed the margins and foothills of the mountains. A large portion of the southern region is archaeologically known as the Chalchihuites culture. It features a series of Mesoamerican ceremonial and mining outposts active during the Classic and Epiclassic periods, but not totally defunct in the Postclassic, according to noted North Mexican scholar Charles “Chuck” Trombold (personal communication, 2012). Included among them are the well-known sites of La Quemada in Zacatecas and Alta Vista and the Schoeder Site in Durango, as well as lesser known La Ferreria, El Teul de Gonzales Ortega, and Cerro Montedehuma. All feature colonnaded halls, ball courts, patio compounds with central altars, ceremonial structures, tzompantli (skull racks), and roads (causeways). These sites, particularly the former group, were clearly involved in long-distance trade activities between heartland Mesoamerica and the Southwest. Specifically, I surmise it was via one or more of these sites that the primary Pochtecan connection to Chaco manifested itself.

“…And One If By Sea”

Proposing Chaco was connected to the Mesoamerican heartland by the Sea of Cortez (Gulf of Mexico) and up the Colorado River for some distance, possibly navigating the Gila River as well, raises several questions for which there are, admittedly, no clear answers. That such was a feasible means of interconnection is, however, well within the realm of possibility. First of all, a great variety of watercraft used to transport native people and goods, including both those that were seaworthy and others for river or lake use, are exceedingly well documented both prehistorically and historically within most regions of the New World. The activities involved with watercraft use commonly included warfare, pilgrimage, fishing/hunting/gathering, migration, exploration, and especially commercial ventures/trade, as well as a potential myriad of others.

Navigation on the Sea of Cortez is comparable to other large bodies of water and poses no particularly unusual problems until the confluence of the Colorado River is reached. The mouth of this river is among those characterized by a tidal bore wherein the incoming tide rises rapidly and causes the river to flow backward for some distance. Gordon (1924) observed and reported this phenomenon noting the river rapidly rose 3 ft in five minutes, and 5 ft in 15 minutes, with 3- to 4-ft waves following .5mi behind this rise. He states the initial tidal bore can register 10 ft—considerably greater than he observed. The water level continues to rise following this, depending on the level of the water at the incoming high tide.

Historically, the Sea of Cortez was first explored by Francisco de Ulloa, who was sent by Cortez on July 8, 1539 with three small ships in the hope of finding the rich lands to the north by sea that had been noted by Fray Marcos de Niza. Ulloa reached the confluence of the Colorado River and reported the tidal bore phenomenon (Hartmann 2011:200). Having previously lost one ship in a storm, he chose to go no farther.

In contrast, the following year Hernando de Alarcon’s expedition sailed from the mouth of the Rio Grande de Santiago (10 mi from San Blas, Nyarit) on the Gulf of Cortez up the Colorado River to its confluence with the Gila and perhaps, as documents suggest, he continued up that river for some distance (since the total distance traveled
upriver was 50-60 miles). Dellenbaugh (1902:14-15) quotes Alarcon’s description of the fierce tidal bore he encountered; however, because he hoped to deliver needed supplies to Coronado’s expedition, he continued upstream. With regard to the Gila River Hartmann (2011:207) states that prior to dams, Anglo settlers during the 1800’s navigated the river for commercial purposes with small boats, and by floating logs downriver. Amazingly, at least to me, the river was originally navigable from Safford in southeastern Arizona!

The first major exploration of the Colorado River was by Major Wesley Powell in 1869—a dangerous thousand mile adventure in wooden boats taking 98 days that terminated at the Virgin River (Powell 1875). He undertook a second expedition in 1871—again through dangerous rapids. This time the journey ended at Kanab Canyon (Powell 1875). Dellenbaugh (1902) was a member of the second expedition and wrote of it, as well as of the Spanish discovery of the Colorado River and native inhabitants. Given the fact these expeditions did not involve the lower Colorado River, there are no data reported on the navigability of its lower reaches. However, such was the case for a considerable distance upriver from the Gulf. Sadly, any evidences of prehistoric sites along its margins are currently under the waters of Lake Blythe impounded by the Imperial Dam above Yuma, and Lake Havasu confined by Parker Dam farther upstream. Since both dams were completed in 1938, archaeological research was not mandated, and, therefore, combined with dams on the Gila, and deep alluvial soil deposition in the lower margins of the Colorado River, any on-shore evidences of Chaco-Mesoamerican maritime use is currently impossible, or at best, would be exceedingly difficult to determine and document.

Watercraft of Greater Mesoamerica

My inclusion of the Southwest, and in particular, the Chaco World or Phenomenon in “Greater Mesoamerica” goes a step beyond the “Greater Southwest,” which has for many years included northern Mexico. My rationale involves the fact I view the Chaco Phenomenon as a Mesoamerican-based outpost involving the Iyahqueh—that group of Pochteca who established frontier outposts to acquire exotic goods for the elite in the heartland. Suffice it to say, the major exotic item was turquoise, which had become the “God Stone” of Mesoamerica, superseding jade during the Epiclassic (A.D. 800-900). In addition, rather than considering long-distance trade, I proposed that the outpost was supplied with goods in order to be a normal-type, functioning frontier outpost (Frisbie 2014). Thus, the shipped-in supplies included cacao, copper bells, scarlet and military macaws, thick-billed parrots, exotic feathers, conch (for trumpets), a variety of other shells, and quite likely additional goods (including copal, featherwork, and elite textiles).

Interestingly, reports of watercraft use in the ethnohistoric literature of the American Southwest are minimal. Although one would expect the Pueblos both prehistorically and historically to have at least used rafts for fording such rivers as the Rio Grande, there are no references to their use of which I am aware. Given this somewhat perplexing issue, I contacted Dave Snow (personal communication, 2014) who is quite familiar with the literature; his response corresponded to my awareness—there are no supporting data for Pueblo watercraft of any kind. Thus, unless rafts simply were not reported prior to the historic construction of bridges, the other possibilities for crossings are shallow water stepping stones, log float, swimming or wading. With regard to the latter, Dave noted there are reports of quicksand in the Rio Grande. Obviously for safe crossings these dangerous locations would have to be known and avoided.

The only reported Southwest watercraft of which I am aware were utilized by the Yuman tribes along the Colorado River; in addition they are reported to be excellent swimmers, as well as great runners. Dellenbaugh (1902:30) includes a photo of a Cocopatule (bulrush/reed) raft when discussing the natives who assisted Melchior Diaz to cross the river by making rafts (Figure 1). Forde (1931:127; see also Gifford 1933:272) provides
the following overview under the heading “River Navigation”:

Although the river was used extensively for travelling downstream and frequently crossed, the Lower Colorado peoples had no boats or canoes. Single cottonwood logs were sometimes used by the Yuma to carry a small party or load down the river. Large pottery vessels were also used to ferry goods and children from one bank to the other, the swimmer pushing this receptacle in front of him. Indians would also travel considerable distances on half-submerged floats. A bundle of rushes and canes was attached to the fore end of a relatively slender pole; the man sat astride the other end, which sank down, and propelled himself with his arms.

Rafts were also made of cottonwood logs and bundles of tule [or willow and propelled by pole or paddle]. Both were flat rectangular contrivances bound together with hide thongs or bean-fiber twine. The larger reed rafts, said to have been “as large as a house,” were braced with cottonwood poles. They were more buoyant and also more readily constructed. For longer journeys a layer of earth was arranged at the rear on which a fire was built for cooking.

Moving from the U.S. Southwest into the Gulf of Cortez and south along the coastal region of Sonora, Mexico, one encounters the Seri Indians. They traditionally occupied an area of approximately 1500 sq mi of the mainland that included Kino Bay, as well as Tiburon Island, an additional 500 sq mi. They are separated by a narrow, but notoriously turbulent and dangerous strait referred to as “El Infiernillo” or “El Canal Peligroso de San Miguel.” The shortest distance between them is approximately 2 mi—to well over
Nonetheless, the Seri navigated these perilous waters frequently for mainland to island crossings, as well as when fishing and turtle hunting. Their seagoing watercraft, referred to as a balsa, was well described and illustrated by McGee (1898:215-221, Figures 27 and 28). In addition, Plate 31 depicts two photographs of the balsa McGee secured for the National Museum. The vessel is constructed of carrizal (reeds), stripped of tassels and leaves and tied in 2- to 3-ft overlapping bundles to a length of 10 to 12 ft (i.e., balsa length). The final bundle is both cylindrical and tapering. The cord used is made from mesquite root or maguey fiber. Three such bundles are then lashed together producing a canoe-shaped vessel weighing about 250 lbs (Figures 2 and 3). Depending upon the activity involved, a variety of paddles were utilized, single or double bladed, as well as shells, hands, or the turtle double tipped hunting spear. The balsas handled beautifully, including in rough waters, and could easily accommodate three individuals, or four in calm water conditions, the weight limit being 600 lb.

Although these watercraft provide an impressive array of seaworthiness, they, like all of those noted above, would not be capable of or suitable for the navigational requirements to carry both the personnel and goods to outfit a frontier outpost involving distances with hundreds of miles between ports. Such stouter and larger vessels, dugout canoes, are to be found farther south in Greater Mesoamerica navigating in both the Atlantic and Pacific Oceans, as well as in their counterparts—the Gulf of Mexico and the Sea of Cortez. Dugouts were also used in rivers, lakes, and streams, as well as in man-made canals. Characteristically, dugout
canoes were made from a single log and varied greatly in length from several to well over 100 ft. Their creation was a laborious, time consuming process. This is clearly exemplified by Carr et al. (2006) who in an experimental archaeology project created a 20-ft long, 2-ft wide oak dugout using fire and prehistoric tools. It required a whopping 375+ man-hours (Figure 4)!

**Figure 4.** The making of a dugout canoe from Carr et al. (2006). Photographer unknown.

In *In Indian Mexico* Frederick Starr (1908) notes a number of encounters with dugout canoes still in use during his extensive travels in the southern regions of the country (Figure 5). He provides an excellent description of those he observed on Lake Patzcuaro, noting they are utilized far more frequently than the roads between the 22 towns situated around the lake (Starr 1908:68-69). Dugout canoes are also noted in the ethnohistoric records beginning with the conquest of Mexico by Cortez in 1519. However, of particular interest is the most noteworthy historic commentary that predates the conquest. During the fourth voyage of Columbus in 1502 off the coast of Honduras a dugout canoe appeared while the ships were anchored at Bonacca Island. His son, Fernando, describes it as being as long as a galley [about 120 ft] and 8 ft wide. Aboard were 45 individuals, 25 males (rowers) and 20 women and children, as well as a cargo of trade goods that included cotton embroidered/painted textiles, copper bells and axes.

**Figure 5.** “Our Ferry Boat” captioned photograph. From Starr (1908). Photograph by Louis Grabic.
with crucibles to melt it, obsidian-tipped swords, corn, edible roots, and cacao. The vessel featured a “hut” covering passengers and the cargo (Landstrom 1967:163). Although there is no mention of a sail, it is known sails were also utilized in seafaring vessels (Anawalt 1992; Edwards 1965). Illustrated here are replicas of Mayan seagoing dugout canoes (Figure 6, Figure 7).

Suffice it to say, many Gulf of Mexico and Caribbean islands were populated by native peoples at the time of Spanish contact. The original inhabitants, the Taino, occupied islands from Cuba and Puerto Rico southward to the Lesser Antilles. The late coming Carib, who occupied only the Lesser Antilles, did not arrive until A.D. 1200. Both groups are believed to have originally navigated from the Orinoco River region of Venezuela—they obviously journeyed via seaworthy dugouts. Additionally, Hajovsky (2011) notes that Mayan trade goods have been found on Cuba and that Taino ceramics were discovered on at least one Mayan site. Dating of artifacts suggest seafaring trade began ca. 800 B.C. and reached its zenith between A.D. 1100 and 1521, at which time it was terminated by the Spanish. Cohen (2011) quotes Dominique Rissolo, who had been excavating...
Vista Alegre, a Mayan seaport “city” island close to the Quintana Roo coast, as stating “Maya trade was far-ranging between the Veracruz coast…and the Gulf of Honduras, with each port a link in the chain connecting people and ideas.”

As noted above, there has been a major revision in understanding the relationship between the Maya and Toltec wherein the notion of a military takeover of the Yucatan by the Toltec has been defused (Kowalski and Kristan-Graham 2007). The similarities between Tula and Chichen Itza have long been cited, including the distance of 800 mi between these sites. It is now suggested a complex system of trade and shared ideas resulted in the addition of Toltec architectural features such as colonnaded galleries and sculptured figures with chacmools being a prime example at Chichen Itza and other Epiclassic/Early Postclassic sites on the Yucatan Peninsula. For this study the most revealing find at Chichen Itza was iconographic—a fresco painted on a wall of the Temple of the Warriors. It depicts dugout canoes in which stand Toltec warriors based on attire/weaponry. It is, of course, the fact this clearly indicates the Toltec utilized seagoing vessels that is of particular interest (Figure 8). Although I had seen this mural a number of times in the past, when I saw it again some 10 years ago the image of the canoes caught my attention, and thus began my thinking about a seafaring route to Chaco. Congruent with this is the additional fact that the Pochteca were operant at this time (based on the research of Kristan-Graham [1993]). In general, Mesoamericanists who have dealt with and commented upon the Toltec period all concur they were in contact throughout the entire range of Greater Mesoamerica—east to west from the Atlantic to the Pacific, and north to south from the American Southwest to Panama. The latter regions were of special importance because they provided the elite needs of turquoise (the new “God Stone” replacing jade) and gold.

The use of watercraft in the Pacific Ocean is well documented, including contact by balsa raft from Ecuador to West Mexico. Anawalt (1992) does so in a classic paper clearly demonstrating highly specific similarities in textiles between the two regions, as well as indicating they are also found in the American Southwest. Textiles painted

Figure 8. Temple of the Warriors mural reputedly of Toltec warriors.
on human figurines from shaft tombs in Nayarit indicate contact as early as 400 B.C. Anawalt (1992:122) states that ethnohistoric records indicate this contact continued until at least 1525—i.e., shortly after Spanish domination. Metallurgy is another South American trait that diffused to West Mexico, perhaps by the same means. It is interesting to note that turquoise, reputedly from the American Southwest, was found during the excavation of a West Mexican shaft tomb site.

With specific reference to dugout canoes, Rosenswig (2012:422) cites Carlos Navarrete who was told by old merchants that before the 1908 railroad construction “…convoys of up to forty canoes would make journeys up and down the coast primarily to transport cacao…out of Soconusco and to import ceramics from Guatemala and Oaxaca.” He presents data from Olmec through Aztec times documenting canoes in this southern coastal region and notes “…and beyond to both north and south.” Could it be that cacao, now known to have been consumed at Chaco, derived directly from a Soconusco seaport by canoe? The Epiclassic/Early Postclassic (Toltec horizon) elite product, plumbate ware, was produced along the Pacific coast at sites bordering both Mexico-Guatemala. These ceramics were traded long distances throughout most of Mesoamerica (Rosenswig 2012:427). Since maritime trade is well documented, it is quite likely this long-distance trade involved both land and sea. For additional insights see Pye and Gutierrez (2007) who present evidences for iconographic connections between Guatemala and Guerrero by sea.

There can be little doubt there were seaports all along the Pacific coast of Mexico, some of which became integral locales for the Spanish—Chametla being a prime example. Any one of these could have been utilized as the starting point for watercraft traveling northward to Chaco laden with goods to provide the necessities to stock a frontier outpost.

**Discussion and Conclusions**

When beginning this paper I did not have a clue it would incorporate an overview of Greater Mesoamerican watercraft beginning with what is recorded for the American Southwest and Mesoamerica, in general. However, as I began to think about the use of seagoing dugout canoes in contrast to a complete lack of such navigational vessels in the Sea of Cortez and Colorado/Gila Rivers, the notion of “creating an impression” unfolded. Imagine the effect on the local populace of an entraña of one or more such vessels (probably several)—it would have been an awesome, mesmerizing sight! No tree in their areas of the Greater Southwest could produce such a 100 or more foot long canoe. Questions might well arise: “Would they, might they come ashore? What might they want or have to offer? What might we give in exchange?” But, beyond these ponderings, no one has presented a synoptic view on this topic; hence, I decided to deal with “Water Matters.”

Although speculative, a water (vs. land) route from the Pacific coast of heartland Mexico into the Southwest would have been quite feasible. Unquestionably, large, seaworthy dugout canoes were extant in Mesoamerica coterminous with the Chaco Phenomenon. Aside from storms at sea, the tidal bore at the mouth of the Colorado River would have been the greatest impediment. However, an awareness of two factors would have alleviated the dangerous conditions significantly: namely, seasonality and phases of the moon. Gordon (1924) states the greatest tidal bores occur in the spring and during full and new moons. He further notes they almost never occur during neap tides associated with quarter moons. Thus, safer passages could have been made with an awareness of these factors. Consequently, scheduling periodic voyages during summer and fall and navigating the river’s mouth during quarter moon/neap tides would have provided ideal timing. Since live
tropical birds (macaws) were included in the cargo, winter voyages would likely not have been undertaken. However, even if macaws were not always part of the shipments to Chaco, winter weather conditions, particularly for the final, over 100-mi land trek could well have been detrimental due to snowfalls and frigid temperatures.

With regard to the “land trek” after the proposed sea/river route, precisely where it might have been is completely unknown. There remains the question as to whether it involved traversing from some point along the Colorado River or after navigating up the Gila River, again, for some unknown distance. Since there are early historic accounts of natives from Cibola (Zuni) traversing a trail to Yuma (i.e., the confluence of the Gila and Colorado Rivers) this route might also be considered. Given the number of unanswered possibilities I chose not to attempt creating a map—it would have ended up with a myriad of potential land routes—of which there are many already described in the literature. However, I fully expect from whichever river the *Pochteca* traversed there would have been an already well established trail—quite likely taking them through the Zuni region on to their final destination—Chaco Canyon.

Because it is so pertinent to the thesis of this paper, “One If By Sea,” I would like to conclude with a quote from a pre-eminent Mesoamerican scholar, Richard E. W. Adams (1991:285): “The Toltec expanded into the northern frontier zone, or Gran Chichimeca, about A.D. 900, this time to both the coastal and eastern sides of the western Sierra Madre [italics mine]. Contact was apparently made with the cultures of what is now the southwestern United States.”

**Acknowledgments**

I am indebted to a number of Mesoamerican scholars who have responded to my queries—generously providing commentary, references, and valuable leads to additional research materials. Among them are Robert Cobean, Cynthia Kristan-Graham, Chuck Trombold, and Karl Taube. Any errors in interpretation of their commentary are mine. Southwestern specialists, Dave Snow and Joan Mathien, came to the fore, as well. Dave responded literally instantly regarding my email about Pueblo use of watercraft. As noted, his knowledge on the subject matched mine: “Nada!” And thank you, Joan for listening to my topical ideas for this festschrift—you strongly suggested the topic presented herein. —It definitely took me into some hitherto unknown territory! I especially want to thank Dan Woodward for his assistance in improving the resolution of several of the figures, as well as pencil sketching the Mayan canoes from the original paintings. (Readers are urged to check out the magnificent online originals since permission to use them could not be obtained.) Per usual my wife, Charlotte, and daughters, Elizabeth Frisbie and Jennifer Frisbie, edited and proofread the final draft. Finally, I am deeply indebted to both of my daughters who came to the fore assisting with the final preparations of this paper since both their mother’s and my computers/printers developed still unresolved problems.
THEODORE R. FRISBIE

References Cited

Adams, Richard E. W.

Anawalt, Patricia Rieff

Bolton, Herbert E.
1949 *Coronado: Knight of Pueblos and Plains.* University of New Mexico Press, Albuquerque.

Carr, Kurt W., Douglas C. McLearen, James Herbstritt, and Andrea Johnson

Cohen, Jenny

Dellenbaugh, Frederick S.

Edwards, Clinton R.

Flint, Richard, and Shirley Cushing Flint (editors)

Forde, C. Daryll

Frisbie, Theodore R.

Gifford, E. W.

Gordon, James H.

Hartmann, William K.

Hajovsky, Ric

Indigenous Boats: Maya Canoes

Kowalski, Jeff Karl, and Cynthia Kristan-Graham (editors)
Kristan-Graham, Cynthia

Kristan-Graham, Cynthia, and Jeff Karl Kowalski

Landstrom, Bjorn

Lekson, Stephen H.

McGee, W. J.

Morales, Jose Juan

Native American Boats-Native Languages of the Americas

Planetary Science Institute

Powell, John Wesley

Pye, Mary E., and Gerardo Gutierrez

Riley, Carroll L.


Rosenswig, Robert M.

Sauer, Carl O.

Starr, Frederick

Winship, George P.
John Hayden and Torrance County Archaeological Society’s HPD Project No. 35-95-100009.06

SHARON D. HANNA

I have been a member of Torrance County Archaeological Society since 1992. During those years I have served as vice president one year, secretary seven years, and president five years. I am very aware of the significance of John Hayden’s many contributions to the organization.

John Hayden’s first appearance as a speaker for the Torrance County Archaeological Society was on January 7, 1991, two years after the organization was formed. After that, John often attended meetings, and frequently provided informative sessions for the members. His willingness to share knowledge and lead field trips helped draw and hold members in the newly organized group.

John loves to take pictures of everything from pottery sherds and lithics on the ground to sunspots and eclipses, and has awesome sky photos. His presentations of these photos and those of TCAS activities have provided many memorable programs at TCAS Christmas parties.

In the early years most of the members were interested in opportunities to participate in archaeological activities and projects, usually as individuals. The first major undertaking as a group came about through John’s successful efforts to obtain a grant to conduct a research project on historical sites in Torrance County. He provided guest speakers to educate TCAS members about gathering information from sources and recording information from longtime residents. When the time came, John and Jerry Shaw organized field trips to sites for photographs, measuring and sketching sites and collecting information for applications for recognition as historic sites when appropriate. As a result of this project, in 1997 the Historic Preservation Division presented TCAS with a Historic Preservation Award.

The following report by John Hayden summarizes that research project:

During 1996, the Torrance County Archaeological Society (TCAS) undertook an extensive survey of Torrance County to determine the location and condition of historic remains from a period representing the settlement/development of the Estancia Basin and vicinity from about the mid-1800’s to 1940. This project was stimulated and made possible by federal funds from the Historic Preservation Fund, Department of Interior, National Park Service, and through a small subgrant administered and partially funded by the State Historic Preservation Officer, Historic Preservation Division, Office of Cultural Affairs, State of New Mexico.

TCAS set out to find and document the extent, condition, and ownership of historic remains. TCAS wants to promote preservation and interpretation of historic remains related to homesteading and agricultural life ways in the Estancia Basin while some evidence still remains. The group wants to help inform owners of historic properties of importance and value of historic easement. They seek to identify and recommend historic properties thought to be eligible to the National Register and in addition, identify archaeological sites that maybe endangered. TCAS also seeks to
ask landholders concerning their willingness to support additional study and preservation of historic remains.

The project was accomplished by searching existing records, conducting interviews and recording willing informant/cooperators, doing a lot of walking (ground reconnaissance), and completing on-site documentation and recordation. Work was performed by a multi-disciplinary team made up of members of the Torrance County Archaeological Society.

The members of the Torrance County Archaeological Society (TCAS) and Torrance County Historical Society (TCHS) who joined forces to complete this survey project were: Waynette Burnett, Faith Bouchard, Vivian Counts, Sharon Hanna, John Hayden, Billye Head, Joy Jones, John Lawrence, Helen Mattingly (deceased), Rosa Pierce, Gloria Pohl, Linda Powell, Jerry Shaw, Marion Shaw and Richard Spangler.

...[W]e began by identifying and listing town sites, and isolated schools, churches, and cemeteries. Our main sources of information were: local residents, personal records and memoirs, county records, existing maps and publications and knowledgeable members of TCAS. News of our project spread by word-of-mouth netting us much valuable contributed information on location and details of many sites that we probably would not have known about otherwise. Once most folks know what we are trying to accomplish they provide great input--often more than we can handle with our limited resources.

At the closure of work on this subgrant, TCAS completed 100% of the project tasks: 1) identified 92 (ninety-two) historic sites of various kinds, 2) completed 47 (forty-seven) NM Historical Building Survey Inventory Forms, covering 34 (thirty-four) sites, 3) recorded map locations for each on USGS Quadrangle maps, 4) conducted interviews with many longtime residents. [Hayden 1996] John has dedicated himself to educating the public about the value of archaeological preservation and helping people to enjoy learning in the process. In addition to his many contributions to this cause, John’s support of Torrance County Archaeological Society over the past several years has been vital to the group’s survival. He was and still is the glue that holds the group together.

No one knows better than Waynette Burnett, one of the founders and early officers of TCAS, how important John has been for the group’s survival. Her comments follow:

It has been my pleasure to have met and been associated with John Hayden since the early 1990s when he began speaking to TCAS when I was president. He quickly was made an Honorary Member! He has done so many things for our society to lead it to where we are today: he planned programs with exceptional speakers, took us on numerous field trips, led rock art tours, hosted us [at the Ghost Ranch excavations] at Abiquiu, wrote a grant for us which led to the compilation of the Initial Survey and Identification of Endangered Archeological Sites and National Register Eligible Historic Properties for Portions of Torrance County, N.M., and much more.

As a park ranger with Salinas Pueblo Missions National Monument I have also had the pleasure of working with John. For approximately ten years he has volunteered his knowledge and skills to school children who come for on-site educational activities. In the spring of 2013, John began an ongoing rock art recording field school at the Salinas site, Abo. This field school included approximately 25 TCAS members who are learning the correct methods of recording pictographs and petroglyphs. All participants are planning to begin again in the spring of 2015 as first wind and then rain didn’t cooperate with getting much work done in 2014. This is a man who shows his love of people and nature as exemplified by his soft-
spoken character. What an honor it is to call
John my friend! [Waynette Harvey Burnett,
personal communication 2014]

On a personal note, I am grateful to John for
his guidance and encouragement to me after I began
discovering how much archaeological evidence
exists in New Mexico. He has always been willing
to take the time to answer any questions I ask about
archaeology, botany, history, etc. over the past
twenty-plus years I have known him. With his
courage I’ve learned more and accomplished
more with that knowledge than I ever expected to
do. Thank you, John, for opening my eyes to this
fascinating segment of New Mexico.

Acknowledgments

My thanks to Waynette Burnett for her statement
about John Hayden’s service to the Torrance County
community.

References Cited

Hayden, John
1996 Initial Survey and Identification of Endan-
gered Archeological Sites and National Regis-
ter Eligible Historical Properties for Portions
of Torrance County, N.M., HPD No. 35-95-
100009.06. Manuscript on file, New Mexico
Department of Cultural Affairs Historic Pres-
ervation Division, Santa Fe.
Anna O. Shepard’s Site in Chaco Canyon, New Mexico

FRANCES JOAN MATHIEN AND JOYCE M. RAAB

As part of our research on the Chaco field schools that were under the direction of Dr. E. L. Hewett and jointly sponsored by the University of New Mexico, the School of American Research, and the Museum of New Mexico (UNM/SAR/MNM), we plan to publish as much information as possible for the sites excavated by the staff and students. During the first field session in the canyon in 1929, each of the graduate and advanced undergraduate students was responsible for one or more projects. Anna O. Shepard conducted two excavation projects: the first was at a site located in South Gap (Figure 1) and the second was a pit in the trash mound at Chetro Ketl (Hewett 1929:8). This paper will focus on the former site which is often referred to as Anna Shepard’s dig.

Shepard’s site has been described as a Late Pueblo II-Pueblo III, Hosta Butte Phase, small site located on a low ridge at the bottom of the talus of West Mesa, southwest of Pueblo Bonito on the south side of Chaco Canyon and due south of Pueblo del Arroyo (Lister and Lister 1981:246). The area consists of three mounds, each of which includes a number of rooms and at least one kiva (Figure 2). Three rooms in one of the mounds (Bc 114) were excavated in 1929. It was initially thought that this large house was constructed around a plaza with one kiva (Lister and Lister 1981:246; Pierson 1956:40). Figures 3, 4a, and 4b illustrate the area encompassed.

Over the decades, the three mounds have been recorded under different numbers by several
**Figure 2.** This composite drawing is based on a sketch map created by the NPS survey crew in 1971. It was updated in 1981 when the three mounds (Bc 113, Bc 114, and Bc 115), the room/shrine, and the petroglyphs were divided into two separate sites in the Smithsonian numbering system (29SJ200 and 29SJ2391). Room numbers and the location of a possible prehistoric road were added during site condition assessments in 2001. Shading indicates the three rooms in the roomblock on the lower right excavated by Anna O. Shepard in 1929.

**Figure 3.** This photograph shows the northeast corner of West Mesa, the talus, and the mound on which Bc 114 is located. (From the Anna O. Shepard Collection, MIAC/LA Photo No. 70.4/1257).
Figure 4 a, b. Photographs of Dan Cly working at unexcavated house mound, Bc 114. Rubble from fallen walls is visible near his feet. The background includes the North Mesa. In the upper photograph, South Mesa appears on the right. In the lower one, the photographer shifted her view angle to include more of the west side of North Mesa. (From the Anna O. Shepard Collection, MIAC/LA 70.4/1252 and 70.4/1259).
institutions: Bc 113, Bc 114, and Bc 115 by the University of New Mexico; 29SJ200 by the National Park Service (NPS); LA 40200 in the New Mexico Cultural Resources Inventory System; and SARG 10,132-10,136 in the Southwest Archaeological Research Group. In 1973, the NPS Chaco Project inventory survey records for 29SJ200 combined Bc 113 and Bc 114 as one site with two room blocks, each including a kiva (Figure 2). These two sections are joined by a wall that partially encloses a depression thought perhaps to be a kiva. Another possible wall was indicated on the map; if actually present, these walls would create an enclosed plaza surrounding the kiva. Trash was located to the east of the house mound. Other recorded features noted by the survey crew include a small house and a single room associated with Bc 115. Along the talus approximately 60 m northwest of Bc 115 are Pueblo and Navajo petroglyphs. In 1981 the smaller house block, the single room, and the petroglyphs were renumbered as site 29SJ2391. Archaeologists who used this Smithsonian numbering system during later site condition assessments suggested a prehistoric road existed between the two sites (Bc 113/114 or 29SJ200 and Bc 115 or 29SJ2391). They also numbered the rooms in the three house mounds (Figure 2). In what follows, we will refer to the three house mounds by their “Bc” site designations.

Anna Shepard’s 1929 excavation

During two weeks of June, 1929, Anna O. Shepard and Dan Cly, a Navajo workman, focused their attention on Bc 114 (Figures 4a and b). Hewett (1929:8) lists Shepard’s study as that of small house ruins on the south side of the canyon. It was thought to be representative of the small mounds in the area (Dutton 1938:11). At present very few notes (see below) and no written report of the excavations by Shepard have been located. The following published summary, by Winifred Stamm, a field school student who also acted as the secretary/recorder for the season, is the best description available.

During the last two weeks of the Chaco Canyon field session, Anna Shepard of the San Diego Museum, excavated one of the numerous mounds found up and down the canyon. She chose a large one on the west side of the gap just west of the camp that looked representative of the whole group. It proved to be a rather large house built around a small plaza with one kiva. Only three rooms were excavated.

The rooms were very shallow, the walls standing a yard or so above the level of the ground. Although there were no post holes in the floor, impressions on the great amount of plaster found indicated that the walls were continued up and roofed with timber. The masonry, while not as fine as that found in the larger ruins, was good and well preserved. The floors were poor, easily cracked and broken through. They were built upon a loose fill of sand which seems to indicate lower levels of occupation. There were no fire pits in any of the rooms but one had a bin in the corner made of two metates stood on edge and plastered into the floor. The room next to it was probably a grinding room; ten manos were removed from it and a number of metates were found fixed in the floor. One of them had ground meal sticking to it and layers and pockets of meal were found all over the room.

Miss Shepard also trenched the refuse heap of the mound. She found a great number of shards of the same type as those found at Chetro Ketl, a human mandible, and a perfect dipper, the only whole pottery piece found during the season. (Stamm 1929a:40-41)
Shepard’s Data

When we began our research, we could not find notes Lister and Lister (1981:246) suggested are in the Chaco Archive. The Anna Osler Shepard Archival Collection at the University of Colorado Museum of Natural History in Boulder includes an outline for a report on the small site as follows:

Small House Ruins
1st site
  Character of pottery and surface indications
  Results of digging
2nd site
  Excavation of rooms
  Architectural features
  Artifacts
  Refuse mound trench
Illustrate general location, details of rooms
Map

This outline suggests that Shepard also investigated another small site for which we have no information.

Although no written report by Shepard has been found, some graphic materials exist. In the Shepard Archival Collection there is a sketch map of the three excavated rooms (Figure 5). A number of photographs are on file at the Museum of Indian Arts and Culture/Laboratory of Anthropology (MIAC/LA) Archive (Table 1); copies of several of them are also present in the Chaco Culture NHP Museum Collection.

Artifacts were probably taken to either the University of New Mexico or the Museum of New Mexico for processing. We assume the latter was the most likely destination in 1929, but there is evidence that they were moved again at a later date. A loose sheet inserted among the pages in Paul Reiter’s bound ledger book in the NPS archive (CHCU 0032/001, CMCA 0043A) indicates that Box No. 15 (labelled Shepard “Gap site” & CK dump) was to be transferred to Albuquerque. A few pages later, another loose sheet dated 6/22/39 indicates the boxes were accounted for and shipped. This collection should have included the above-mentioned ten manos (from grinding room), sherds, a human mandible, and a small dipper (from trench across refuse mound). What happened to the box afterward is uncertain; neither the Maxwell Museum Accession Records nor the MIAC/LA records list material from this site. A recent search of the database for all manos and the dipper in the MIAC/LA collections by Dody Fugate, Assistant Curator of Archaeological Research Collections, also brought negative results.

Later Survey Data

The few remaining documents from the original excavation can be combined with those from later surveys and assessment evaluations that have been conducted by the National Park Service (NPS) to provide a better understanding of the site and confirm some of the assumptions set forth in 1929. Pierson (1949:Appendix) described site Bc 114 as a mound having a rectangular ground plan measuring “70 ft. by 33 ft.” for a total of “2,540 sq. ft.” He recorded ten sherds (one each of Red Mesa Black-on-white, Gallup Black-on-white, McElmo Black-on-white, and Mesa Verde Black-on-white; four Escavada Black-on-white, and two Wingate Black-on-red). Based on his observations, Pierson thought the north house had approximately 35 rooms and was used during several time periods as follows:

<table>
<thead>
<tr>
<th>Period</th>
<th>Rooms</th>
</tr>
</thead>
<tbody>
<tr>
<td>B (800-850?)</td>
<td>7</td>
</tr>
<tr>
<td>C (850-950)</td>
<td>35</td>
</tr>
<tr>
<td>D (950-1075)</td>
<td>23</td>
</tr>
<tr>
<td>F (1200-1300)</td>
<td>7</td>
</tr>
<tr>
<td>Total Rooms</td>
<td>35</td>
</tr>
</tbody>
</table>
Figure 5. Shepard’s sketch of three excavated rooms found among papers in Anna O. Shepard Collection at the University Museum at the University of Colorado, Boulder. The north arrow is at the bottom.
Table 1. List of photographs of Bc 114 taken by Anna O. Shepard in 1929.

<table>
<thead>
<tr>
<th>Photo Location</th>
<th>MIAC/LA Photo Number</th>
<th>Institution Caption</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chaco Series Box 2</td>
<td>70.4/1252</td>
<td>Chaco Canyon [with a person in the distance][1932?]</td>
<td>Dan Cly working at mound in South Gap</td>
</tr>
<tr>
<td>Chaco Series Box 2; also Box 3</td>
<td>70.4/1256; 1124.80/81454.</td>
<td>South Gap [1932?]</td>
<td>Overview of South Gap taken from the north mesa above Pueblo Bonito</td>
</tr>
<tr>
<td>Chaco Series Box 2; also Box 3</td>
<td>70.4/1257; 1124.81/81455</td>
<td>[Chacra Mesa?] [1932]</td>
<td>Overview of South Gap showing location of three mounds</td>
</tr>
<tr>
<td>Chaco Series Box 2; also Box 3</td>
<td>70.4/1259; 1124.97/81471</td>
<td>[Chaco Canyon, view to South Gap?, with person in the distance] [1932]</td>
<td>Dan Cly standing on mound in South Gap. North Mesa on other side of Chaco Wash is in background</td>
</tr>
<tr>
<td>Chaco Series Box 3</td>
<td>70.4/1260</td>
<td>[excavation, showing floor and masonry walls] [1932?]</td>
<td>Bc 114, Room 1. Rectangular feature in lower left.</td>
</tr>
<tr>
<td>Chaco Series Box 2; also Box 3.</td>
<td>70.4/1272; 1124.100/81474</td>
<td>Native man digging, the same man as in 70.4/1273 [1932?]</td>
<td>Dan Cly working in Room 2 at Bc 114. Room 3 with its bin is in the lower half of the photograph.</td>
</tr>
<tr>
<td>Chaco Series Box 2; also Box 3.</td>
<td>70.4/1275; 1124.110/81484</td>
<td>[slab lined pit, or hearth, during excavation] [1932?]</td>
<td>Bin in corner of Room 3 at Bc 114</td>
</tr>
<tr>
<td>Chaco Series Box 2; also Box 3</td>
<td>70.4/1277; 1124.107/81481</td>
<td>[excavation, showing benches and pits] [1932?]</td>
<td>View of all three rooms at Bc 114. Bin in southwest corner of Room 3 and smaller bin made from upright metates appear in lower half of photograph.</td>
</tr>
<tr>
<td>Chaco Series Box 2; also Box 3</td>
<td>AOS 1681; 1124.109/81483</td>
<td>Room 1 floor with rectangular feature along one wall.</td>
<td></td>
</tr>
</tbody>
</table>

1 Some photographs also had older numbers. Others were printed more than once and the second print was assigned a different number in the Box 3, Misc. 1124.60-1124-133 folder.

2 Captions probably were not assigned by Anna Shepard but at a later date by a Museum of New Mexico curator. The [1932?] date assigned to them is incorrect. The photographs would have been taken in 1929.

Pierson’s 1960 survey cards for Bc 113, Bc 114, and Bc 115 (Chaco Culture NHP Museum Collection 0011) describe these three sites as follows:

**Bc 113:** May actually be part of 114. A Pueblo site on the end of a high mound in a small Rincon off the gap… Lots of sherds and heavy block uncut masonry stone.

**Bc 114:** A pueblo site on top of a steep slope or hill in a small Rincon off the gap. Exposed masonry is pecked and chinked. Tabular – well done. This is probably the ruin excavated by Anna Shepard circa 1929. 3 rooms appear to be dug… 2 trough, open end metates; 2 door slabs, thin and well built.

**Bc 115:** A pueblo site on top of a steep sloped mound in a Rincon – off the gap. Lots of sherds and heavy block building stone.

In 1973 the NPS Chaco Project survey crew (Dennis Stanford and John Thrift) recorded pottery types from Pueblo I through Pueblo III on the surface of the three mounds and suspected that the main ruin overlay earlier structures. They described Bc 114 as constructed of cored/compound masonry; the single room (shown in Figure 2 as a room/shrine located 78 m southwest of Bc 115) was constructed of simple masonry (survey forms on file at the Chaco Culture NHP Museum Collection). Lister and Lister (1981:246) assigned
the site to the Hosta Butte Phase of Pueblo III and remarked that, based on ceramics, this was the first suggestion that large pueblos and small sites in the canyon may have been inhabited simultaneously. Truell (1986:291-295) observed that small sites with cored masonry, including Anna Shepard’s site, are present in the canyon during the early to middle A.D. 1100s, with the greatest concentration of these sites near Pueblo Bonito.

In 1982 Thomas C. Windes conducted eight ceramic transect surveys across the three house mounds (Table 2). His data support the conclusion of a long occupation at these sites. Although there are earlier sherds (White Mound Black-on-white, Kiatuthlanna Black-on-white, Early Red Mesa Black-on-white) in low numbers on all three mounds, they are more abundant in transect C at the south house (Bc 113). At all three mounds the majority of sherds reflects a Pueblo II occupation that included the greatest number of trade wares from the Chuska Valley, which is common at sites assigned to this period (Toll and McKenna 1997).

Two site condition assessments have since been conducted by NPS: in 2001 by Rachel Anderson and Dabney Ford; and in 2008 by Emily Cubbon, Samantha Fladd, Christine Williamson, and Adam Watson, who noted that the three rooms excavated in Bc 114 were backfilled in 2002. A sketch map from the 2001 assessment suggests a prehistoric road through South Gap may have passed between Bc 115 (29SJ2391) and Bc 113 and Bc 114 (29SJ1200). At this time, room numbers and kiva designations were assigned to all three areas that had originally been assigned Bc numbers (Figure 2).

Room 1. This is the smallest of the three rooms depicted on Shepard’s sketch map (Figure 5). Shepard’s measurements indicate the western wall is 7 ft 3 in long and the northern one 7 ft 8 in. Depth to floor is probably indicated by the notation “depth 2 - 9,” (2 ft 9 in), which is fairly close to the quotation from Stamm (1929a:40-41) above that indicates the masonry of the rooms stood only about three feet above the ground. Several rectangular features are noted on the sketch map (Figure 5); what they represent is unknown. The first located along the east wall is 1 ft 4 in south of the north wall; it is 1 ft 5 in (east-west) by 1 ft 6 in (north-south). The second in the northwest corner is 1 ft 6 in by 1 ft 2 in. There are no dimensions for a third in the center of the north wall or a fourth one in the center of the west wall. Figure 6a illustrates one of these rectangular features which was plastered on one side. Another photograph (Figure 6b) includes a similar feature; the plaster on the wall above and the slight incline of plaster from the floor of the pit to the wall is similar to that shown in the previous figure (Figure 6a).

Room 2. This room is rectangular in shape, with the eastern wall measuring 9 ft 10 in and the southern one 7 ft 4 in. A second measurement along the eastern wall indicates that it is 7 ft 9 in from the south end to a mark about two feet from the northern end. No explanation for this measurement is given. No floor features were noted on Figure 5. As this room is next to Room 3 described below, the ten manos and several metates, one with ground meal, fixed in the floor were probably found in this room. There were also layers and pockets of meal found all over the room.

Room 3. The west wall of this rectangular room measures approximately 9 ft 10 in long (6 ft 8 in

**Integration of Available Data**

To facilitate discussion and coordination with the sketch map and photographs, we have correlated room numbers assigned in 2001 with the location of rooms indicated on Shepard’s sketch map (Figure 5). They are rooms 1-3, the shaded rooms at Bc 114 (Figure 2).

Room 1. This is the smallest of the three rooms depicted on Shepard’s sketch map (Figure 5). Shepard’s measurements indicate the western wall is 7 ft 3 in long and the northern one 7 ft 8 in. Depth to floor is probably indicated by the notation “depth 2 - 9,” (2 ft 9 in), which is fairly close to the quotation from Stamm (1929a:40-41) above that indicates the masonry of the rooms stood only about three feet above the ground. Several rectangular features are noted on the sketch map (Figure 5); what they represent is unknown. The first located along the east wall is 1 ft 4 in south of the north wall; it is 1 ft 5 in (east-west) by 1 ft 6 in (north-south). The second in the northwest corner is 1 ft 6 in by 1 ft 2 in. There are no dimensions for a third in the center of the north wall or a fourth one in the center of the west wall. Figure 6a illustrates one of these rectangular features which was plastered on one side. Another photograph (Figure 6b) includes a similar feature; the plaster on the wall above and the slight incline of plaster from the floor of the pit to the wall is similar to that shown in the previous figure (Figure 6a).

Room 2. This room is rectangular in shape, with the eastern wall measuring 9 ft 10 in and the southern one 7 ft 4 in. A second measurement along the eastern wall indicates that it is 7 ft 9 in from the south end to a mark about two feet from the northern end. No explanation for this measurement is given. No floor features were noted on Figure 5. As this room is next to Room 3 described below, the ten manos and several metates, one with ground meal, fixed in the floor were probably found in this room. There were also layers and pockets of meal found all over the room.

Room 3. The west wall of this rectangular room measures approximately 9 ft 10 in long (6 ft 8 in
Table 2. Summary of ceramics transects at Bc 113, Bc 114, and Bc 115 recorded by Thomas C. Windes in 1982.

<table>
<thead>
<tr>
<th>Ceramic Type</th>
<th>West House (29SJ2391, Bc 115)</th>
<th>North House (29SJ200, Bc 114)</th>
<th>South House (29SJ200, Bc 113)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
</tr>
<tr>
<td>Whitewares</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cibola Series</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lino B/g</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White Mound B/w</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Kiututhlanna B/w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Red Mesa B/w</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Red Mesa B/w</td>
<td>31</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Escavada B/w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puerco B/w</td>
<td>9</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Gallup B/w</td>
<td>29</td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td>Chaco B/w</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>Chaco-McElmo B/w</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Reserve B/w</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cibola Mineral/white</td>
<td>25</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td><strong>Unclassified Whiteware</strong></td>
<td>36</td>
<td>11</td>
<td>32</td>
</tr>
<tr>
<td><strong>Chuska Whitewares</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tunicha B/w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newcomb B/w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theodore B/w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crumbled House B/w</td>
<td>1</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Chuskan B/w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toadlena B/w</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Unclassified Chuskan</td>
<td>6</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 2. (continued)

<table>
<thead>
<tr>
<th>Ceramic Type</th>
<th>West House (29SJ2391, Bc 115)</th>
<th>North House (29SJ200, Bc 114)</th>
<th>South House (29SJ200, Bc 113)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tusayan Whiteware</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Kana’a B/w</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Sosi/Black Mesa B/w</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unclassified Tusayan</td>
<td>1</td>
<td>T</td>
<td>2</td>
</tr>
<tr>
<td>Mesa Verde Whiteware</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>Mancos B/w</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>Cortez B/w</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>McElmo B/w</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>Little Colorado Whiteware</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>Rio Grande Whiteware</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>Socorro B/w</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>Smudged</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>Redwares</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>San Juan Redware</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>Bluff R/o</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>Unclassified San Juan R</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>White Mountain Redware</td>
<td>1</td>
<td>T</td>
<td>2</td>
</tr>
<tr>
<td>Ceramic Type</td>
<td>West House (29SJ2391, Bc 115)</td>
<td>North House (29SJ200, Bc 114)</td>
<td>South House (29SJ200, Bc 113)</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-------------------------------</td>
<td>-------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Unclassified White Mountain redware</td>
<td>1 T</td>
<td>2 T</td>
<td>4 T</td>
</tr>
</tbody>
</table>

**Table 2. (continued)**

<table>
<thead>
<tr>
<th>Ceramic Type</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tsegi Orangeware</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tsegi Orange</td>
<td>1 T</td>
<td>1 T</td>
<td>1 T</td>
<td>1 T</td>
<td>1 T</td>
<td>1 T</td>
<td>1 T</td>
<td>1 T</td>
</tr>
<tr>
<td>Cameron Polychrome</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Polychrome**

<table>
<thead>
<tr>
<th>Ceramic Type</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citadel Polychrome</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total decorated sherds            | 160                     | 123                     | 126                     | 55                      | 148                     | 297                     | 128                     | 241                     |

**Plainwares**

<table>
<thead>
<tr>
<th>Ceramic Type</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
<th>No.  %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cibola Culinary (sand)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lino Gray</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain Gray</td>
<td>48</td>
<td>14</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Wide Neckbanded</td>
<td>6</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Narrow Neckbanded</td>
<td>15</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>12</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Neck Indented Corrugated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unclass. indented corr.</td>
<td>55</td>
<td>17</td>
<td>56</td>
<td>26</td>
<td>20</td>
<td>12</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>PII indented corr. rim</td>
<td>1</td>
<td>T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PII-III indented corr. rim</td>
<td>1</td>
<td>T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIII rim</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| Chuska Culinary (Trachyte)        |                         |                         |                         |                         |                         |                         |                         |                         |
| Plain gray                        | 4                       | 1                       | 3                       | 2                       |                         |                         |                         |                         |</p>
<table>
<thead>
<tr>
<th>Ceramic Type</th>
<th>West House (29SJ2391, Bc 115)</th>
<th>North House (29SJ200, Bc 114)</th>
<th>South House (29SJ200, Bc 113)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Wide Neckbanded</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>Narrow Neckbanded</td>
<td>8</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Neck Indented Corrugated</td>
<td>19</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Unclass. indented corr.</td>
<td>30</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>P II indented corr. rim</td>
<td>1</td>
<td>T</td>
<td>1</td>
</tr>
<tr>
<td>P II-III indented corr. rim</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pueblo III rim</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Sherd Tempered Plainware**

<table>
<thead>
<tr>
<th></th>
<th>Plain gray</th>
<th>Narrow Neckbanded</th>
<th>Unclass. indented corr.</th>
<th>Unidentified P II rim</th>
<th>Unidentified P III rim</th>
<th>Unidentified P II-III rim</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>T</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>T</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>T</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Total plainware sherds: 173 | 98 | 45 | 51 | 147 | 295 | 86 | 148

**Grand Total**

|                   | 333 | 98 | 215 | 101 | 171 | 103 | 106 | 101 | 295 | 104 | 592 | 98 | 214 | 100 | 389 | 98 |
Figure 6 a, b. Based on the sketch map (Figure 5), Room 1 floor had several rectangular features. These two photographs illustrate rectangular features located on the floor in the approximate center of a wall. Masonry in the walls is not as well-crafted as in the great houses. Note also the plaster remaining on the walls. The ovals seen in the lower photograph were not explained; they may be spots on the negative. (From the Anna O. Shepard Collection, MIAC/LA Photo Nos. 70.4/1260 and 70.4/1681).
plus 2 ft 7 in). Two large rectangular features are noted on the sketch map (Figure 5). There are no measurements given for the easternmost of these, but the southwestern one measures 2 ft 6 in on the west and 3 ft 9 in along the north side. The bin made from two metates just north of these features measures 2 ft 7 in by 1 ft 11 in. No other features are indicated on Figure 5 or visible in Shepard’s photographs. Figure 7 clearly shows one of the larger rectangular features and the two upright metates that formed the bin as well as Rooms 1 and 2 in the background.

Other than the mention of the trench and the artifacts found in it, no other documentation for this or the other site listed in Shepard’s outline above has become available.

Discussion

Bc 114 is the first small site excavated in Chaco Canyon by the UNM/SAR/MNM field schools. Based on the available data, there is a late Pueblo I occupation buried in the lower levels of the house mound as the considerable trash in the midden to the east, the floors constructed on loose fill, and the sherd types listed in Windes’ transects (Table 2) suggest. The presence of the kiva in the northern room block and a possibly larger kiva between this room block and a similar one located to the south, plus the masonry construction represent the late Pueblo II-early Pueblo III occupation. The late occupation at this site is contemporaneous with a number of others where masonry walls were also constructed above an earlier component (Truell 1986:Appendix B).

The lack of field notes from the excavation of Bc 114 remains a mystery. Why are they not among Shepard’s papers? Why did she never write a final site report? Several possibilities can be suggested.

First, the three house mounds were located on federal land. Other small site excavations undertaken by the UNM/SAR/MNM field sessions in Chaco Canyon were located on land that, at that
time, was thought to be either in private ownership or purchased by Hewett for one of the three institutions that sponsored his work. No permits would have been required for excavation on these lands. For work on federal property, however, a permit was required. Hewett’s 1929 permit only approved excavation on federal land on which Chetro Ketl is partially located in Section 12, Township 21 North, Range 11 West. Bc 114 is in Section 14. The permit also indicated that new excavations “be confined to definite areas within the ruin [Chetro Ketl], with a view to completely excavating, protecting, and preserving such portions thereof without weakening or jeopardizing other portions of the ruin which are adjacent thereto” (letter dated May 10, 1929 from John H. Edwards, Assistant Secretary for the National Park Service to Edgar L. Hewett; Laboratory of Anthropology archive 89ELH.022). The three mounds were definitely outside of the ruins of Chetro Ketl. Yet Hewett (1929:8) did list Shepard’s excavation of a small house among the projects undertaken by his students that summer.

Second, by 1929 Anna Shepard had established a long-term relationship with Hewett and Wesley Bradfield, one of Hewett’s employees at the San Diego Museum of Man where Shepard had been Curator of Anthropology/ Ethnology since 1926. She considered Bradfield her mentor in the study of ceramic technology (Bishop 1991, Shepard 1936, Thompson 1991). With Bradfield’s encouragement and assistance, Shepard had enrolled in a master’s degree program in the Department of Archaeology and Anthropology at the University of New Mexico (UNM). Her classwork began in January of 1929. That summer she participated in both the Chaco and Jemez field schools and, as noted above, carried out two projects in the Chaco for which reports were expected. By fall she realized that she did not have sufficient time to finish her studies and complete work on her degree in time to graduate in 1930. She therefore requested permission to change her thesis topic and indicated if this were not possible she would withdraw from the University at the end of the 1929 fall semester. With the death of Bradfield in November, Shepard felt indebted to him and wanted to insure that publication of his site report on Cameron Creek (Bradfield 1931) was completed. Hewett did not approve the change in Shepard’s thesis topic, and she withdrew from UNM. In the spring of 1930, she enrolled in Claremont College, taking basic courses in chemistry and optical petrography (Bishop 1991:50-51). She initially concentrated on petrographic analysis of ceramics, and in later years Shepard would use petrographic data in conjunction with the results of chemical testing.

In summary, we recognize there are several reasons why a report on Bc 114 was never written, but we cannot indicate which one, alone or in combination, is correct. Although we cannot find any additional field notes, we have attempted to pull together existing data on her excavation at 29SJ200 (Bc 114) with the hope that it will be of some value to researchers who examine similar small sites in Chaco Canyon.

Acknowledgments

Several colleagues have made it possible to examine archives at various institutions. We thank Diane Bird and Dody Fugate at the Museum of Indian Arts and Culture/Laboratory of Anthropology and Christine Cain and Ann Phillips at the University Museum of the University of Colorado, Boulder, for their cheerful and helpful assistance. Roger Moore and Brenna Lissoway from Chaco Culture NHP provided information from federal records. We also thank Thomas C. Windes for sharing his ceramic data and expertise.
References Cited

Bishop, Ronald L.

Bradfield, Wesley
1931 *Cameron Creek Village, a Site in the Mimbres Area in Grant County, New Mexico*. The School of American Research, Santa Fe.

Dutton, Bertha P.

Hewett, Edgar L.

Lister, Robert H., and Florence C. Lister

Pierson, Lloyd M.


Shepard, Anna O.

Stamm, Winifred
1929b (secretary) Report on Archaeological Work at Chetro Ketl, Chaco Canyon, by the School of American Research and the University of New Mexico, June 10 to August, 1929. Manuscript on file, NPS Chaco Culture NHP Museum Collection 0001, CHCU 8500, VA-1831; other drafts filed in VA-1896 and a carbon filed after VA-1857. University of New Mexico, Albuquerque.

Thompson, Raymond H.

Toll, H. Wolcott, and Peter J. McKenna

Truell, Marcia L.
Prehistoric Pottery Kilns in Southeastern Utah

OWEN SEVERANCE

In southeastern Utah, as in the rest of the Southwest, pottery was a necessary part of every household starting in Basketmaker III and continuing until the area was depopulated during Pueblo III. Unlike the centralized pottery production in some prehistoric cultures, pottery production in the Mesa Verde culture was at the household level. While the published reports on the kilns that have been excavated in southeastern Utah and southwestern Colorado discuss Pueblo II or Pueblo III Mesa Verdean kilns, there is a lack of published information on Basketmaker III and Pueblo I kilns in this area. I estimate that at least several thousand kilns from Basketmaker III to Pueblo III are still visible in southeastern Utah, making them the most common archaeological feature in this area. Over the last eleven years, I have recorded the locations of more than 900. As further discussed below, I have divided the part of southeastern Utah where I have been looking for them into three sections: West of Comb Ridge, the South Cottonwood Drainage, and East of Recapture Wash (Figure 1).

Prehistoric pottery kilns were not recognized in the Four Corners area until 42SA2160 ("The Kiln Site"), a Pueblo III kiln, was excavated on Cedar Mesa in southeastern Utah (Helm 1973). Figure 2 shows that kiln as it appeared in 2007; it is approximately 8.5 m (28 ft) long, varies from 1.2 m (4 ft) to 1.5 m (5 ft) in width, and is approximately .8 m (2.6 ft) deep. Helm’s report states:

On the basis of several unique features it is suggested that the structure may have been used as a kiln for firing pottery. All evidence indicates that the site represents an area

---

Figure 1. Map of southeastern Utah and southwestern Colorado showing the locations that are discussed.
utilized for some special use. Its location at the base of a hill, the lack of a midden, and the lack of surface debris in the form of stone debitage and pottery sherds all indicate this. Excavation also failed to produce any stone debitage, bone or additional features [Helm 1973:215].

The excavation recovered 177 gray ware and 255 white ware sherds along with six partially restorable white ware bowls (Madsen 1973). This indicates that the kiln was probably used to fire both white ware and gray ware vessels.

Since that excavation took place, Fuller (1984) published a report on the excavation of eight Pueblo III kilns on Woods Mesa in southwestern Colorado; Heacock (1995) discussed the excavation of one kiln in southeastern Utah (42SA10275) and two in southwestern Colorado (5MT9431), all from Pueblo III; and Brisbin (1999) described the excavation of nine Pueblo II kilns in Mesa Verde National Park in southwestern Colorado. These reports contained a more complete description of the construction and use of these kilns than earlier ones. First a pit or trench was excavated and the perimeter was lined with slabs of sandstone. A fire was then built in the bottom and allowed to burn down to coals. Then pieces of sandstone (kiln furniture) were placed on the coals to support the unfired pottery. After the unfired pottery was in place, it was covered with pieces of previously fired pottery to protect it from the fire that was built on top. This secondary fire on top created a draft through the coals at the bottom of the kiln, heating the pottery that was in place above it until the potter decided that the pottery had reached a high enough temperature. Whether the kiln was smothered with soil at this time to

Figure 2. “The Kiln Site,” 42SA2160, on Cedar Mesa was excavated in the early 1970s. The reference stick is one meter (3.28 ft) long.
stop the firing process or was left uncovered is still being debated (Swenson 2014). Swink (1993, 1999, 2004) has successfully recreated prehistoric pottery using the smothering technique; however, I haven’t seen evidence of smothering at kiln sites in southeastern Utah. After the kiln had cooled, the fired pottery was removed.

In addition to the Pueblo II and Pueblo III kilns that have been described in the literature, I have found similar Basketmaker III and Pueblo I kilns in southeastern Utah indicating that slab-lined kilns were used throughout the Mesa Verdean occupation in southeastern Utah and southwestern Colorado. While most of the kilns on Woods Mesa in southwestern Colorado reported by Fuller (1984) did not exhibit any surface indications because they had been buried by natural forces after they were abandoned, the kilns that I have found in southeastern Utah obviously are at least partially visible. Because of their locations in areas subject to erosion, many kilns are not complete. As long as a few pieces of the sandstone lining are protruding above the ground or the cross-section is exposed, kilns can be identified (Figure 3). If the kiln had been used more than once, ashy soil and discarded kiln furniture are usually visible nearby, sometimes in large quantities (Figure 4). Sherds are rarely found on the surface at kilns; however, I was sometimes able to determine the time of use if an associated habitation site was nearby.

Kilns can be differentiated from other features such as storage cists or fire pits because they are found on slopes or in drainages, in the area between the junction of two drainages, on open slopes and slopes below rims, and on benches below rims. Only rarely are they found on level ground. They are never found in sand dunes and seldom in areas away from a source of sandstone; and sandstone

![Figure 3. Photo of a kiln that is eroding out of a stream bank.](image-url)
is usually the only type of rock in the feature, either as slabs lining the kiln or as discarded kiln furniture. No fire-cracked igneous rock, ground stone, or lithic artifacts are present, and sherds will rarely be present. Dead wood for fuel also had to be present, but there is no way to know at this time what past wood resources were like. Because kilns are oriented in all directions in a variety of topographic situations, compass direction does not appear to be a consideration. In areas where field houses or summer habitation sites are located, one or more kilns usually can be found in the nearest drainage. Also, as in the case of the excavated kilns in southwestern Colorado, they may be found in clusters away from habitation sites. This is most likely due to the people having used all of the wood close to where they were living (Fuller 1984:56). It appears that trees were being killed for fuel several years in advance of when the wood was needed in order to have an adequate supply of dead wood available. As the wood was used up, kilns were placed farther and farther from habitation sites. In several places in southeastern Utah, if a Pueblo II or Pueblo III unit pueblo was constructed in an area that had not been occupied in several hundred years, several kilns can usually be found within 400 m (1312 ft) of the unit pueblo. As is usually the case, exceptions to these general rules can occasionally be found.

In southwestern Colorado, all of the kilns described by Brisbin (1999) and Fuller (1984) were oriented perpendicular to the slope. In
southeastern Utah, rectangular kilns were oriented either across (perpendicular to) or down (parallel to) the slope. A Pueblo III kiln in southeastern Utah excavated by Heacock (1995:Figure 5)—Feature 5 at 42SA10275—is oriented parallel to the slope. The kiln in Figure 2 is perpendicular to the slope. I have not kept a record of the orientation of the kilns that I have found, however I believe that the perpendicular orientation occurs more frequently than the parallel orientation. The ratio is probably between 80:20 and 60:40. Many of the kilns that are parallel to the slope are in the bottoms of drainages (Figure 5).

The reuse of kilns was relatively common but far from universal. At least 43 percent of 114 kilns that I found in one area east of Recapture Wash, had evidence of reuse. In the South Cottonwood drainage, I saw a much smaller percentage of reuse. Figure 6 shows another kiln that has been reused. All of the small rocks outside of the kiln are discarded kiln furniture, which was apparently used only once. For subsequent firings, the entire kiln may have been used; but in some cases, only part of the kiln was used. If a smaller kiln was needed, a partition was built to reduce the size. A good example of an excavated kiln that was reused is 42SA2160 (“The Kiln Site”) on Cedar Mesa (Helm 1973). Sometime after the initial use of the kiln, a wall was constructed about 1.5 m (5 ft) from the west end of the kiln (the near end in Figure 2) and the floor was raised to create a smaller and shallower firing area. This second use was apparently more successful than the first because only 13 sherds were found in what the archaeologists called “Room 1” compared to more than 400 from the rest of the kiln (Helm 1973:Table 10).

Figure 6 shows another kiln that has been reused. All of the small rocks outside of the kiln are discarded kiln furniture, which was apparently used only once. For subsequent firings, the entire kiln may have been used; but in some cases, only part of the kiln was used. If a smaller kiln was needed, a partition was built to reduce the size. A good example of an excavated kiln that was reused is 42SA2160 (“The Kiln Site”) on Cedar Mesa (Helm 1973). Sometime after the initial use of the kiln, a wall was constructed about 1.5 m (5 ft) from the west end of the kiln (the near end in Figure 2) and the floor was raised to create a smaller and shallower firing area. This second use was apparently more successful than the first because only 13 sherds were found in what the archaeologists called “Room 1” compared to more than 400 from the rest of the kiln (Helm 1973:Table 10).

Figure 5. The orientation of this kiln that is located in the bottom of a drainage is parallel to the slope.
Each of the three areas shown in Figure 1 has a recognizably different kiln sequence, with the South Cottonwood drainage having the longest one. This drainage has several distinct areas where each was occupied primarily during only one time period, allowing the kilns in those areas to be dated by the nearby sites. The area east of Recapture Wash has a sequence that is equally long, but most of the kilns cannot be confidently associated with habitation sites.

Table 1 shows the typical kiln shapes in these three areas; however, it is not always easy to determine the size or shape of unexcavated kilns because frequently only part of the slab lining is visible (Figure 7). In addition, kilns for special purposes may deviate from the typical shape. For example, in the bottom of a small drainage I found a round kiln .8 m (2.6 ft) in diameter (Figure 8) near a cluster of rectangular Pueblo III kilns. It was probably used for firing one large jar, and it apparently had been used several times because the slab lining was completely oxidized. The following is a discussion of the kiln sequences in southeastern Utah.

**Basketmaker III: Prior to A.D. 750**

The South Cottonwood drainage is the only area where I have found Basketmaker III kilns in association with field houses and habitation sites. It is not clear where these people came from, but they were well established by the late seventh century A.D. They apparently brought their kiln...
Figure 7. This kiln, like many that I found in southeastern Utah, has been partially washed away.

Table 1: Typical Kiln Shapes in Southeastern Utah sub-areas through time.

<table>
<thead>
<tr>
<th>Pecos Classification</th>
<th>West of Comb Ridge</th>
<th>South Cottonwood Drainage</th>
<th>East of Recapture Wash</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basketmaker III</td>
<td></td>
<td>Round</td>
<td></td>
</tr>
<tr>
<td>Late Pueblo I</td>
<td></td>
<td>Round</td>
<td></td>
</tr>
<tr>
<td>Early/mid Pueblo II</td>
<td></td>
<td>Round to Oval</td>
<td></td>
</tr>
<tr>
<td>Undifferentiated Pueblo II</td>
<td></td>
<td>Sub-rectangular to Rectangular</td>
<td>Round to Oval to Sub-rectangular</td>
</tr>
<tr>
<td>Late Pueblo II/Pueblo III</td>
<td>Sub-rectangular to Rectangular</td>
<td>Sub-rectangular to Rectangular</td>
<td>Sub-rectangular to Rectangular</td>
</tr>
</tbody>
</table>

technology with them and were able to produce pottery at the household level. The sherds on the associated sites consist almost entirely of Chapin Gray and Chapin Black-on-white. However, three of the sites each had one sherd of Abajo Red-on-orange, and two sites had a single sherd each of Dolores Red, a type that appears to have preceded Abajo Red-on-orange in southeastern Utah (Hurst 1985:11.56; Lucius and Wilson 1981). Breternitz et al. (1984) place the start of Abajo Red-on-orange at about A.D. 700, indicating that the end date for these sites was probably at about that time.

kilns are typically located on the sides of small drainages and are round with the outside diameter usually being about 1 m (3.28 ft) (Figures 9, 10). The significant difference between these and most later kilns in this area is the double row of slabs lining part or all of the perimeter. It is not clear how long double-walled kilns were used. East of Recapture Wash I found kilns with double walls that appear to be from the Basketmaker III period; however, they are not associated with Basketmaker III sites. Several round ones were about 1.25 m (4.1 ft) in diameter and two were more of an oval shape. Figure 11 shows a double wall kiln from that area with an oval shape. Several kilns from this period had enough pieces of burned rock nearby to indicate that they had been used more than once.

Figure 8. The sandstone slabs are completely oxidized in this round Pueblo III kiln located in the bottom of a drainage.

Early/Middle Pueblo I: A.D. 750-820

As I have discussed in previous papers (Severance 2003, 2006, 2008), starting in Pueblo I, the Mesa Verdean culture in southeastern Utah was not homogeneous. Three separate divisions within the culture appear to exist north of the San Juan River. These cultural divisions were created by the migration of two groups of people into the area west of Blanding. The first group of migrants moved into the South Cottonwood drainage, probably in the late A.D. 700s or early 800s, followed by a separate group who moved into the Comb Wash drainage around A.D. 850. Because the three areas can be roughly determined by geographic features, I define their locations as: west of Comb Ridge;
Figure 9. A double-wall Basketmaker III kiln in the South Cottonwood drainage.

Figure 10. Erosion has impacted this double-wall Basketmaker III kiln.
Figure 11. Oval-shaped kilns with double walls are uncommon in southeastern Utah.

Comb Ridge to Recapture Wash (primarily the South Cottonwood drainage); and east of Recapture Wash (Figure 1). Based on several cultural traits, people living west of Recapture Wash appear to be related to the people living in northeastern Arizona and northwestern New Mexico while those living east of Recapture Wash cannot be easily distinguished from the Mesa Verdean people living in southwestern Colorado. However, because the three groups used crushed igneous rock temper in their pottery, they all are considered to be part of the Mesa Verdean culture.

I have not found any kilns that definitely date to this time; however, there should be some in the prehistoric farming area on Milk Ranch Point in the upper South Cottonwood drainage. That area appears to have been used for farming at least as early as Basketmaker III (Severance 2011).

Lucius (2010) illustrates two oval “kilns” from this period that were excavated at 42SA22747 in Blanding, Utah (Hurst 2011). Hurst provides no cross-sections of these shallow slab-lined basins nor does he give a description as to how they may have been used; however, it does not appear from the photos that there is a layer of charcoal beneath the slabs. Because these “kilns” are significantly different than the other kilns I have found, it may be that they were used to fire red ware.

**Late Pueblo I: A.D. 820-900**

Based on the ceramics at adjacent sites, the Pueblo I kilns I have found in the South Cottonwood drainage appear to date to A.D. 850-900. Most of the kilns have a single row of slabs lining the
perimeter and are round like the earlier ones. They vary from about .8 m (2.62 ft) to 1.6 m (5.25 ft) in diameter. The kiln in Figure 12 is about .8 m (2.62 ft) in diameter. The change to a lining consisting of a single row of slabs appears to be consistent west of Recapture Wash. Also, the slabs appear to be placed at an angle closer to vertical than they were in the Basketmaker III kilns. These kilns and those from later periods can be found both at field houses and near some of the habitation sites.

**Early/Middle Pueblo II: A.D. 900-1000**

At least 50 round kilns in one part of the South Cottonwood drainage date to the latter part of this period; most were in close association with field houses and were found in the nearest drainages. The sherds at the field houses and unit pueblos in the area provide the approximate dates of A.D. 940-1000 for this occupation (Severance 2006, 2008). Most of these kilns vary in size from .8 m (2.62 ft) to 1.6 m (5.25 ft) in diameter. The kiln in Figure 13 is about 1.6 m (5.25 ft) in diameter, which appears to be about the largest round kiln that was practical. I assume this limit was determined by how far a person could reach into the kiln to place the kiln furniture and unfired pottery. A few kilns in this area utilized an oval shape in order to accommodate larger quantities of pottery.

One example of the difficulty in determining the time period during which kilns were used is found east of Recapture Wash. In an area with a large number of kilns were two kilns that appear to have been used by one potter or family. This site consisted of one kiln of an oval shape with a long...
axis of about 1.5 m (4.92 ft); it had been reused as a round kiln with a diameter of less than 1 m (3.28 ft). Less than two meters (6.56 ft) west of it was a sub-rectangular kiln that measured 1.9 m (6.2 ft) x 1.1 m (3.6 ft). Several sherds of Mancos Gray were present. This is the only place where I have found three kiln shapes in close association. Although Mancos Gray (A.D. 875-980) was used in both late Pueblo I and early Pueblo II, the lack of Pueblo I sites and the presence of Pueblo II sites in the general area indicates that the kilns were probably used in early Pueblo II.

Middle Pueblo II: A.D. 1000-1075

The end date for this period was chosen to eliminate McElmo Black-on-white (A.D. 1075-1300) and the early gray wares from the ceramic assemblage. The South Cottonwood drainage was occupied during this time, but I have not found any sites with kilns that clearly date to this period. I have found a few kilns associated with unit pueblos from this period east of Recapture Wash. Some kilns are oval while others are sub-rectangular, indicating that the preferred shape was changing from round/oval to sub-rectangular or rectangular.

Undifferentiated Pueblo II: A.D. 900-1100

At Mesa Verde National Park, nine kilns that were excavated as part of the waterline replacement project were assigned to this period (Brisbin 1999:298). Overall, they vary in shape from oval to sub-rectangular with round ends to rectangular.
with some rounded corners. The kiln with the most oval shape, 5MV3945, has dimensions of 1.65 m (5.41 ft) x 1.12 m (3.67 ft). The largest, 5MV3972, is 4.2 m (13.78 ft) x 1.5 m (4.92 ft) and has one round end. The other end is more rectangular in shape, but still rounded. None of the kilns that were excavated have both ends squared off. The use dates for eight of the kilns were established either by ceramic dating or by tree ring dates; one kiln could not be dated. Feature 2 at 5MV3899, with a sub-rectangular shape, has a ceramic date of A.D. 950-1025. Another kiln with a similar shape, 5MV3966, was dated by tree rings to a last use about A.D. 970. Four of the kilns were “last used between A.D. 1025 and 1100” (Brisbin 1999:302). This group includes the kilns with the most oval shape, 5MV3945 and 5MV3972 (Brisbin 1999:Figures 11.17 and 11.18).

Late Pueblo II/Pueblo III: A.D. 1075-1300

Kilns in the South Cottonwood drainage at this time are typically 2 m (6.56 ft) or less by about 1 m (3.28 ft) of sub-rectangular or rectangular shape (Figure 14). A few kilns are longer but they are uncommon. While a rectangular shape can easily be lengthened, which would have been necessary for firing larger quantities of pottery, it does not explain why this shape was used across southeastern Utah at this time. These relatively small kilns had surface areas that could have been easily accommodated by either round or oval kilns. The new shape might have had some perceived or actual technological advantage that convinced potters to change to it, or it may have had cultural significance. As in southwestern Colorado, the majority of kilns from this period are located

Figure 14. With one rounded end and one that is squared off, the size of this sub-rectangular late Pueblo II/Pueblo III kiln about 1.3 x 2.5 m (4.3 x 8.2 ft).
some distance from habitation sites (Fuller 1984), although a few can be found near unit pueblos and at field houses in areas where the pinyon/juniper forest had not been eliminated.

The primary Pueblo occupation on Cedar Mesa appears to have taken place during this period. Most of the kilns that I have found are sub-rectangular to rectangular. None are associated with habitation sites. The kilns are generally larger than those from this same period in the South Cottonwood drainage, with the lengths of some being greater than 4 m (13.12 ft). “The Kiln Site,” 42SA2160, is the longest with a length of 8.53 m (28 ft).

The area east of Recapture Wash has more kilns than the other two areas in southeastern Utah combined, with most concentrated in areas where habitation sites are not common. For example, in one area about 2.8 km by 1.8 km (about 2 square miles), I found 114 kilns, a few check dams, and only two Pueblo III unit pueblos. The kilns are generally rectangular in shape with rounded corners, but round ones can occasionally be found. Presumably the latter were used for firing special vessels. These kilns appear to have been reused (mostly without a reduction in size) more often than those from earlier periods, and kilns up to 4 m (13.12 ft) long are common.

The reports on excavated kilns from this period in southwestern Colorado (Fuller 1984; Heacock 1995) show that they also are generally rectangular in shape with corners that may be rounded. However, the corners are usually less rounded than those in the Pueblo II kilns that were excavated on Mesa Verde (Brisbin 1999). Their sizes and concentrations appear to be similar to late Pueblo II/Pueblo III kilns in southeastern Utah east of Recapture Wash. While most archaeologists believe that the excavated kilns were probably used to fire white ware, Mobley-Tanaka (2011) discusses four gray ware kilns that were excavated at two habitation sites in southwestern Colorado, 5MT1 and 5MT3. The kilns were 1.2 m (3.94 ft) to 1.78 m (5.84 ft) long and .9 m (2.95 ft) to 1 m (3.28 ft) wide and appear to be similar to other excavated kilns in their design and use.

**Discussion**

In southeastern Utah, kilns were directly associated with field houses and some habitation sites from Basketmaker III through Pueblo III, which is an indication that pottery production took place at the household level throughout the Mesa Verdean occupation. The shape of the kilns changed over time. Round kilns were used from Basketmaker III into Pueblo II indicating that this is the shape that was introduced into the area. Then the shape became oval before changing to sub-rectangular and rectangular in late Pueblo II and Pueblo III. Necessity may have been the primary factor in these changes due to an increase in pottery production or a greater collaboration between potters that required larger kilns. However, small oval and rectangular kilns were occasionally used when a round one would have been adequate, indicating that other factors also influenced the shape. These changes in shape appear to have proceeded at different rates across southeastern Utah. In the South Cottonwood drainage, the shape may not have changed as rapidly as in the area east of Recapture Wash because of a lower demand for pottery or because groups of potters were not working together to fire their pots as they apparently were doing in areas to the east. In general, most kilns in southeastern Utah appear to have been built to accommodate a specific number of vessels. However, in a few areas, enough kilns have similar sizes to suggest either that there might have been kiln specialists who used a standard size or that potters were using a size that they felt yielded the best results, and the concentrations of kilns in several areas suggest that large-scale production of pottery was probably taking place during Pueblo III.

With the exception of Pueblo II and Pueblo III unit pueblos that were located in areas with adequate wood resources, after Pueblo I most kilns are found at some distance from habitation sites because the nearby wood resources had been used up. As I found on Cedar Mesa, by Pueblo III, kilns may be 3.2 km (2 mi) or more from the nearest habitation sites. Also, during Pueblo II and Pueblo III, the maximum size for sub-rectangular
and rectangular kilns increases over time while the minimum size remains relatively unchanged. The Pueblo II kilns excavated in Mesa Verde National Park varied in size from 1.45 m (4.76 ft) x .95 m (3.1 ft) to 4.2 m (13.78 ft) x 1.5 m (4.92 ft). The excavated Pueblo III kilns in southwestern Colorado vary in size from 1.85 m (6.07 ft) x .9 m (2.95 ft) to 8.2 m (26.90 ft) x 1.6 m (5.25 ft), an increase of four meters (13.12 ft) for the longest kilns. This increase in the maximum length of kilns indicates that firing skills continued to improve and potters were able to increase the number of vessels fired at one time. It is also possible that as potters had to go farther and farther from home to fire their pottery they combined their efforts and did more communal firings. The evolution of kiln size and shape appears to follow a sequence in southeastern Utah. Whether the same sequence was followed elsewhere will only be determined when kilns representing all of the pottery-making periods are found in other areas. Based on the large number of kilns that I have found, this would appear to be a problem of recognition rather than one of finding an uncommon type of feature.

Acknowledgments

I would like to thank Helen Crotty and Joan Mathien for commenting on draft versions of this paper. Of course any errors are mine.

Notes

1. Archaeologists have applied the term “kiln” to these prehistoric pottery firing features even though dictionaries define a kiln as an enclosed “oven” or a heated chamber for hardening, drying, or burning, anthing. The meaning of the word has been extended to include open pit or trench features that were used to fire pottery prehistorically. It is used because no other term provides a better definition of these features.

2. While sandstone appears to have been used more than 98 percent of the time, I did find several kilns east of Recapture Wash that used quartzite for part or all of the lining.

3. Few prehistoric kilns are completely rectangular unless the ends could be closed with a few larger slabs. Almost all have one or more corners that are rounded if smaller slabs are used to close the ends. Kilns can be found that have one rectangular end while the other is rounded.

4. The South Cottonwood drainage has the lowest percentage of kilns longer than 4 m (13.12 ft) while Cedar Mesa has the highest percentage.

References Cited

Breternitz, David A., Arthur H. Rohn, Jr., and Elizabeth A. Morris (compilers)

Brisbin, Joel M.

Fuller, Steven L.
1984 Late Anasazi Pottery Kilns in the Yellowjacket District, Southwestern Colorado. CASA Papers 4, Complete Archaeological Service Associates, Cortez, Colorado.

Heacock, Laura A.
Helm, Claudia


Hurst, Winston


Lucius, William


Lucius, William, and Dean Wilson


Madsen, Rex


Mobley-Tanaka, Jeanette L.


Severance, Owen


2006 A Controlled Surface Collection and Analysis of Ceramics at 42SA5222 (Cottonwood Falls), Southeastern Utah – Supplement Number 1: Migration and Cultural Diversity West of Blanding, Utah. Ms. on file, Edge of the Cedars State Park Museum, Blanding, Utah.


2011 Southeastern Utah’s Milk Ranch Point Revisited: A Re-analysis of Sherds from Selected Sites in the ECPR94007 Collections. Ms. on file, Edge of the Cedars State Park Museum, Blanding, Utah.

Swenson, Rod


Swink, Clint


“Nodes of Individuality” and the Dimensions of Rio Grande Glazeware Variability
(Or, Caveat Antiquitatus!)

DAVID H. SNOW AND HAYWARD H. FRANKLIN

Historical Development of Glazeware Classification

The late pre-contact period in the Rio Grande was one of considerable demographic and social upheaval and turmoil, as immigrants from other regions of the Southwest joined established communities. New social identities and alliances were forged across an already diverse and divided social landscape that affected the production movement of stylistic and technological innovations in pottery. Some immigrants, perhaps, were potters who brought with them their own notions of vessel forms, attributes, and designs, resulting in the near region-wide production of Rio Grande Glazewares (ca. A.D. 1300-1700). These fascinating brightly colored wares with their shiny lead glaze and matte pigments appear in many variations; some 50 or so can be found in the extant literature of the region (compare this number with the few preceding locally produced black-on-white types in the Rio Grande!).

We summarize here some of the variability in the Rio Grande Glazeware series that goes beyond chronological considerations, to look at other aspects of the traditional typology, and suggest that glazeware variability must reflect the preferences of “communities of practice” of regions, individual villages, lineages of potting families, and of individual potters. (By “communities of practice” Cordell and Habicht-Mauche [2012:1] mean “The production, distribution, and uses of materials and social behaviors by multiple social networks at various scales.”) Many of the variations were produced concurrently, instead of forming the neat linear, temporal sequence proposed by Kidder and Shepard (1936) and by Mera (1933, 1940). Both synchronic and diachronic variation in bowl rim forms and decorative styles occur, although reliance on rim forms alone, rather than Mera’s full type names, has often been the approach to identification.

Confronted with the mass of Pecos pottery, Kidder remarked that, after sorting them “by color, texture, nature of glaze, elements of decoration, and details of vessel shape,” rim profile was the “best means” of arranging his sample (Kidder and Shepard 1936:xix-xx). Pleased with the resultant arrangement, he wrote: “I came to think and to write about the types as if they were definite and describable entities;” but they were, he acknowledged, “nothing of the sort, being merely useful cross-sections of a constantly changing cultural trait” (Kidder and Shepard 1936:xx, our emphasis). He concluded that the...

...grouping therefore amounts to a selection of six recognizable nodes of individuality; and a forcing into association with the most strongly marked or “peak” material of many actually older and younger transitional specimens (Kidder and Shepard 1936:xx, our emphasis).

Such nodes of individuality are the replicas, reproductions, copies, reductions, transfers, and derivations that reflect the language of a time and place, until they become a dated cliché(Kubler 1962:39), and are later superseded by yet another node of individuality.

We are left with a vexing question: How was it that Mera or Kidder decided which of the many copies, reductions, and deviations along a continuum reflects the peak form of one or
another of their glaze groups (Figures 1 and 2)? How frequently, and where, Mera might have encountered any of the examples that define his types is simply not known. How are we to judge the fit or representativeness of a rim against the illustrated group profiles? Kidder’s rim profiles depict a greater range of variation, his nodes of individuality, but how frequently did any of them occur at Pecos? How are we to decide, for purposes of assigning dates to an assemblage, which particular node or peak was a potter’s intention, and when?

Early on it was realized that many of the examples coming to light on the lab tables represented unaccounted variants on the schemes proposed in the 1930s (Hendron 1935). By 1966 the increasing complexity was discussed and codified (somewhat successfully) by the Eighth Southwestern Ceramic
Figure 2a. Pecos Pueblo Glaze III “normal” bowl rim profiles (Kidder and Shepard 1936: 112)

Figure 2b. Pecos Pueblo Glaze III “aberrant” bowl rim profiles (Kidder and Shepard 1936: 112)

Figure 2c. Pecos Pueblo Glaze III shouldered bowl rim profiles (Kidder and Shepard 1936: 115)

Figure 2d. Pecos Pueblo Glaze IV bowl rim profiles (Kidder and Shepard 1936: 164)
Conference (Honea 1966), giving us the type names used currently. The participants clearly discovered that this ceramic evolution was more complicated than those which had been already classified by archaeologists. Since then, refinements of the system based on local investigations have appeared (e.g., Warren and Snow 1976).

Against this complex array of some 400 years of variation in glaze paint production, investigators often struggle to fit their sherds into the traditional chronological framework tentatively proposed by Mera. And in a continuum, some overlap is expectable. But it is clear that such temporal phases fail to capture the vagaries of individual and community expressions over time and, especially, space. Orcutt’s (1999:103) evident concern is a reminder: “The difficulty in reproducing the glaze ware seriation was surprising because the glaze ware sequence was worked out years ago…” (an often heard lament). Orcutt also noted (1999:96, 116) that “all Glaze A...types (lumped) occur in proveniences dating after the mid-fourteenth century and seem never to die out.” And Ramenofsky (2012) noted that Glaze C lasted until the sixteenth century, and Glaze D well beyond mid-sixteenth century. Thus, the typological complexity was also compounded by persistence and time overlap between the defined types.

**Glazeware Rim Variability Through Time**

It is now apparent that, in fact, the color/layout designs and the bowl rim forms clearly evolved at different rates, and are more accurately seen as independent variables. In rim form, the direct rims of Glaze A displayed little elaboration except for flattened vs. rounded lips. In the Santa Fe-Galisteo area, a thickened and flattened B rim began the experimentation with lip treatment, as well as more pronounced inward bowl curvature. However, Mera’s thickened rim Glaze B was an innovation generally eschewed by potters south of the Albuquerque District. Rim complexity increased with Mera’s C varieties (Kidder’s Glaze III), and it is at this time that Kidder’s “nodes of individuality” is an apt characterization of the tradition. This wide diversity is illustrated in their diagrams (see Figures 1 and 2). It is also during the popularity of Glaze C varieties that shouldered and keeled (or “carinated”) bowls appeared (Figure 2), particularly among the Galisteo Basin’s potters, a form seemingly without precedent in the Southwest. Coincidentally, Krieger (1946) illustrated a series of keeled ceramic bowls from North Texas foci, alongside Kidder’s forms, implying the transmission of the form in one direction or the other, an idea yet to be explored. Glaze D and E varieties exhibit a gradual elongation or raising of the bowl rims, sometimes with an angled flexure or carina (Figure 2). The straight parallel sided (direct) rims of Group A, nevertheless, were never totally eclipsed by the more flamboyant rims of Glaze B, C, and D types. Whether Glaze A direct rims continued to be made contemporaneously with all subsequent elaborated rim forms remains to be determined (Snow 2007). It is not unusual to see examples of late paint designs and paint quality exhibiting early direct rims. In any case, direct unthickened rims made a return in Glaze F times (Figure 2). Thus, rim form variation is partly chronological, with abundant variability at any given time.

**Rim Variability on Other Types of Pottery**

Experimentation with rim form was not exclusive to glazeware potters. Several black-on-white bowl rim forms preceded and then overlapped the early Glazeware groups (A through C), suggesting continuity of distinct fashions, or “habitus” (see Santa Fe and Galisteo Black-on-white examples in Stubbs and Stallings [1953]). Interior beveling and thickened lips also occur on White Mountain Redwares and on Zuni Glazeware bowls (Carlson 1970; Woodbury and Woodbury 1966), wares believed to be the progenitors of the Rio Grande Glazewares. On the Hopi Mesas, Kelley Hayes-Gilpin (2004:4) noted:
In any given time period, from the late 1200s to 1629, one may have vessels with rim shapes that resemble Rio Grande Glaze A, B, and C, with some unusual variations thrown in. In other words, for Hopi potters, just about any rim form was appropriate at just about any time.

Hopi bowls, curiously, apparently lack the Rio Grande D through F forms, but the Acoma glaze series mirrors the rim changes of their more easterly neighbors (Harlow 1965). Thus, rim form variability was common in several pottery series after A.D. 1200, not only Rio Grande Glazeware.

Variability in Painted Design

Decorative schemes and slip/paint combinations also vary within each of the glazeware groups (A through F). The general trend is from glaze-on-red (G/R) and glaze-on-yellow (G/Y) and contrasting red-white slips (interior vs. exterior) in Glaze A and B, into polychromes (G/P) involving glaze-bordered red fret designs against a buff, white, or fawn background on both interior and exterior surfaces in Glazes C, D, and E (Figures 3 and 4). During Glaze F times there was a return to simple bichrome glaze on red or yellow backgrounds. Early slip colors are bright, becoming darker and duller later, while glaze paint control tends to become sloppier in Glaze E and F times.

Again, though, there are many exceptions. Despite the popularity of glaze-on-red during Glaze A (Agua Fria G/R), yellow-slipped bichrome and even polychrome appeared early in the Cieneguilla types of the north. Concurrently, red vs. white contrasting slips are evident in the San Clemente Polychrome from Albuquerque southward, all with typical Glaze A rims. A wide variety of color and decorative schemes, in addition to rim modifications, characterize Glaze C bowls. Espinosa Polychrome ruled in the north, yielding to Kuaua and Pottery Mound Polychromes in the middle region. Basic slip varies from an overall yellow at San Lazaro Pueblo (Harlow and Lanmon 2004), and the Galisteo Basin generally, to red-slipped bowls, such as those reported from LA 70 (Warren and Snow 1976), and the C-rimmed glaze-on-red bowls reported by Marshall and Walt (1984) from the Rio Abajo. Meantime, polychromes ran riot in complex painting of Kuaua (Mera 1933), and Pottery Mound polychromes in the middle Rio Grande district. To illustrate, Figures 3 and 4 show some of the slip and paint color variations within a small sample of Glaze C-D bowl sherds from just Tunque (“Tonque”) Pueblo alone. Among the northern potters, more frequent use of bowl interiors for painted life figures (birds, snakes, kachina-like figures, etc.), outlined in black glaze against yellow slip, began in Glaze A (Cieneguilla G/P) and then Glaze B (Largo G/P) and Glaze C (Espinosa G/P). These are reminiscent of Pinedale Polychrome farther south.

At Pottery Mound, Franklin (2007:74) noted substantial variability in bowl rim forms and design style in the 17 levels excavated under the direction of Linda Cordell; and he remarked

…if each type is defined in terms of painted design, then it contains a range of rim shapes, not those from just one of Mera’s groups. Experimentation with rim treatment must have occurred during the life of each type.

Traditionally characterized as a Glaze A occupation (e.g., Schaafsma 2007), Pottery Mound Polychrome exhibits rim characteristics from A to C with a wide variety of decorative schemes, as Franklin’s (2007) and Eckert’s (2008) analyses have quite clearly demonstrated.

The yellow-buff slips of Cieneguilla (Glaze A) and Espinosa (Glaze C) Polychromes gave way to an almost universal darker brown or fawn colors on San Lazaro (Glaze D) and Puaray (Glaze E) Polychromes. Red painted frets changed to dark red or maroon. A majority of Glaze C, D and E examples appear to have been produced by potters at Tunque Pueblo (Warren and Snow 1976: tables B 13 and B 122), but other centers of each are apparent. Darker slip colors and the elongated bevel on bowl rims continued into Mera’s Glaze E,
Figure 3. Sample of Glaze C-D bowl rims (interior) from Tunque.

Figure 4. Sample of Glaze C-D bowl rims (exterior) from Tunque.
in which the flexure of the elongated rim gradually disappeared, leaving a thickened or somewhat tapered rim at its juncture with the bowl body. Interestingly, a significant series of bowl rims from LA 54147, Coronado’s Campsite (Vierra 1989), re-examined by the authors, are clearly San Lazaro Polychrome (D) in overall slip and decorative treatment, but with the characteristic Glaze E rim forms, many with Zia basalt temper. Here again, the association between decorative and rim form attributes is a loose one at best.

With the onset of Glaze F rims in the early seventeenth century, the bichrome format of the earlier Glazes A and B again predominates over polychromes, and both direct flat and rounded rims (lips) on the elongated, standing upper bowl body are characteristic. Glaze paint on Glaze F varieties is generally runny, and frequently lighter (perhaps with a higher copper content than before), but the tendency of the glaze paint to run off-line is present as early as Glaze D and certainly occurs on many Glaze E examples. Nevertheless, Glazeware potters during the early Colonial Period had not universally lost their ability to control their glaze recipes (Snow 2012).

Therefore, association of the various glaze-on-red, glaze-on-yellow, and polychrome designs with rim form and with chronological progression is only a general one. Glaze-on-red, at least, seems to have never been completely eclipsed, and may occur with any rim form. Glaze-on-yellow was always more popular in the north. Moreover, the varied background slips of red, white, buff, yellow, and fawn were used with the same genres of polychrome painting, persisting throughout Glaze C, D, and E times regardless of rim forms. Despite the general decorative trends, the multiplicity of decorative expression at any given phase, and with any particular rim form, again illustrates the lack of a simple correlation between rims, designs, and time.

**Spatial Variation**

The schemes proposed by Kidder and Mera reflect a decided northerly bias, a result of the fact that most work since Nelson (1916) had been conducted in that district. By the time of the 1966 compendium (Honea 1966), the traditional typology and descriptions were seen to inadequately encompass the range of glazeware expressions then being recognized. Moreover, the limited tree-ring data in southern areas was, and is, an impediment to synchronizing regional findings (Snow 1997). Harbingers of regional variation had already been recognized by Mera (1933 and 1940), who saw some differences in glazeware development as one moved from Santa Fe into the Albuquerque Basin and south to the Socorro district. At the same time, Shepard (1942) exposed the sub-regional variations in tempering materials. In 1933, Mera had already delineated some variants of Glaze C and D in the south (Figure 1, middle column), and noted the general lack of Glaze B as one moved southward. Surveys as far south as the Salinas Pueblos, the mesas of southeastern New Mexico, and the Rio Abajo have added to the spatial database and revealed regional differences.

With the addition of newer data (e.g., Marshall and Walt 1984), including testing by Marshall at Qualacu (Marshall 1987), it is now confirmed that the Rio Medio and Rio Abajo glazeware sequence shows marked deviations from the norm of better-studied northern prototypes. In brief, southern locations display an abbreviated sequence, which in northern lettered terms appear only as groups: A, A-C, D, E-F. The multitude of northern rim varieties, as well as decorative variants, is simplified and compressed. Glaze A, in the form of Agua Fria G/R, is a common Glaze A denominator everywhere, and may persist through the whole sequence. There is no Glaze B, as such. With Glaze C come new angled or inwardly beveled lips (the “Kuaua rim” Figure 1, middle column), recognized by Mera. Polychrome decoration appears, but bichrome persists. A continuation of glaze-on-red designs, with angled-bevelled rims, yielded Sanchez G/R, a Glaze A-C hybrid. These bowls show none of the thickened or bulbous-rims or the S-shaped rims of Glaze C times that were documented in the north.
Glaze D, as San Lazaro G/P, actually remains remarkably consistent in both its north and south ranges. Glaze E expression is also curtailed in its range of rim treatments compared to northern counterparts; none of the bulbous exaggerated bowl profiles became popular in the south. However, the angled carina on many bowls and shouldered jars seems to have been universally accepted. Finally, Glaze F returns to a more consistent expression, with less overall regional variation. The return to bichrome glaze-on-red or glaze-on-yellow layouts, straight rims, and decline in paint control appear to have affected Glaze F potters everywhere. These are just some of the salient deviations from the customs of the more adventurous and creative contemporary potters to the north. Additional localized differentiated micro-traditions will surely be revealed with more research.

Relative Frequencies

The amounts of pottery per glazeware period differ drastically. When rim frequencies have been published from excavations1 with sufficiently lengthy occupations, two facts are evident: First, B-, C-, and D-rimmed vessels are always in the clear minority with respect to A rims, making up less than 30 percent of the total. Pecos is an interesting exception, with 37.2 percent B-D rims, and only 17.8 percent A rims (Kidder and Kidder 1917). Second, the combined A and E forms from seven excavation reports not only reflect the dominance of A rims, but A and E together (eliminating the intermediate forms of B, C, D) represent from 63 percent to 82 percent of all rims identified. From the surface identifications provided in Marshall and Walt (1984) for the Rio Abajo sites, A and E rims made up 89.7 percent of the named types listed. The evident longevity of direct rims (Glaze A) reflects continuity of tradition (or function?), while spurts of innovative styles during the long life of Glaze A, reflected in B, C, D, and E forms, confound the idea of a straightforward lineal evolutionary scheme.

Apprentices and Specialists

Traditional focus on the temporal spans of rim forms has eclipsed discussion of why they occur, or were modified in the first place. We have yet to find in the literature much interest in the reasons for glazeware bowl rims with such curious shapes over the ca. 400 years of the tradition. Clearly, this is not an issue that occupies the thoughts of archaeologists looking at glazeware potsherds. “Fashion,” said Kubler (1962:38-39), “is a duration without substantial change; an apparition, a flicker, forgotten with the round of the seasons. It is like a class, but it differs from a sequence by having no appreciable dimension in time.” Might the curious rim shapes reflect specific purposes and functions, or the whimsical signatures (fashions) of specific potters, or both?

Part of the answer lies in potting lineages. “To the Pueblo woman pottery making is simply one of the mechanical household tasks, just as dishwashing is among us” (Guthe 1925:17). “Nearly every woman at San Ildefonso,” Guthe claimed, “is a potter, good, bad, or indifferent;” and he pointed out

A woman makes pottery just as her mother did. Many steps and small details are carried out for no other reason than that the mother used to do likewise. Obviously every potter has her own technique, which differs slightly from that of others (Guthe 1925:17).

Just how slightly, or to how great an extent, of course, is the basis for variations in form and stylistic conventions in traditional pottery manufacture.

The distribution of prehistoric pottery-making equipment and supplies argues against Guth’s general statement for San Ildefonso and, perhaps, for all Pueblo households. Moreover, he provided no data to support community-wide production. Interestingly, fewer than 2 percent of rooms in prehistoric Rio Grande communities (and elsewhere in the Southwest; [Snow 2013]) contain such equipment. Ceramic production, then, might
have been the purview of part-time specialists and their extended families. Lydia Wycoff (1985:294), for example, was informed by her Third Mesa Hopi informants that they learned from their lineage members and frequently “helped each other out.” Pottery was made primarily for gift-giving, barter, or exchange, and not necessarily for household use.

The “many hands” (Crown 2007) involved in pueblo pottery production frequently are those of members of a group related generationally, by marriage, or both, and compose “learning lineages” (Van Hoose 2008). Information flow between generations results “in historically related chains of learning events and their physical residue,” a kind of “fossilized performance in the archeological record” (Van Hoose 2008:23). Since artifact manufacture is learned and replicated, the product can be said to have virtual descent relationships, a generational process first expressed, perhaps, by Carl Guthe, above.

The personal learning process is a trial and error one for apprentice potters, whether under open or closed-ability conditions (Wallaert-Pêtre 2001). The former occurs under instruction from an accomplished potter whose specific technological and stylistic habits are learned under more or less close guidance. Closed-ability learning results from observation and imitation with little or no verbal instruction, leading to imperfect or “clumsy emulation,” or “failure to learn” the crucial details of the processes (Van Keuran 2006). Social or cultural boundaries might also block or partially inhibit the complete transfer of technological and stylistic details, and can be expected to account for variability in Glazeware production.

**Functional Correlates**

By about A.D. 1250 bowl upper-bodies became decidedly in-curved across much of the Southwest at the same time as new ways of preparing maize, rectangular fire-pits, fire-dogs (pot supports), and comales (and/or piki stones), spread across the region (Snow 1990). As for in-curving rims (bowls no longer hemispherical in shape), Wycoff’s (1985:161-162) Hopi informant remarked that they “had to be this way so you can scrape the edge of your hand on them” while preparing piki dough. As a result, Snow and Schleher (2011) looked at beveled and carinated (A through C) bowl rims as possible functional attributes. Glazeware bowl forms might (or might not) reflect this need, but the entire series includes bowls that are incurved, piki (guayave), and in-curved bowls continued to be made in the Rio Grande in fairly recent years (Hill 1982:42). The “standing” high Glaze F rim perhaps facilitates the rise of wheat dough for Spanish-introduced bread (Snow 1990). Today, the high-walled “dough bowls” of Santo Domingo likewise accommodate the rising dough.

**Conclusions**

In sum, variation in the glazewares resulted not only from change over time, but also from sub-regional, community, and individual preferences, driven perhaps by both artistic and functional considerations. It is clear that long-term stability and short-term change are both characteristic of the series. Change was not unilineal, and simultaneous use of multiple design styles and even rim forms occurred across the Glazeware “landscape.” We suggest that the Rio Grande Glazeware series reflects, in some respects, conservatism on the part of individual potters and communities of potters. At the same time, this period displays exuberance of expression and creativity that tends to confound simple lineal chronological reconstructions. Appreciation and acceptance of creativity and diversity in ceramic arts was certainly prevalent. This other side of the Rio Grande Glazeware coin reflects both social and cultural differences that underlie the formation of the complex Rio Grande Pueblo world encountered by Europeans during the sixteenth and seventeenth centuries.

Future research will be aided by more exact dating across the region and by the recognition of regional diversity. Identification of the tempering materials preferred by Rio Grande Glazeware potters has demonstrated major centers and
subsidiary locales of manufacture (e.g., Shepard 1942; Warren 1969). Lead isotope analysis of glaze paint demonstrates widespread Rio Grande and Zuni “communities of practice” in the preparation and procurement of galena from multiple sources (Habicht-Mauche 2006; Huntley 2008). Such studies allow tracking of the movement of vessels to reveal centers of production and the extensive networks of trade and exchange during this period. Conversely, by correctly sourcing ceramics to their point of production, we can now specify the parameters of many localized traditions by district or even by village. Focusing analysis on just the verified products of local potters permits more refined assessments.

Indeed, there may be other undiscovered dimensions by which glazeware potters organized their work, aside from the attributes we have somewhat arbitrarily chosen for ease of classification. Might there be other variations not yet noticed? For example, was the “Ramos rule”\(^2\) (Phillips 2012) a consistent “canon” adhered to by all glaze-paint potters? Did direct rim A bowls serve purposes different from modified rim forms, purposes that continued to the present, while the aberrant forms became clichés? To discover just what such seeming conservatism, and yet experimentation with style, might tell us of the social and cultural milieu of the Rio Grande during the late prehistoric period, is perhaps the next phase of glazeware study. Contributors to a recent symposium (Cordell and Habicht-Mauche 2012) clearly realize this challenge.

Notes

1. Sites from which the counts were abstracted include those from Marshall and Walt’s (1984) Rio Abajo sites, Pecos, San Antonio (LA 24, Dart 1980), Piedras Marcadas (LA 290, Schmader 2011), Gran Quivira and Pueblo Pardo (LA 83, Toulouse and Stephenson 1960), and Qualacu (LA 757, Marshall 1987).

2. Following Phillips (2012), the “Ramos rule” refers to the stylistic canon of requiring black paint to “touch” red paint on polychrome-painted vessels. The opposite “Babicora” rule requires that they do not “touch.”

Acknowledgments

This paper was inspired by countless discussions over some seven years with our colleagues Kari Schleher, Deb Huntley, Suzanne Eckert, Judith Habicht-Mauche, and the late Linda Cordell.
References Cited

Carlson, Roy L.

Cordell, Linda S., and Judith A. Habicht-Mauche (editors)
2012 *Potters and Communities of Practice: Glaze Paint and Polychrome Pottery in the American Southwest, A.D. 1250-1700*. Anthropological Papers of the University of Arizona 75.

Crown, Patricia

Dart, Allen
1980 *Archaeological Investigations at San Antonio de Padua, LA 24, Bernalillo County, New Mexico*. Museum of New Mexico, Laboratory of Anthropology Notes 167.

Eckert, Suzanne L.

Franklin, Hayward H.

Guthe, Carl E.

Habicht-Mauche, Judith A.

Harlow, Francis H.
1965 *Seventh Southwestern Ceramic Seminar: Acoma Glazed Pottery*. MS, on file at Museum of New Mexico, Laboratory of Anthropology.

Harlow, Francis, and Dwight Lanmon

Hayes-Gilpin, Kelley
2004 *People and Pottery: Ceramic Style, Technology, and Exchange of Sikyatki Style Pottery among the 15th Century Pueblos (or, Pottery Mound, a View from Antelope Mesa)*. Manuscript on file at Maxwell Museum of Anthropology, University of New Mexico, Albuquerque.

Hendron, J. W.

Hill, W. W.

Honea, Kenneth (assembler)
1966 *Eighth Southwestern Ceramic Seminar: Rio Grande Glaze Wares*. Manuscript on file at Museum of New Mexico, Laboratory of Anthropology, Santa Fe.
Huntley, Deborah L.

Kidder, Alfred V., and Anna O. Shepard

Kidder, M. A., and A. V. Kidder

Krieger, Alex D.
1946  *Culture Complexes and Chronology in Northern Texas, with Extension of Puebloan Datings to the Mississippi Valley*.  *The University of Texas Publications* 4640. University of Texas, Austin.

Kubler, George

Marshall, Michael P.

Marshall, Michael P., and Henry J. Walt

Mera, H. P.


Nelson, Nels C.

Orcutt, Janet D.

Phillips, David A., Jr.

Ramenofsky, Ann F.

Schaafsma, Curtis F.

Schmader, Matthew
Shepard, Anna O.

1942 Rio Grande Glaze Paint Ware: A Study Illustrating the Place of Ceramic Technological Analysis in Archaeological Research. Carnegie Institution Contributions to American Anthropology and History 528:129-262.

Snow, David H.


Snow, David H., and Kari L. Schleher


Stubbs, Stanley A., and W. S. Stallings, Jr.

1953 The Excavation of Pindi Pueblo, New Mexico. Monographs of the School of American Research and the Laboratory of Anthropology 18.

Toulouse, Joseph H., Jr., and Robert L. Stephenson


Van Hoose, Jonathan Eric


Van Keuren, Scott


Vierra, Bradley J.

1989 A Sixteenth-Century Spanish Campsite in the Tiguex Province. Museum of New Mexico, Laboratory of Anthropology Notes 475.

Wallaert-Pêtre, Hélène


Warren, A. Helene


Warren, A. Helene, and David H. Snow


Looking back in time, about 700 years ago, how would anyone have known that someone would come along in 1989 and become the keeper of the key that would unlock the secrets of their lives hidden below the surface of a “Mound of Dirt”?

The Sandia Ranger District received funding for developing the Tijeras Pueblo Archaeological Site and that was just the impetus to make one person’s vision come to life. After months of strategizing, writing, and moving forward we were able to send out requests for bids to interpret the site. Soil cement was used to harden the trail, research continued, and drawings began. Meeting after meeting took place but it seems like overnight trail signs were installed on the site, a Grand Opening was held under the ramada, and the rain came down sideways, blessing the site and all 100 visitors.

During John’s tenure, Friends of Tijeras Pueblo, a non-profit volunteer organization, was formed. The education center at the time was the old fire trailer. The Friends of Tijeras Pueblo group started a fund for creating an Education Center. Not only did they raise funds but the group constructed the education center—mixing adobe, laying bricks, and continuing over years to complete the beautiful education center that now stands on the site.

Gracious, gentle, patient, persistent, creative, man of few words and mentor to many, John Hayden continues to guide the direction of the Interpretive Site called “Tijeras Pueblo Archaeological Site.” It is with gratitude that I acknowledge how honored I feel to have worked for and with John Hayden. It is due to your vision, John, that I was able to experience an incredible life that has taken me from archaeology to fire and from Florida to Washington State.

Congratulations on having this book dedicated to you. It is a small token but done with huge gratitude from all of us for the work you have done throughout your life.
Changes in Pueblo Room Shape and Village Construction During the Middle Coalition Period in the Galisteo Basin of New Mexico

REGGE N. WISEMAN

Persons familiar with late prehistoric pueblo construction in the Rio Grande province in New Mexico are aware of the roomblock layout known as the ladder technique. That is where the initial structuring of the roomblock is started with the building of two, or even three, long parallel walls. Rooms are then created by building cross walls to segment the space between the long walls. As Cameron (1999:224-230) states, this technique was instrumental in establishing the direction of the roomblock and assisted in defining the overall orientation of the village. Two to four such roomblocks could be positioned around an open space or plaza which then served as an outdoor living area and a ceremonial space for the entire village (e.g., Alexander 1971). The largest sites during late prehistoric and historic times usually had two or more such fully and partially enclosed plazas (see, for instance, Creamer 1993). While Cameron (1999) provides much discussion of the differences between and the implications of agglomeration versus ladder techniques of pueblo construction, she provides only general implications for the dating of the switch from the former to the latter. However, in Pueblo Alamo (LA 8), we develop a sense of that timing, at least in the Galisteo Basin and immediately adjacent areas.

**Pueblo Alamo, LA 8**

The site of Pueblo Alamo is located a few kilometers southeast of the city of Santa Fe in north-central New Mexico. Overall, the 55 tree-ring dates, the pottery assemblage, and the site type (four to five pueblo roomblocks, three of which were excavated in advance of highway construction in 1971 [Allen 1973; Wiseman 2014]), indicate occupation during the mid A.D. 1200s and perhaps a little earlier. To date, Pueblo Alamo is one of the earliest Coalition period sites in the Rio Grande province, and one of the earliest abandoned.

It is probably safe to say that most archaeologists familiar with the available maps of Pueblo Alamo assume that the several roomblocks of the village were basically contemporaneous and that they together constituted a single village (see Snead and Allen 2011:14, Figure 2). However, close examination of the site map reveals two important aspects (Figure 1). The first is that the roomblocks are not particularly well aligned with one another, nor are they even approximately the same distance apart. This brings up the question as to whether they were, in fact, contemporaneous with one another. The other is that each roomblock is composed of what appears to be a hodgepodge or agglomeration of rooms that are not standardized as to shape or orientation. While the rooms are all rectangular in shape, the lengths and widths vary from one room to the next. With regard to orientation, the long axes of the rooms are not oriented in the same direction. Some have axes that are parallel with the principal direction of the roomblocks (and the ridge on which the site is situated), but others are perpendicular to it. This is in stark contrast with later pueblos in the region wherein all of the main axes of the rooms within a particular roomblock are oriented in the same direction, that of the roomblock itself (see lengthy discussion in Cameron 1999).

Further examination of the individual roomblocks at Pueblo Alamo shows that the absence of uniform orientation of rooms pertains to only
parts of each roomblock. In the case of Roomblock A, the group of misaligned rooms is situated in the approximate center of the roomblock, while the “jumbled” group of rooms in Roomblock C is located at the north end. Otherwise, the remaining rooms in both Roomblocks A and C are generally aligned with the direction of the roomblocks. Roomblock B, the smallest of the three excavated roomblocks, appears to be composed almost entirely of jumbled rooms. However, both Roomblocks B and C once contained additional rooms that were not excavated by Allen in 1971 because of erosional problems and/or time constraints.

These observations raise several questions. Why are the rooms in some sections of roomblocks jumbled in their arrangement, while those in other sections of the same roomblocks are more orderly in their configuration? What does this phenomenon tell us about the construction of the houses at Pueblo Alamo and the people who built them? Can we derive both social and temporal information from these differences? Does it also help us to understand the timing of construction of each roomblock and of the site as a whole? Is it likely that the three roomblocks at Pueblo Alamo represent a single, unified village in which the occupations of all of the roomblocks were contemporary? Or, does each roomblock represent a separate, perhaps sequent occupation?

Before proceeding, several facts about Pueblo Alamo require mention. First, over the decades a large number of tree-ring dates were obtained from the site, but they are mostly unprovenienced and therefore cannot be attributed to specific rooms or roomblocks (Robinson et al. 1973:31-32; Smiley et al. 1953:17; Snead and Allen 2011:13-15). The few cutting dates are clustered between A.D. 1240 and 1265, with most in the first half of the 1260s. Second, the pottery assemblage is surprisingly homogeneous and is overwhelmingly comprised of Santa Fe Black-on-white. Galisteo Black-on-white is present in very small amounts. Several types of imported pottery are also present, but their sherds are also few in number, come from few critical proveniences (specific room and floor associations), and, like the tree-ring dates, are not helpful in answering questions of contemporaneity or lack thereof among the roomblocks. Thus, we are left with having to look to the architecture itself for answers to the questions posed above.

Arrangement of Rooms within Roomblocks
The bond and abutment details within each roomblock at Pueblo Alamo were observed by the excavators and recorded on the overall site map and in the few continuation sheets completed for some of the rooms. These permitted reconstruction of the building sequences of rooms in each roomblock and helped identify those rooms that constituted single building episodes or room groups. In every case, the groups of rooms that lack standardization in room orientation at Pueblo Alamo (the “jumbled” groups of rooms mentioned earlier) are the earliest. Many of the rooms in these early groups also tend to be more square in shape (Figure. 1).

All subsequent room groups added to the roomblocks have the long axes of their rooms aligned parallel with the direction of the roomblock. The rooms of these later groups also tend to be more rectangular in shape. These features of the later rooms, the tendency for them to be more rectangular and nearer to equal in size to one another, were not built in the ladder technique per se. However, their arrangement and orientation are definitely reminiscent of the ladder technique as discussed earlier and which characterizes certain later-dating pueblos in the Rio Grande province.

Pueblo Alamo and the Inception of Planning in Building Pueblos
Pueblo Alamo, then, appears to have captured that moment of change from “agglomerative” construction (to borrow from Cameron 1999) to construction of planned linear housing units. My interpretation of Pueblo Alamo is that originally, at least three families decided to build their new homes on the Pueblo Alamo ridge, and they did so in the old, agglomerative way of simply adding rooms together in a disorganized arrangement. Each family selected its building locus on the basis of criteria important to it, resulting in a seemingly haphazard placement of all three room groups.
Figure 1. Roomblocks of Pueblo Alamo excavated by Joseph Allen in 1971. Hatchured rooms are the first room groups built in each roomblock. Within each first group, note the fact that the long axes of the rooms are not standardized as to direction, resulting in an agglomerative appearance of the group. The rooms also tend to be more nearly square and differ markedly in size from room to room. For each room group added thereafter to the initial room group, the individual room orientations are the same and produce a linear appearance to the building as a whole. The room groups at the south ends of Roomblocks A and C also appear to have implemented the ladder technique of construction.
without particular consideration of one another. For Roomblocks A and C, subsequent room groups were added to one or both sides of the initial room groups, resulting in a definite linearity to the overall configuration of each roomblock. While these additions were small and consisted of a few rooms each, the advantages of building paired rooms set end to end were becoming evident. The way was thus prepared for the next step, the initiation of the ladder-technique as a method for building large housing units for numerous families in an organized and planned fashion. Thus, as Cameron (1999:224-230) pointed out, the focus shifted from individual family decision-making about where and how to build the family home to multi-family coordination and action. As stated previously, the implementation of the ladder technique for planning and building large sites became common after the abandonment of Pueblo Alamo sometime in the second half of the A.D. 1200s.

And, with regard to the question of whether or not the three roomblocks at Pueblo Alamo were contemporaneous or sequent in construction and occupation, it now seems much more likely that they were contemporary and that, together, they did comprise a village. This is predicated primarily on the fact that each of the three roomblocks underwent the same process of building characteristics. That is, the first units of each were constructed by agglomeration of rooms, and all subsequent ones were added in a simpler, more standardized fashion. Here, we truly have the coalition of the Coalition period in action. Because we lack data on the other one or two roomblocks that once comprised the site, we cannot make the same judgment with regard to them.
References Cited

Alexander, Robert K.

Allen, Joseph W.
1973 The Pueblo Alamo Project: Salvage at the Junction of U.S. 285 South of Santa Fe, New Mexico. Laboratory of Anthropology Note 86, Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

Cameron, Catherine M.

Creamer, Winifred

Robinson, William J., Bruce G. Harrill, and Richard L. Warren
1973 Tree-Ring Dates from New Mexico J-K, P, and V, Santa Fe - Pecos - Lincoln Areas. Laboratory of Tree-Ring Research, University of Arizona, Tucson.

Smiley, Terah L., Stanley A. Stubbs, and Bryant Bannister

Snead, James E. and Mark W. Allen (eds.)

Wiseman, Regge N.

151
Publications of the Archaeological Society of New Mexico

No.  1 Collected Papers in Honor of Lyndon Lane Hargrave 1968
No.  2 Collected Papers in Honor of Florence Hawley Ellis 1975
No.  3 Collected Papers in Honor of Marjorie Ferguson Lambert 1976
No.  4 Collected Papers in Honor of Bertha Pauline Dutton 1979
No.  5 Collected Papers in Honor of Helen Greene Blumenschien 1980
No.  6 Collected Papers in Honor of Erik Kellerman Reed 1981
No.  7 Collected Papers in Honor of John Runyon 1982
No.  8 Collected Papers in Honor of Charlie Steen, Jr. 1983
No.  9 Collected Papers in Honor of Harry L. Hadlock 1984
No. 10 Southwestern Culture History: Collected Papers in Honor of Albert H. Schroeder 1985
No. 11 Prehistory and History in the Southwest: Collected Papers in Honor of Alden C. Hayes 1985
No. 12 By Hands Unknown: Papers on Rock Art and Archaeology in Honor of James G. Bain 1986
No. 13 Secrets of a City: Papers on Albuquerque Area Archaeology in Honor of Richard A. Bice 1987
No. 14 Reflections: Papers on Southwestern Culture History in Honor of Charles H. Lange 1988
No. 15 From Chaco to Chaco: Papers in Honor of Robert H. Lister and Florence C. Lister 1989
No. 16 Clues to the Past: Papers in Honor of William M. Sundt 1990
No. 17 Puebloan Past and Present: Papers in Honor of Stewart Peckham 1991
No. 18 Archaeology, Art, and Anthropology: Papers in Honor of J. J. Brody 1992
No. 19 Why Museums Collect: Papers in Honor of Joe Ben Wheat 1993
No. 21 Of Pots and Rocks: Papers in Honor of A. Helene Warren 1995
No. 22 La Jornada: Papers in Honor of William F. Turney 1996
No. 25 La Frontera: Papers in Honor of Patrick H. Beckett 1999
No. 26 The First 100 Years: Papers in Honor of the State and Local Archaeological Societies of New Mexico 2000
No. 27 Following Through: Papers in Honor of Phyllis S. Davis 2001
No. 28 Forward into the Past: Papers in Honor of Teddy Lou and Francis Stickney 2002
No. 29 Climbing the Rocks: Papers in Honor of Helen and Jay Crotty 2003
No. 30 Ever Westward: Papers in Honor of Elizabeth Kelly 2004
Special Publication Series

No. 1 Ancient Communities in the American Desert, by E. L. Hewett 1993
No. 2 Three Rivers Petroglyph Site, by M. S. Duran and H. K. Crotty 1999
No. 3 Prehistory of the Middle Rio Puerco Valley, L. L. Baker and S. R. Durand, editors 2003
No. 4 The Casamero Community in the Red Mesa Valley of Northwestern New Mexico, Frances Joan Mathien, compiler and editor. (Published jointly with the Bureau of Land Management as New Mexico BLM Cultural Resources Series Monograph No. 17) 2010
No. 5 Since Mera: The Original Eleven Bulletins with Essays and Opinions Derived from Recent Research, compiled and edited by Emily J. Brown, Regge N. Wiseman, and Rory P. Gauthier with contributions by Hayward Franklin and Theodore R. Frisbie 2014

For ordering information, please visit the ASNM website at: www.newmexico-archaeology.org and click on the Publications link.
List of Contributors

Kurt F. Anschuetz
6228 Calle Piñon NW
Albuquerque, NM  87114
kanschuetz@comcast.net

Matthew J. Barbour
Jemez Historic Site
1045 Bernalito Court
Bernalillo, NM  87004
matthew.barbour@state.nm.us

Jeffrey L. Boyer
Museum of New Mexico
Office of Archaeological Studies
Center for New Mexico Archaeology
Museum of New Mexico
7 Old Cochiti Rd.
Santa Fe, NM  87507
jeffrey.boyer@state.nm.us

James M. Copeland
PO Box 335
Fruitland, NM  87416
copeland2@peoplepc.com

Suzanne L. Eckert
Head of Collections
Arizona State Museum
University of Arizona
PO Box 210026
1013 E University Blvd.
Tucson, AZ  85721-0026
sleckert@email.arizona.edu

Hayward Franklin
1127 Marigold Dr. NE
Albuquerque, NM  87122
hfranklin12@comcast.net

Theodore R. Frisbie
5923 Quercus Grove Rd.
Edwardsville, IL  62025
tfrisbi@siue.edu

John S. Hayden
81 McCall Loop
Edgewood, NM  87015
misterjohnhayden@live.com

Sharon D. Hanna
Torrance County Archaeological Society
HC 68 Box 17
Corona, NM  88318
hungryhorse@plateautel.net

F. Joan Mathien
11807 Apache Ave. NE
Albuquerque, NM  87112
mathiefj@unm.edu

Joyce M. Raab
9916 Academy Knolls Dr. NE
Albuquerque, NM  87111
lenraab@aol.com

Owen Severance
PO Box 1015
Monticello, UT  84535
o_severance@yahoo.com

David H. Snow
1616 Prospect Ave. NW
Albuquerque, NM  87104
dhs-res@cybermesa.com

Karen Takai
USDA Forest Service
Cibola National Forest
Sandia Ranger District
11776 Hwy. 337
Tijeras, NM  87059

Regge N. Wiseman
Office of Archaeological Studies
Center for New Mexico Archaeology
Museum of New Mexico
7 Old Cochiti Rd.
Santa Fe, NM  87507
oas_associates@state.nm.us